

# Object Shift in Particle Constructions\*

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## Abstract

*Close examination of particle constructions in English and Object Shift constructions in Icelandic reveals that they are similar in both syntactic and semantic behavior. In this paper, it is claimed that these intriguing similarities are captured in a uniform manner if Chomsky's (2001a) proposal on Icelandic Object Shift is restated. Specifically, it is demonstrated that the pre-particle object in English and the shifted object in Icelandic are both derived by Object Shift, observing Holmberg's well-known generalization. However, the functional heads driving Object Shift in the constructions under consideration differ in nature. It is also shown that this difference is attributed to the difference in  $\phi$ -defectiveness.*

*Keywords: Object Shift, particle construction, Holmberg's generalization,  $\phi$ -defectiveness*

## 1. Introduction

Recent studies have shown that the syntactic behavior of particle constructions (henceforth, PCs) in English is analogous to that of Object Shift (henceforth, OS) constructions in Icelandic in many respects (e.g. Diesing & Jelinek (1995: 152-156), Johnson (1991: 604-608), Svenonius (1996a: 63), Thráinsson (2001: 163-166), Vikner (1994: 508)).<sup>1</sup> An obvious question to ask then is whether the PC in English is to be analyzed on a par with the OSC in Icelandic. This paper investigates this possibility in light of Chomsky's (2001a) proposal on OS.

This paper is organized as follows: §2 provides basic facts, demonstrating that English PCs and Icelandic OSCs are similar in both syntactic and semantic behavior; §3 reviews Chomsky's (2001a) proposal on OS in minimalist terms; §4 modifies Chomsky's proposal and extends it to English PCs, showing that the pre-particle object in English PCs is derived

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<sup>1</sup> In what follows, the term 'OS' is understood to be referring to the movement of the object that observes Holmberg's generalization, according to which OS is contingent on the verb movement out of the verbal projection. It should be noted in this respect that OS is used in the literature to refer to both the movement that shifts the object and the phenomenon where the object is shifted. In order to avoid confusion, the term 'OS construction (henceforth, OSC)' is used when the empirical phenomenon is referred to. Note also that this term is used here to include the construction where the object could have shifted (but has not) as well as the one where the object has indeed shifted.

by OS; §5 demonstrates that the functional heads driving OS in English PCs on the one hand and OS in Icelandic OSCs on the other differ in defectiveness of  $\phi$ -features; §6 concludes this paper.

## 2. Similarities between English PCs and Icelandic OSCs

Close comparison of English PCs and Icelandic OSCs reveals that they share the following syntactic properties. First, only a nominal object can precede the particle in English PCs (Kayne (1984: 104-107)); only a nominal object can precede the negative marker (i.e. undergo OS) in Icelandic OSCs (Johnson (1991: 605-606), Thráinsson (2001: 150-151), Vikner (1994: 492)). Other material such as a prepositional or adverbial phrase cannot appear in these positions. Thus, the latter sequences in the bracketed portion of (1b), (1c), (2b) and (2c) are ill-formed.

### (1) PARTICLE CONSTRUCTIONS IN ENGLISH

- a. John looked {up the information / the information up}.
- b. John teamed {up [with Bill] / \*[with Bill] up}. (Kayne (1984: 104))
- c. John gave {up immediately / \*[immediately up]. (ibid.: 105)

### (2) OBJECT SHIFT CONSTRUCTIONS IN ICELANDIC

- a. Nemandinn las {ekki bókina / bókina ekki}.  
the-student read not the-book the-book not  
'The student didn't read the book.' (Thráinsson (2001: 148))
- b. Jón talaði {ekki [við Maríu] / \*[við Maríu] ekki}.  
John spoke not to Mary to Mary not  
'John didn't speak to Mary.' (ibid.: 151)
- c. Jón talaði {ekki [allan daginn] / \*[allan daginn] ekki}.  
John spoke not all the-day all the-day not  
'John didn't speak for the whole day.' (ibid.: 164)

Second, pronominal objects must precede the particle in English PCs and they must also precede the negative marker by undergoing OS in Icelandic OSCs:<sup>2</sup>

<sup>2</sup> Moreover, this restriction is relaxed in the same syntactic contexts: when the pronominal object is stressed or focused, or when it is coordinated with another pronominal object, it may follow the particle in English PCs (see Bolinger (1971: 39-41), Dikken (1995: 100), Fraser (1974: 17)) and it does not have to shift in Icelandic OSCs (see Diesing & Jelinek (1995: 154), Johnson (1991: 606), Thráinsson (2001: 165)).

(3) PARTICLE CONSTRUCTIONS IN ENGLISH

Mikey looked { \*up it / it up }.

(4) OBJECT SHIFT CONSTRUCTIONS IN ICELANDIC

Nemandinn las { \*ekki hana / hana ekki }.

the-student read not it it not

'The student didn't read it.'

(Thráinsson (2001: 150))

Thus, English PCs and Icelandic OSCs are syntactically similar in that both allow only the nominal object to appear in front of the particle/negative marker and both prohibit a pronominal object from appearing after the particle/negative marker.

Another similarity is found between English PCs and Icelandic OSCs. It is well known that the type of objects that can undergo OS in Icelandic is semantically restricted. As Diesing (1996: 67, 1997: 412), Diesing & Jelinek (1995: 150) and Thráinsson (2001: 188-194) demonstrate, only material that bears specific/given information may shift while material that bears non-specific/new information cannot. The specific/given information is typically conveyed by full definite nominal and pronominal DPs, whereas the non-specific/new information is typically conveyed by indefinite DPs. Thus, definite full nominal/pronominal DPs may undergo OS while indefinite DPs cannot.<sup>3</sup> Compare (5a) with (5b):

(5) a. Hann las { bækunar ekki / ekki bækunar }.

he read the-books not not the-book

'He didn't read the books.'

b. Hann las { \*bækur ekki / ekki bækur }.

he read books not not books

'He didn't read books.'

(Diesing & Jelinek (1995: 150))

In English PCs, the material bearing specific/given information tends to appear in the pre-particle position while the material bearing non-specific/new information tends to appear in the post-particle position (Dehé (2002: 128-131), Erades (1961: 58)).<sup>4</sup> This contrast is clearly seen in the following example:<sup>5</sup>

<sup>3</sup> Note that the indefinite DP may undergo OS in Icelandic when it receives a generic or partitive interpretation (see Diesing (1996: 68, 1997: 412), Diesing & Jelinek (1995: 151)).

<sup>4</sup> Thus, the indefinite DP may appear in the pre-particle position when it receives a specific interpretation implied in the discourse (see Dehé (2002: 130-131)). Besides, if the verb implies the content of the object, it appears in the pre-particle position irrespective of the type of the object (see Erades (1961: 58), Bolinger (1971: 56)).

<sup>5</sup> Citing the following example, Mahajan (1990: 277, fn.18) also demonstrates that the pre-particle object is sensitive to specificity:

(i) He let { out a yell / \*a yell out }.

(Mahajan (1990: 277, fn.18))

- (6) We'll make up a **parcel** for them... On the morning of Christmas Eve together we made **the parcel up**. (Punch, 25.12, 1915 / Erades (1961: 58))

The contrast in (5) and (6) shows that the semantic restriction imposed on the pre-particle object in English PCs and the shifted object in Icelandic OSCs is also the same.

These intriguing similarities lead us to conclude that the pre-particle object in English should be analyzed on a par with the shifted object in Icelandic. This means that the pre-particle object in English should be derived by OS. Accordingly, this conclusion raises a question as to how Icelandic OSC facts should be captured.

### 3. Capturing OS in Minimalist Terms

Chomsky (2001a) explains the Icelandic OSC facts shown in the previous section in minimalist terms. Specifically, he has proposed the following two principles and one parameter to explain the Icelandic OSC facts:<sup>6</sup>

- (7) a.  $v^*$  is assigned an EPP feature only if that has an effect on outcome.  
 b. The EPP position (i.e. phonological edge) of  $v^*$  is assigned INT.  
 c. At the phonological border of  $v^*P$ , XP is assigned INT'.

(Chomsky (2001a: 35))

(7a) and (7b) are invariant universal principles, and (7c) is a parameter. In a nutshell, (7a) states that movement is possible only when it yields a consequence, basically a semantic effect. "INT [in (7b)] is an interpretive complex which consists of specificity/definiteness, [old] information, focus, etc. (Chomsky (2001a: 31))." This is the semantic interpretation that the shifted object receives. (7b) states that in any language the phonological edge (i.e. the target position of OS = Spec  $v^*P$ ) is limited to the specific/definite material. (7c)

<sup>6</sup> The intuition behind Chomsky's (2001a) proposal is the Mapping Hypothesis suggested by Diesing (1992) (see Chomsky (2001a: 48, fn.59)). This hypothesis can correctly explain the semantic restriction imposed on Icelandic OSCs. The following is a version stated in Diesing & Jelinek (1995):

- (i) MAPPING HYPOTHESIS  
 a. VP maps into the nuclear scope (i.e. the domain of existential closure).  
 b. IP maps into the restriction (of an operator).

(Diesing & Jelinek (1995: 124))

Under this hypothesis, the material inside of VP is existentially bound, hence it receives an existential interpretation. On the other hand, the material outside of VP receives a presuppositional or quantificational (i.e. specific) interpretation because it is not existentially bound. When the definite DP is shifted out of VP, it can be correctly interpreted as specific. But shifting the indefinite DP out of VP never renders it existential, hence OS is impossible. Thus, OS of a definite DP is licit while OS of an indefinite DP is illicit (see Diesing (1996: 74-77, 1997: 410-419) for details). Note, however, that the Mapping Hypothesis is problematic in that it cannot capture Holmberg's generalization.

captures Holmberg's generalization, according to which OS is contingent on verb movement. In languages like Icelandic, this parameter has a positive value, and the interpretation of the phonological edge differs from that of the phonological border. The phonological edge and the phonological border are illustrated as follows:

- (8) [TP ... [T [<sub>v</sub> V-*v*\*]-T] ... [*v*\*P **Obj** [<sub>v</sub>' Subj [*v*\*<sub>i</sub> *t*<sub>v</sub>\* [<sub>VP</sub> *t*<sub>V</sub> **Obj**]]]]]
- PHONOLOGICAL EDGE      PHONOLOGICAL BORDER

The first-merged position of the object becomes the phonological border only if there is no c-commanding phonological material in  $v^*P$  (Chomsky (2001a: 34)). In other words, the phonological border can be created only if the verb moves out of  $v^*P$  (presumably to T as in (8)). In this case, the phonological border is limited to non-specific/indefinite material. Consequently, only when the verb moves out of  $v^*P$  does Spec  $v^*P$  semantically differ from the first-merged position of the object, hence OS is licit. In languages where (7c) has a negative value, OS is impossible irrespective of verb movement out of  $v^*P$ .

It should be noted here that under Chomsky's (2001a) analysis the principles and the parameter in (7) are not solely responsible for explaining Icelandic OSCs. Satisfaction of EPP is contingent on the operation called Agree. This operation is essential to the computational system, since it eliminates unvalued uninterpretable features by valuing them. When the probe bearing an EPP feature agrees with a goal, the EPP requirement of the probe is satisfied by movement of the goal. Satisfaction of EPP is impossible unless an Agree relation is established between the probe and the goal.<sup>7</sup> In the case of Icelandic OSCs, the probe in question is  $\nu^*$  bearing unvalued  $\phi$ -features ( $[u\phi]$ ) and the goal is the object bearing an unvalued Case feature ( $[uCase]$ ) and interpretable  $\phi$ -features ( $[\phi]$ ). When the  $[u\phi]$  of  $\nu^*$  enters into an Agree relation with the  $[\phi]$  of the object, the EPP feature of  $\nu^*$ , if present, will be satisfied by raising the object to Spec  $\nu^*P$ . In this case, the  $[uCase]$  of the object is also valued, hence unvalued features are totally eliminated from the computational system. Bearing in mind Chomsky's (2001a) analysis of Icelandic OSCs, let us turn to an analysis of English PCs.

#### 4. OS within the Verbal Projection

Recall the conclusion we reached in §2: the pre-particle object in English should be analyzed on a par with the shifted object in Icelandic. However, there is one crucial difference between the pre-particle object in English and the shifted object in Icelandic: the latter precedes the negative marker while the former never does. Concerning this difference,

<sup>7</sup> Obviously, satisfaction of EPP by merger of an expletive is an exception to this.

let us hypothesize that the pre-particle object in English is derived by OS to the specifier position of a verbal functional head located higher than V but lower than  $v^*$ . Following the terminology of Pesetsky (1989), let us call this intermediate functional projection  $\mu$ . Under this hypothesis, the (full) verbal projection has the following structure:

- (9) [ $v^*P$  Subj [ $v^*$   $v^*$  [ $\mu P$  Spec [ $\mu$  [ $VP$  V Obj ] ] ] ]]<sup>8</sup>

With this verbal structure, the pre-particle object in English is conceived to be derived by OS to Spec  $\mu P$ .

At this point, one may think that the object movement deriving the pre-particle object in English is not an instance of OS because it does not observe Holmberg's generalization. But this is only apparent under Chomsky's (1995) conceptions. Since  $v^*$  is affixal in nature, the verb must move out of VP to adjoin to it (Chomsky (1995: 321)). Accordingly, the verb, in fact, moves to  $v^*$  in (9). In that case, the verbal-projection-internal object movement in English is, indeed, an instance of OS. Thus, the English pre-particle object is derived in the same way as the Icelandic shifted object.

In order to precisely explain the facts of English PCs, a few more assumptions are called for. First, let us follow Johnson (1991: 591), Keyser & Roeper (1992: 92), Koizumi (1993: 121) and Selkirk (1982: 28) in assuming that the verb and the particle constitute a compound, which is stored in the lexicon as a single verb, [ $v$  V-Prt]. This is not implausible: as Fraser (1974: 3) originally notes, the particle gaps with the (rest of the) verb as in (10a) and cannot be stranded as in (10b) and (10c).<sup>9</sup>

- (10) a. Gary looked up **Sam's number**, and Mittie, **my number**.  
 b. \*Gary looked up **Sam's number**, and Mittie, up **my number**.  
 c. \*Gary looked **Sam's number** up, and Mittie, **my number** up. (Johnson (1991: 591))

It follows that the verb and the particle must be making up a constituent when they are deleted. Second,  $\mu$  bears [ $u\phi$ ] since, as reviewed above, satisfaction of the EPP feature (hence OS) is

<sup>8</sup> Note that not all PCs have the verbal structure in (9). Ishikawa (1999) and Wurmbrand (2000) independently argue that PCs are classified into (at least) two types: (a) simple combination or transparent PCs and (b) idiomatic PCs. The transparent PC retains the inherent meaning of the verb and the particle. Thus, the meaning of a transparent PC is compositional. The idiomatic PC, on the other hand, expresses a meaning different from that of the verb and the particle: the verb-particle compound expresses an idiomatic meaning. On the plausible assumption that the idiomatic meaning of verb-particle compounds is determined in the lexicon, the verbal structure in (9) is applicable to the idiomatic PC. Whether or not the transparent PC has the structure in (9) still remains controversial. We are uncommitted to this issue here.

<sup>9</sup> Along the lines of Lasnik (1999) among others, the gapping fact in (10a) is analyzable as VP (but not  $v^*P$ ) deletion in the second conjunct, with the object raised to Spec  $\mu P$  and the verb-particle compound left behind in VP.

contingent on Agree.<sup>10</sup> Third, the verb-particle compound [<sub>v</sub> V-Prt] moves out of VP to  $\mu$ , and the verb excorporates from [<sub>v</sub> V-Prt] at this point, adjoining to  $v^*$ . A piece of evidence for the first movement comes from the distribution of manner adverbs. Consider the following sentence:

- (11) Colleen looked **the reference** (\**carefully*) up (*carefully*). (Koizumi (1993: 121))

In (11) the particle cannot follow the adverb. On the plausible assumption that manner adverbs are left-adjoined to VP, the particle must also move out of VP together with the verb. The second movement is supported by the assumption made above: only the verb (but not the [<sub>V</sub> V-Prt] compound) can adjoin to *v*\* (cf. Johnson (1991: 602)).<sup>11</sup>

Under these assumptions, the pre-particle object in English PCs will be derived as follows:

- (12) a.  $[_{v^*P} \text{Subj } [_{v^*} v^* [_{\mu P} \mu [_{VP} [_v \text{V-Pr}t] \text{Obj} ] ] ] ] ]$   

$$\begin{array}{ccc} [u\phi] & & [\phi] \\ [EPP] & \xrightarrow{\text{AGREE}} & [u\text{Case}] \end{array}$$
- b.  $[_{v^*P} \text{Subj } [_{v^*} \text{V-}v^* [_{\mu P} \text{Obj } [_{\mu} [_v \text{ } t_{V\text{-Pr}t}] -\mu [_{VP} t_{[V\text{-Pr}t}] t_{\text{Obj}} ] ] ] ] ]$   

$$\begin{array}{ccc} & & [EPP] \\ & \xrightarrow{\text{SATISFACTION OF EPP}} & \end{array}$$

The  $[u\phi]$  of  $\mu$  enters into an Agree relation with the  $[\phi]$  of the object, as in (12a). Then, the object moves to Spec  $\mu P$  to satisfy the EPP requirement of  $\mu$ , as in (12b). The post-particle object in PCs reflects the absence of OS. This is illustrated as follows:<sup>12</sup>

But see §5 for differences between the unvalued  $\phi$ -features of  $\mu$  and those of  $v^*$ .

11 Note that this movement is compatible with the excorporation theory advanced by Roberts (1991) since the verb-particle complex has an adjunction structure.

<sup>12</sup> The derivation of sentences like (i) below (i.e. a non-OS counterpart of (11)) may involve adjunction of the object to VP, since adverbs may induce an intervention effect (Takano (1998: 845)) and block the Agree relation between  $\mu$  and the object.

(i) Colleen looked up the reference *carefully*.

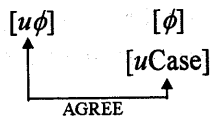
This is evidenced by the fact that adverbs can agree with functional heads such as T, as the following sentence illustrates:

(ii) *Slowly* is exactly how he speaks. (Quirk et al. (1985: 746) cited in Takano (1998: 845))  
If that is the case, the object, when left behind in VP, must move via non-feature driven movement (such as adjunction) to the position where  $\mu$  can agree with it (cf. Takano (1998: 845)). Under this conception, the derivation of (i) is schematically represented as follows:

(iii) [<sub>VP</sub> Subj [<sub>VP</sub> V-*v*\* [<sub>μP</sub> [<sub>V</sub> *t*<sub>V-Prt</sub>]-*μ* [<sub>VP</sub> Obj [<sub>VP</sub> Adv [<sub>VP</sub> *t*<sub>[V-Prt]</sub> *t*<sub>Obj</sub>]]]]]]]

In (iii), the  $[\mu\phi]$  of  $\mu$  can agree with the  $[\phi]$  of the object because the latter is adjoined to VP, hence closer to the former than the adverb is. Then, it is not implausible to assume that when manner adverbs appear in Spec VP, the object moves via non-feature driven movement (such as adjunction) to the position where it can be closer than any other material to the functional head it agrees with.

(13) [<sub>VP</sub> Subj [<sub>v\*</sub> V-<sub>v\*</sub> [<sub>μP</sub> [<sub>v</sub> *t<sub>V</sub>*-Prt]-<sub>μ</sub> [<sub>VP</sub> *t<sub>[V-Pr]</sub>* **Obi** ] ] ] ]



Even though  $\mu$  agrees with the object, the latter does not move because the former does not bear an EPP feature.

Since the pre-particle object in English PCs is derived by OS, this movement must be governed by principles and parameters similar to (7). Slightly modifying and generalizing them to include  $\mu$ , then, let us propose that OS (to either Spec  $v^*$ P or Spec  $\mu$ P) is governed by the following principles and parameter:

- (14) a. F is assigned an EPP feature only if that has an effect on outcome.  
 b. The EPP position (i.e. phonological edge) of F is assigned INT.  
 c. At the phonological border of FP, XP is assigned INT'.  
 (where F is either  $v^*$  or  $\mu$ )

(14a) and (14b) are invariant principles and (14c) is a parameter. In (14), “ $v^*$ ” in (7) is replaced by “F”, but its basic functions are comparable to those of (7): (14a) states that movement to the specifier position of a certain functional head is possible only when it yields an effect; (14b) states that the target position of OS is limited to the specific/definite material; (14c) captures Holmberg’s generalization. The only difference is that the functional head under consideration can be either  $v^*$  or  $\mu$ . Thus, (14c) has a positive value with respect to  $v^*$  in Icelandic; it has a positive value with respect to  $\mu$  in English.

As far as  $v^*$  and  $\mu$  are concerned, (14c) allows four logical combinations of parameter values: (i) the parameter value in question is positive with respect to both  $v^*$  and  $\mu$ ; (ii) it is positive with respect to  $v^*$  but negative with respect to  $\mu$ ; (iii) it is negative with respect to  $v^*$  but positive with respect to  $\mu$ ; (iv) it is negative with respect to both  $v^*$  and  $\mu$ . Since Icelandic allows the pre-particle object in PCs, it is an instance of the type (i) language (see §5 for details). English falls under the type (iii) language. Swedish may be conceived as an instance of the type (ii) language: it allows the OS of pronominal objects to the left edge of  $v^*$ P, as in (15a), but the pre-particle object is impossible in PCs, as in (15b) (Holmberg (1999: 2), Holmberg & Platzack (1995: 203), Thráinsson (2001: 166)).<sup>13</sup>

<sup>13</sup> Unfortunately, the story is not so straightforward. Swedish does not allow the OS of pronominal objects to the left edge of  $v^*$ P in PCs (Holmberg (1999: 2)). In other words, presence of a particle blocks OS in Swedish (compare with the Icelandic facts presented below):

(i) Dom kastade {inte ut mej / \*mej inte ut}.  
 they threw not out me me not out  
 ‘They didn’t throw me out.’

(Holmberg (1999: 2))



- (15) a. Jag kysste {(\*)inte **henne** / **henne** inte}.<sup>14</sup>  
 I kissed not her her not  
 'I didn't kiss her.' (Holmberg (1999: 1))
- b. Hon kastade {ut **honum** / \***honum** ut}.  
 she threw out him him out  
 'She threw him out.' (Thráinsson (2001: 166))

The principles and the parameter in (14) have empirical coverage broader than the ones proposed by Chomsky (2001a). When the functional head under consideration is  $v^*$ , the effect of (14) is the same as that of (7), and thereby the Icelandic OSC facts are captured. When it is  $\mu$ , the English PC facts are captured. In this case, more specifically, the phonological edge of  $\mu$  crucially differs from that of  $v^*$ : it is Spec  $\mu$ P. This is illustrated as follows together with the phonological border:

- (16) [<sub>vP</sub> Subj [<sub>v\*</sub>, V-v\* [<sub>μP</sub> **Obj** [<sub>μ</sub> [<sub>tV-Prt</sub>]-<sub>μ</sub> [<sub>vP</sub> t[<sub>V-Prt</sub>] **Obj** ]]]]]]  
                     PHONOLOGICAL EDGE                  PHONOLOGICAL BORDER

Since the verb always moves out of  $\mu P$ , as mentioned above, the interpretation of Spec  $\mu P$  always differs from that of the first-merged position of the object.<sup>15</sup> When  $\mu$  is assigned an EPP feature, the definite DP bearing specific information moves to Spec  $\mu P$  and is interpreted in this position, ending up preceding the particle in PCs. When  $\mu$  is not assigned an EPP feature, on the other hand, the indefinite DP bearing non-specific information is interpreted in situ, hence it follows the particle.

To sum up, it is shown in this section that the principles and the parameter in (7) suggested by Chomsky (2001a) to capture the Icelandic OS facts should be reformulated in order to obtain broader empirical coverage. Accordingly, they are restated as the principles and the parameter in (14), ending up capturing the English PC facts as well.

Rather than the parameter in (14c) being inactive with respect to  $\mu$ , the particle may be functioning as c-commanding phonological material in Swedish. Concerning the type (iv) language, I do not know of any instance of such a language at the moment. I leave this issue aside here, pending further empirical research.

<sup>14</sup> According to Holmberg (1992: 2), the former sequence in the bracketed portion of (15a) is grammatical in some varieties of Swedish even when the object is a weak pronoun. This is why the asterisk is put in the parentheses in (15a).

<sup>15</sup> A crucial assumption here is that the particle does not count as c-commanding phonological material in (16).

## 5. PCs in Icelandic and $\phi$ -defectiveness of $\mu$

We have seen so far that the pre-particle object in English PCs is derived by OS. A natural question to ask is whether there is any difference between the English OS and the Icelandic OS. The most salient difference that emerges from the present discussion is attributed to their landing sites: the Icelandic OS targets Spec  $v^*P$  while the English OS targets Spec  $\mu P$ . But this is not the whole story. This section shows that Agree with  $v^*$  deactivates the [ $u$ Case] of the object while Agree with  $\mu$  does not.

To begin with, let us consider the properties of Icelandic PCs. As noted by Holmberg (1999: 32) and Thráinsson (2001: 165), the syntactic behavior of Icelandic PCs is analogous to that of their English counterparts and to that of Icelandic OSCs:

- (17) a. Jón tók {upp bókina / bókina upp}.  
 John picked up the-book the-book up  
 'John picked up the book.'
- b. Jón hélt {tí [hjá systrunum] / \*[hjá systrunum] tí}.  
 John held to with the-sisters with the-sisters to  
 'John stayed with the sisters.'
- c. Jón kastaði {upp [allan daginn] / \*[allan daginn] upp}.  
 John threw up all the-day all the-day up  
 'John threw up all the day.'
- d. Jón tók {\*upp hana / hana upp}.  
 John picked up it it up  
 'John picked it up.'

(Thráinsson (2001: 165); cf. (1)-(4))

Furthermore, the semantic restriction seen in English PCs and Icelandic OSCs is also imposed on Icelandic PCs (Svenonius (1996a: 60-62, 1996b: 11)):

- (18) a. Ég tók {?kartöflur upp / upp kartöflur}.  
 I took potatoes up up potatoes  
 'I picked up potatoes.'
- b. Þeir færðu {bílana tí / ?tí bílana}.  
 they moved the-cars to to the-cars  
 'They moved the cars around.'

(Svenonius (1996a: 60-62); cf. (5)-(6))

A natural conclusion drawn from these facts is that Icelandic exhibits two types of OS: one is

151

(21) PHASE IMPENETRABILITY CONDITION

The domain of H is not accessible to operations, but only the edge of HP.

(Chomsky (2001b: 5))

The PIC roughly states that C can only have access to the specifier and head of  $v^*P$ , but not its complement. When the object is moved to Spec CP by *wh*-movement, for example, it must move to Spec  $v^*P$  on its way because C does not have direct access to the complement of  $v^*P$ . Turning back to the assignment of an EPP feature to  $\mu$ , it is not motivated by a PIC consideration, since Spec  $\mu P$  is contained in the complement of  $v^*P$  and is still inaccessible to C. In other words, it is no use to assign an EPP feature to  $\mu$  for a PIC consideration. In order to accommodate this case, one needs something like the following principle:

(22) An EPP feature is assigned on F if subsequent movement yields a semantic effect.<sup>16</sup>

Under the principle in (22), assignment of an EPP feature to  $\mu$  is licit because subsequent movement of the object to Spec  $v^*P$  yields a semantic effect at the  $v^*P$ -phase level. A principle like (22) is needed at any rate if non-phase-constituting functional heads are to proliferate and successive cyclic movement via the specifier position of these functional heads is allowed. I am not sure at the moment whether this principle has desirable consequences or not. I leave open here the issue of how OS to Spec  $v^*P$  in PCs is carried out.

Let us turn back to the  $\phi$ -defectiveness of  $\mu$ . By assumption, the transitive construction is headed by  $v^*$  (Chomsky (2001a: 43)). Then, it is not implausible to suppose that  $v^*$  is responsible for deactivation of the [*uCase*] of the object in English as well, and that  $\mu$  is defective in  $\phi$ -features. But English does not allow OS to the left edge of  $v^*P$ .<sup>17</sup> This means that the difference between English and Icelandic is attributed to the difference in the parameter value of (14c): this parameter has a positive value with respect to both  $v^*$  and  $\mu$  in Icelandic while it has a positive value only with respect to  $\mu$  in English.

<sup>16</sup> This principle may be considered as a broad interpretation of “an effect on outcome” in (14a). If the semantic effect induced by later movement counts as “an effect on outcome” at the phase level, then the principle in (22) is a theorem derived from the axiomatic principle in (14a).

<sup>17</sup> In fact, OS of pronominals to the left edge of  $v^*P$  is possible in earlier English (cf. Wurff (1997: 496-498)). Roberts (1995: 273-276) notes that this is attested in Early Modern English. The following is an instance from Late Middle English attested in Kroch & Taylor (1999):

(i) ... but he putte hem nouȝt out;  
but he put them not out  
'... but he didn't put them out.'

(CMPOLYCH, VI, 369.2703)

This fact (indirectly) lends further support to the claim that  $\mu$  in English is also defective in  $\phi$ -features.

## 6. Conclusion

We have seen in this paper that the pre-particle object in English PCs should be analyzed on a par with the shifted object in Icelandic OSCs. That is, both are derived by OS. Reformulation of the principles and the parameter proposed by Chomsky (2001a) as (14) allows the English PC and Icelandic OSC facts to be captured in a similar manner. We have also seen that the English verbal-projection-internal OS differs from the one leading to Icelandic OSCs in that the functional head driving the latter OS (i.e.  $v^*$ ) deactivates the [ $u$ Case] of the object while the functional head driving the former OS (i.e.  $\mu$ ) is defective in  $\phi$ -features, being unable to deactivate it. In this respect, this paper crucially differs from previous studies such as Johnson (1991), Koizumi (1993) and a series of Lasnik's seminal works (e.g. Lasnik (2001)). Aside from the details, it is argued in these studies that the pre-particle object in English PCs is derived by movement targeting the functional head that deactivates the object. They wrongly predict that OS targeting Spec  $v^*P$  is impossible in PCs. But this is not the case in Icelandic. Therefore,  $\mu$  must be defective in  $\phi$ -features. Finally, it was suggested that OS to Spec  $v^*P$  in a successive cyclic manner (i.e. via Spec  $\mu P$ ) necessitates a principle like (22), which is a theorem and derived from the axiomatic principle in (14a). If the object moves directly to Spec  $v^*P$  (skipping Spec  $\mu P$ ), on the other hand, this movement is an alternative to OS to Spec  $\mu P$ . That is, the choice between OS to Spec  $v^*P$  and OS to Spec  $\mu P$  is a free option in this case. Accordingly, this movement does not require any additional principle. The issue of how OS to Spec  $v^*P$  is carried out in the presence of  $\mu$  is left open here, pending further research.

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