



Title	Internal Merge to the Phase Edge in Pseudo-gapping
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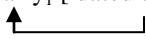
INTERNAL MERGE TO THE PHASE EDGE IN PSEUDO-GAPPING*

1 INTRODUCTION

The phenomenon discussed in this paper is what Levin (1979) calls *pseudo-gapping construction*, which the following example illustrates:

- (1) Mary hasn't dated Bill, but she has _ Harry. (Sag 1976: 52)


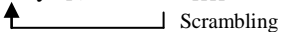
In the construction, which we find in the *but*-clause, the main verb is unpronounced and understood as anaphoric to the preceding one (i.e. *dated*), with the finite auxiliary and non-verbal phrases pronounced. The unpronounced and pronounced (non-subject) items are called *gaps* and *remnants*, respectively. In addition, the gapped and antecedent clauses are called *target* and *source clauses*, respectively. Several linguists (e.g., Jayaseelan 1990, 1999, Bowers 1998, Lasnik 1999, Johnson 2001, Baltin 2000, 2003, Takahashi 2004, Tanaka and Smith to appear) have analyzed the derivation of the construction as involving movement of remnant XPs and PF-deletion of the verbal projection from which XPs are extracted, as schematized below:

- (2) Syntax: [he has [Harry_i [dated t_i]]]

 PF: [he has [Harry_i [~~dated t_i~~]]]

In this paper, assuming the movement-cum-deletion tenet for the pseudo-gapping construction, we address two correlated issues: what position does the movement of

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- b. *Object shift approach* (Lasnik 1999)
 [he has [_{VP} [_{AgrP} Harry_i {_{VP} ~~dated~~ ~~t_i~~ }]]]

- c. *Dutch-scrambling approach* (e.g. Johnson 2001, Baltin 2003)
 [he has [_{VP} [_{AgrP} Harry_i {_{VP} ~~dated~~ ~~t_i~~ }]]]


Jayaseelan (1990) proposes the HXPS approach in (4a) and claims that the remnant movement should be identified with HXPS, which is a rightward movement attested independently in English. Lasnik (1999) establishes the object shift approach in (4b) and suggests that remnant XPs move out of VP by object shift and reach the specifier of Agreement Phrase (AgrP) within Koizumi's (1995) split VP, primarily for Case checking. Johnson (2001) pioneered the Dutch-scrambling approach in (4c) and claims that the remnant movement is the same process responsible for scrambling into the middle field in Dutch. Later, Baltin (2000, 2003) develops this approach and claims that the exact landing site for the remnant scrambling is the specifier of AgrP within the split VP. In the following text, we highlight some empirical problems of the approaches in describing syntax of the pseudo-gapping construction, although we do not discuss them in detail.

We begin with several factors that influence the pseudo-gapping construction's acceptability. Levin (1979) points out that the construction becomes more felicitous under particular structural contexts. These include the following: (a) where the source and target clauses form a comparative sentence; (b) where they contrast in polarity; and (c) where the subjects of both are coreferential. For instance, (5a) and (5b) are in "comparative" and "polarity-contrast" contexts, respectively, and each meets the "coreferential-subject" condition:

- (5) a. They like rutabagas more than they do _ lima beans.
 b. Robin will eat rutabagas, but she won't _ ice cream.
 (Agbayani and Zoerner 2004: 186)

However, as noted by Levin (1979), comparative contexts such as (5a) are more favorable than non-comparative ones such as (5b) for the purpose of construction. This difference is seen when the remnant XP is an adjectival:

- (6) a. Rona looked more annoyed than she didn't _ frustrated.
 b. * Rona looked annoyed, but she didn't _ frustrated.
 (Levin 1979: 82-83)

Baltin (2000, 2003) takes this contrast to show that comparative and non-comparative pseudo-gapping are different derivational processes, noting that the derivation of a comparative clause may involve an independent deleting operation. This paper adopts Baltin's view and thus focuses on non-comparative cases. For the acceptability of

such cases, Bowers' (1998) observation is worth noting. Bowers notes that intonation plays a crucial role in the pseudo-gapping construction. In particular, remnant items in the target clause and their counterparts in the source clause must have contrastive stress to produce acceptable cases. For example, if contrastive stress is indicated by uppercased text, we should represent (1) as follows:

- (7) Mary HASN'T dated BILL, but she HAS _ HARRY.

In what follows, although not indicated explicitly, remnant items and their source counterparts shown in the examples below are assumed to bear contrastive stress.

We describe syntactic properties of the pseudo-gapping construction. First, there is reason to believe that the construction involves a type of syntactic movement. Citing Baltin's (2000) and Johnson's (2001) observations, Tanaka and Smith (to appear) illustrate sensitivity of the construction to island effects:

- (8) a. I wouldn't try to persuade Alex, but I would _ Martha.
 b. ??I wouldn't ask when to persuade Alex, but I would _ Martha.
 (Tanaka and Smith to appear: 13-14)

The target clause in (8a) elides the part *try to persuade*, while that in (8b) elides the part *ask when to persuade*. Moreover, (8a) shows that remnant XPs can be contained in an infinitival clause and they can be associated with their expected base positions across the boundary of a non-finite clause. However, (8b) shows that such a dependency is difficult to obtain across a *wh*-island, which suggests that the surface order of the construction is derived by syntactic movement of remnant XPs.

Second, as (8a) suggests, what elides in the pseudo-gapping construction is a unit larger than a verb. Consider the following example:

- (9) Although I didn't give a book to Sally, I did _ a magazine _.
 (Baltin 2003: 221)

We can assume that the string of $V DP_{Theme} PP_{Goal}$ has the structure $[_{VP} v [_{VP} DP_{Theme} [_{V'} V PP_{Goal}]]$ (Larson 1988), with *V* raising as far as *v* (Pollock 1989). If *X'*-level projections are invisible to operations including deletion (Chomsky 1995), then the ellipsis site in (9) should be VP, *give to Sally*. This implies that the remnant DP, *a magazine*, should escape from VP, suggesting that the remnant movement raises remnant XP out of VP. Considering this conclusion, we point out that it potentially challenges Jayaseelan's (1990) claim that the remnant movement should be identified as HXPS. In fact, several observations imply that HXPS is not an upward movement that crosses the boundary of VP. The first relevant fact is that *vP*-preposing cannot strand an element that has undergone HXPS, as observed by Nishihara (1997):

- (10) I said I would give t_i to John [everything that he demanded] $_i$ and ...

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- a. [give t_i to John [everything that he demanded] $_i$] I will t_j .
 - b. * [give t_i to John] $_j$ I will t_j [everything that he demanded] $_i$.
- (adapted from Nishihara 1997: 24)

This implies that the shifted element remains within vP . The second fact is that coordination can put the sifted DP_{Theme} and the in-situ PP_{Goal} together as a constituent, as noted by Bowers (1993). Thus, the coordinate structure in (11a) should consist of two VP constituents, as schematized in (11b):

- (11) a. I put t_i in the closest [all the larger volumes] $_i$ and t_j on the table
[most of the smaller ones] $_j$. (Bowers 1993: 603, ft. 7)
- b. [vP put [vP [vP t_i PP [DP] $_i$] & [vP t_j PP [DP] $_j$]]]

This analysis shows that HXPS does not necessarily cross the boundary of VP. Finally, there are observations about the licensing of negative polarity items (NPI) implying that HXPS serves as a lowering operation. Given that an NPI must be c-commanded by a negation element (Klima (1964)), we consider the following paradigms:

- (12) a. I showed [none of the pictures of John's mother] to anyone.
- b. * I showed t_i to anyone [none of the pictures of John's mother] $_i$.
(Takano 2005: 522)
- (13) a. * I gave [any indication that something was amiss] to no one's parents.
- b. I gave t_i to no one's parents [any indication that something was amiss] $_i$.
(Williams 1994: 190)

In (12a), NPI licensing is successful. This is expected since the DP_{Theme} , which is a negation element, c-commands the PP_{Goal} containing an NPI. However, (12b), in which the DP_{Theme} is shifted, is ungrammatical. This result indicates that the landing site for HXPS should be at least lower than the position of PP_{Goal} . The contrast in (13) makes the same point in an opposite way: HXPS of the DP_{Theme} in (13b), which contains an NPI, leads to the success of NPI licensing, showing that the shifted DP_{Theme} is in the c-commanding domain of the PP_{Goal} with a negation element inside. Although we have no further evidence to establish that HXPS is a lowering operation, we conclude that HXPS does not bring XP to a higher position than the upper bound of VP. If this is a valid assumption, then HXPS is not involved in the derivation of the pseudo-gapping construction, since remnant XPs must move out of VP.

Returning to the nature of the pseudo-gapping construction, its third property is that the category of possible remnant XPs is not only restricted to DP. Thus, other categories such as PP and CP can also be remnants:

- (14) a. Although I wouldn't talk to Sally, I would _ to Susan.
(Baltin 2003: 225)

² The cases with multiple remnant XPs are not accepted by every speaker. Takahashi (2004) notes that “there are speakers’ variations on acceptability in [the pseudo-gapping construction] in general. The variation also exists [in examples such as (17c)]” (Takahashi 2004: 573, ft 3).

who works on Parasitic Gaps]_i. (Takahashi 2004: 573)

Therefore, it is clear that (17c) poses a potential problem for Jayaseelan's (1990) analysis. This is because, if the remnant movement is subsumed in HXPS, (17c) should be ruled out. The fact contradicting this prediction suggests that the remnant movement is not an HXPS instance.³

Fifth, the remnant movement exhibits properties of A-movement. For example, the movement of a remnant XP fails to license parasitic gaps *pg*, as pointed out by Baltin (2000, 2003). Consider the following paradigm, which is based on Baltin (2003: 241):

- (19) a. Although John didn't kiss Mary, he kissed Sally_i without looking at her_i.
 b. * Although John didn't kiss Mary, he did _ Sally_i without looking at *pg*_i.
 cf. ? Although John didn't kiss Mary, he did _ Sally_i without looking at her_i.

Example (19b) shows that the remnant DP, *Sally*, cannot be an antecedent of the parasitic gap in the adjunct PP. Given that A-movement does not license parasitic gaps, the remnant movement should be always triggered as A-movement. This property suggests that it is difficult to maintain Johnson's (2001) and Baltin's (2000, 2003) Dutch-scrambling approach. They subsume the remnant movement in the type of scrambling that occurs in the middle field in Dutch. However, as a matter of fact, middle scrambling in Dutch can license parasitic gaps, as observed by Bennis and Hoekstra (1984):

- (20) a. Jan heeft [zonder ze_i/**pg*_i te bekijken] die boeken_i
 John has without them to inspect those books
 weggelegd.
 put.away
 'John put those books away without looking into them.'
 b. Jan heeft die boeken_i [zonder ze_i/*pg*_i te bekijken]
 t_i
 John has those books without them to inspect
 weggelegd.
 put.away (adapted from Bennis and Hoekstra 1984: 72)

³ Webelhuth (1992) claims that HXPS with multiple elements is possible if the shifted items are "heavy enough":

(i) John told t_i t_j yesterday [a most incredible story]_i [to practically everyone who was still willing to listen]_j. (Webelhuth 1992: 187)

If this judgment more or less holds, (i) might support Jayaseelan's (1990) analysis. Yet, it seems that the multiple remnant XPs in (17c) are not "heavy enough". This implies that it is not preferable to analyze the remnant movement in terms of HXPS.

This fact suggests that Dutch scrambling can be an instance of A'-movement. Thus, it cannot be concluded that the remnant movement is identical to middle scrambling in Dutch.⁴

We summarize properties of the pseudo-gapping construction presented thus far. Consider the following:

- (21) *Properties of the Pseudo-gapping Construction*
- a. Remnant XPs undergo syntactic movement.
 - b. The remnant movement crosses the boundary of VP.
 - c. The remnant movement can apply at least to DP, PP and CP.
 - d. The remnant movement can apply to multiple elements.
 - e. The remnant movement is A-movement.

As we have shown, previous approaches to the construction have some limitations in dealing with the properties in (21); the HXPS approach cannot account for (21b) and (21d); validity of the object shift approach is challenged by (21c); and the Dutch scrambling approach is not compatible with (21e). This situation calls for a new analysis of the remnant movement.

3 A NEW APPROACH

We now develop an alternative approach to pseudo-gapping construction. Under the movement-cum-deletion tenet, we establish that remnant XPs are placed at the edge of vP. More specifically, we propose the following approach under Chomsky's (2000, 2001, 2004) phase theory of derivation and probe-goal theory of agreement:

- (22) *Phase Theory of Pseudo-gapping*
 The phase head *v* triggers A-movement of XP to its edge in syntax and deletes its complement VP in the PF component.

A similar phase-based approach has previously been proposed by Tanaka and Smith (to appear). A crucial difference is that Tanaka and Smith regard the pseudo-gapping construction as involving A'-movement of remnant XPs to the edge of vP. However, as seen in the previous section, Baltin (2000, 2003) observes that the remnant movement behaves as A-movement. Given this, Baltin adopts Lasnik's (1999) ideas and identifies the exact landing site as the specifier of AgrP within the split VP. However, in this paper, we rule out the existence of AgrP in light of the principle of Full Interpretation (Chomsky 1995). We have therefore decided to combine Baltin's empirical findings

⁴ However, Thráinsson (2001: 175) states that it is sometimes possible for elements in A-positions, such as passive subjects, to license parasitic gaps in Dutch. If there is a parametric difference between English and Dutch in the licensing of parasitic gaps, our argument here against the Dutch-scrambling approach is insufficient.

and Tanaka and Smith's (to appear) theory in the form of (22). This choice appears to be theory-internal at this point, but (22) offers correct predictions about the nature of the remnant movement, a subject to which we will return. To show the technical details of (22), we present the theoretical assumptions with which our theory works.

3.1 Assumptions

Chomsky (2000, 2001, 2004) postulates a phase theory of derivation, defining a phase as a syntactic object that contains exactly one C or v . According to this theory, the computational system of syntax builds phases one after another and transfers part of the earlier phases to interfaces, thus reducing the amount of material in the workspace. Note that the complement of C or v counts as a transferred domain, which leads us to impose the following restriction on the syntactic computation:

- (23) *Phase Impenetrability Condition (PIC)*
 With Ph a phase head, the complement domain of Ph is not accessible to operations outside the projection of Ph; only Ph and its edge are.
 (adapted from Chomsky 2000: 108)

We adopt the phase theory for the general issue of derivational cycle and assume that movement is cycled by phase. Thus, the wh-movement from VP to CP proceeds via the edge of v P as an escape hatch position:

- (24) $[_{CP} \text{ wh } C [_{TP} \dots [_{vP} \text{ wh } v [_{VP} \dots \text{ wh } \dots]]]]$
-

The mode of cyclic movement schematized above is required by the PIC, since the wh-phrase will not be accessible to any operations by C if it remains in the complement domain of v . Particularly relevant here is the assumption that phase heads are optionally assigned EPP-features. In Chomsky's (2004) terms, an EPP-feature deletes when the accompanying projection creates a specifier, not by External Merge (i.e., base-generation), but by Internal Merge (i.e., movement). Thus, the first step of the movement in (24) is caused by v 's optional EPP-feature, and the second step by C's.

We now turn to Chomsky's (2000, 2001) probe-goal theory of agreement. According to this theory, agreement is a syntactic relationship between a probe and goal established by the operation Agree, schematized below:

- (25) *Probe-Goal Theory of Agreement*
-

Agree (α , β), where α has an unvalued feature (i.e., is a probe), β has a matching valued feature (i.e., is a goal), ‘>’ means ‘c-command’, and unvalued features of α and β are valued. (cf. Chomsky 2001: 2-6)

For example, according to Chomsky, T has unvalued ϕ -features and DP has both valued ϕ -features and an unvalued Case-feature, enabling the former to be a probe to seek the latter as a matching goal, resulting in valuation of their unvalued features (i.e., T’s ϕ -features, DP’s Case-feature). Importantly, Chomsky suggests that, while the operation Agree is required to eliminate the “originally unvalued” features of probes and goals at transfer to the LF component, it plays another role: it serves to determine which element undergoes Internal Merge to satisfy EPP-features. Considering this function of Agree, let us assume with Chomsky that functional heads such as v and T are associated with unvalued ϕ -features and that only the elements with unvalued features act as probes and induce Internal Merge if they are given EPP-features.

However, it should be noted that we do not assume Agree as a prerequisite for Internal Merge. In other words, Agree is in fact a series of two successive operations, Match and Value (Chomsky 2000, 2001):

- (26) *Agree = Match + Value*
- a. Match (α , β)
 α and β share a feature F.
 - b. Value (α , β)
 α or β specifies the value of its unvalued F on the other’s F.

According to Chomsky (2000, 2001), Value is a prerequisite for Internal Merge; even when Match occurs, Internal Merge cannot occur in the absence of Value. However, we depart from Chomsky’s views in this respect, and follow Boeckx’s (2003) theory that Match counts as a prerequisite for Internal Merge (cf. Boeckx 2003: 92). This implies that, whenever a probe α has an EPP-feature, it can move a matching goal β to its edge without Value (α , β).

We summarize the theoretical assumptions made thus far. Since we are concerned with the phase head v , we highlight the relevant aspects of our assumptions as follows:

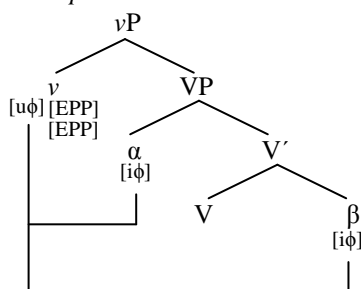
- (27)
- a. The phase head v is optionally assigned EPP-features.
 - b. The phase head v has unvalued ϕ -features.
 - c. Elements with unvalued features act as probes.
 - d. Internal Merge may take place solely under Match.

3.2 *Proposals and Analysis*

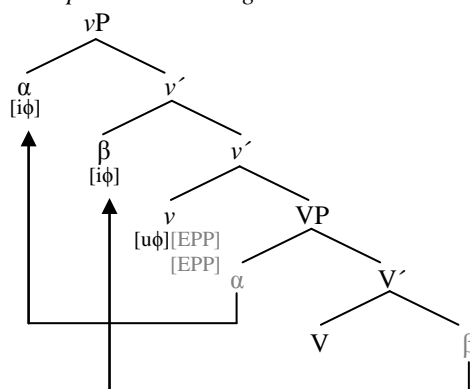
We begin by noting that the assumptions in (27) allow us to implement the remnant

movement for pseudo-gapping in a probe-goal fashion. Recall that the phase head v has an unvalued ϕ -feature $[u\phi]$ and optionally obtains an EPP-feature $[EPP]$. Whereas the primary function of $[u\phi]$ is to value an unvalued Case-feature of the closest goal in the c-commanding domain of v , it is not so unnatural to assume that v can trigger Match in ϕ -feature with all the goals that it c-commands. This option is indeed guaranteed in Hiraiwa's (2001) theory of Multiple Agree, according to which a single probe can apply Agree to all the matching goals at a derivationally simultaneous point. Taking the option of Multiple "Match" for granted, we propose that v can simultaneously move multiple ϕ -matching goals to its edge if it is assigned multiple EPP-features, as illustrated below:^{5,6}

(28) a. *Multiple Match*



b. *Multiple Internal Merge*



Note that this derivation prepares a syntactic basis for generating the pseudo-gapping construction. The remaining step is to delete v 's complement VP in the PF component.

We now show that our phase-based approach can accommodate all the properties of the pseudo-gapping construction listed in (21), repeated here:

⁵ If v is assigned just one EPP-feature, it only induces a single instance of Internal Merge.

⁶ EPP-features may be replaced with Chomsky's (2008) *edge-features*, which are associated with all lexical items and serve to induce Merge, continuing to be usable until the end of a syntactic derivation. Nothing hinges on the choice.

- (29) Properties of the Pseudo-gapping Construction
- a. Remnant XPs undergo syntactic movement.
 - b. The remnant movement crosses the boundary of VP.
 - c. The remnant movement can apply at least to DP, PP and CP.
 - d. The remnant movement can apply to multiple elements.
 - e. The remnant movement is A-movement.

It seems to be self-evident why (29a) holds: the derivation indeed involves a syntactic movement of remnant XPs, as shown in (28). Example (29b) follows from our theory, since it identifies the remnant movement with a movement to the edge of ν P, which crosses the boundary of VP whenever it occurs. Example (29c) can also be included in our theory, since DP, PP and CP are associated with ϕ -features. Clearly, DP contains ϕ -features, and PP contains a DP, thus having ϕ -features. It might be controversial whether CP has ϕ -features, but some researchers give evidence in favor of the positive answer (e.g., McCloskey (1991)). Example (29d) is seen as a natural consequence of our theory, since the phase head ν can move multiple matching goals to its edge in the presence of multiple EPP-features, as shown in (28). Finally, we consider the question that arises from (29e), namely, how we technically ensure that the remnant movement is A-movement. According to Chomsky (2008), which of the A- or A'-properties a moved element α shows depends on what features trigger the movement; if ϕ -features do, α exhibits A-properties. Meanwhile, if EPP-features alone (in Chomsky's system, edge-features (see ft. 6)) trigger the movement, α displays A'-properties. We assume that this distinction is real. Hence, the remnant movement, which targets the ν P edge according to our theory, should be A-movement, since it is ϕ -driven under Match, and not purely EPP-driven. Although the existence of the EPP-feature is an important factor for enabling the remnant movement, it is also the case that the existence of the ϕ -feature allows us to formalize it in a probe-goal manner.

Our phase theory of pseudo-gapping makes two further predictions. First, if a phrase lacks ϕ -features, it cannot be a remnant, because the remnant movement is ϕ -driven under Match. This prediction is borne out; we have already seen that adjectival elements cannot appear as remnant XPs:

- (30) * Rona looked annoyed, but she didn't _ frustrated.

(Levin 1979: 82-83)

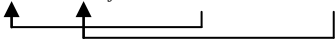
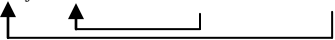
Since it is normal to assume that adjectival phrases are not associated with ϕ -features, at least, in English, the phase head ν cannot undergo Match with them. Thus, the phase head ν fails to trigger Internal Merge, ruling out examples such as (30). Second, the remnant movement should display "tucking-in" effects (Richards 1999), as suggested in (28b). According to Hiraiwa (2001), movement of multiple goals triggered by a single head is just a single simultaneous operation. Thus, in applying such movement, there is no derivational point at which counter-cyclic merge, if any, can apply. More specifically, Hiraiwa claims that goals simultaneously moving to the same head do not change their c-command relationships that exist before movement. Under this claim, our phase theory predicts that, if the remnant movement applies to

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multiple goals, it should exhibit the tucking-in effects, which keep the order of moved goals intact. As seen below, this is the case:

- (31) a. Although I can't discuss this topic with anyone, I can discuss that one with Mary.
 b. Although I can't discuss this topic with anyone, I can _ that one with Mary.
 c. ?? Although I can't discuss this topic with anyone, I can _ with Mary that one.

Examples (31b) and (31c) are pseudo-gapped versions of (31a). The order between the object DP and the *with*-PP in (31b) is kept as it is in (31a), whereas that in (31c) is reversed with regard to (31a). Note that the grammaticality of the latter is degraded. We now see the relevant derivational steps in which (31b, c) are created from (31a):

- (32) a. (31a): [_{VP} *v* [_{VP} DP [_{V'} discuss PP]]]
 b. (31b): [_{VP} DP_i [_{V'} PP_j [_{V'} *v* [_{VP} t_i [_{V'} discuss t_j]]]]]

 c. (31c): [_{VP} PP_j [_{V'} DP_i [_{V'} *v* [_{VP} t_i [_{V'} discuss t_j]]]]]


As is evident, the remnant movement of multiple goals in (31c) violates the tucking-in derivation, which is required as a consequence of our theory. Thus, (31c) is ruled out.

In summary, we have proposed an alternative approach to the pseudo-gapping construction, in which the phase head *v* can utilize its (multiple) EPP-features to trigger the remnant movement to its edge under (Multiple) ϕ -feature Match. We have shown that our phase theory not only captures more properties of the construction simultaneously than the previous approaches can but also offers further predictions for the possible category of remnant XPs and the tucking-in effects.⁷

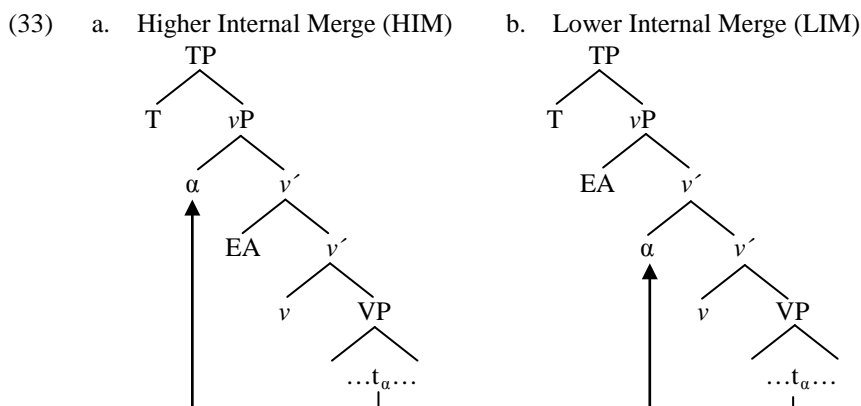
4 A THEORETICAL IMPLICATION

Finally, a theoretical implication of our phase theory of pseudo-gapping is worth discussion. This involves Chomsky's (2001, 2004) claim of cyclic movement via phase edges. According to Chomsky, when transitive *v* introduces EA to its edge, the "escape hatch" position in the *v*P phase for cyclic movement must be higher than the base position of EA. However, if our theory is correct, we conclude that the escape

⁷ However, we do not address the issue of how we can ensure that the remnant movement must be followed by VP-deletion. See Takahashi (2004) for an approach in which he attempts to attribute the obligatory application of VP-deletion to Fox and Pesetsky's (2004) theory of cyclic linearization.

hatch position cannot be higher. Chomsky's (2001, 2004) implementation of his claim is reviewed below to clarify why our conclusion holds.

Suppose a derivation in which a syntactic object α in VP is required to move to the edge of transitive v , as in the case of *wh*-movement of the object. We address whether Internal Merge of α targets a higher or lower position than External Merge of EA. In other words, which derivation between (33a) and (33 b) is correct?



With the HIM view in (33a), as opposed to the LIM view in (33b), one technical problem emerges under the probe-goal theory of agreement (Chomsky 2000, 2001). This theory requires that the finite T undergo the operation Agree with EA. We make relevant assumptions that locality restrictions exist on Agree, such as the following:

- (34) *Defective Intervention Constraint (DIC)*

$$\alpha_{\text{active}} > \beta_{\text{inactive}} > \gamma_{\text{active}}$$

*Agree (α , γ), where α is a probe, β and γ are goals, and β is inactive (i.e. inaccessible to Agree) due to lack of matching unvalued features.

(cf. Chomsky 2000: 123)

Consider that the internally merged α in (33) has been rendered inactive. The problem then is how Agree (T, EA) can avoid a violation of the DIC, since the internally merged α is closer to T than EA.

Nevertheless, Chomsky (2001, 2004) maintains the HIM view under additional assumptions. First, the following questions must be considered to implement the HIM view:

- (35) a. Why does Internal Merge target the higher position?
 b. How can Agree (T, EA) avoid a violation of the DIC?

Chomsky (2001, 2004) answers (35a) by adopting a configurational θ -Theory (e.g.

Hale and Keyser 1993), in which there are no s-selection features in syntax (e.g., v has no feature requiring an external argument in its specifier). Elimination of s-selection implies that thematic relationships are drawn directly from syntactic relationships given at the interface, suggesting that the position targeted by External Merge of EA is determined by semantic-interface considerations. More concretely, Chomsky assumes the following:

(36) *Configurational θ -Theory for External Argument*

The first specifier position of v is given the interpretation of EA at the interface. (cf. Hale and Keyser 1993: 69)

It then follows that Internal Merge of α must be higher than External Merge of EA. Otherwise, at the interface level, “there will be an ultimate theta-theoretic violation, detectable at once” (Chomsky 2004: 123). On the other hand, Chomsky answers (35b) by invoking the following algorithms:

(37) *Phase-level Evaluation*

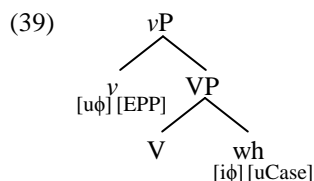
Locality principles are evaluated at Transfer: the outputs that syntactic operations, such as Agree and Internal Merge, yield are filtered out by locality principles when transferred. (cf. Chomsky 2001: 27-28)

(38) *Chain-based Evaluation*

Only the head of a chain (equivalently, the whole chain) can count as potential interveners for locality principles. (cf. Chomsky 2001: 16)

Example (37) implies that locality principles, including the DIC, do not apply at the point of operational applications and thus can be violated derivationally. Example (38) suggests that traces (i.e., syntactic objects having no phonological content or unvalued features) do not count as interveners for the DIC. The combination of (37) and (38) allows Agree (T, EA) without any violation of the DIC, as long as the intervening element between them is later moved over the head T.

To illustrate this point, we consider how the derivation of the example *what did John buy?* proceeds under Chomsky’s (2001, 2004) system. Suppose that the derivation reaches the point at which the phase head v is introduced:

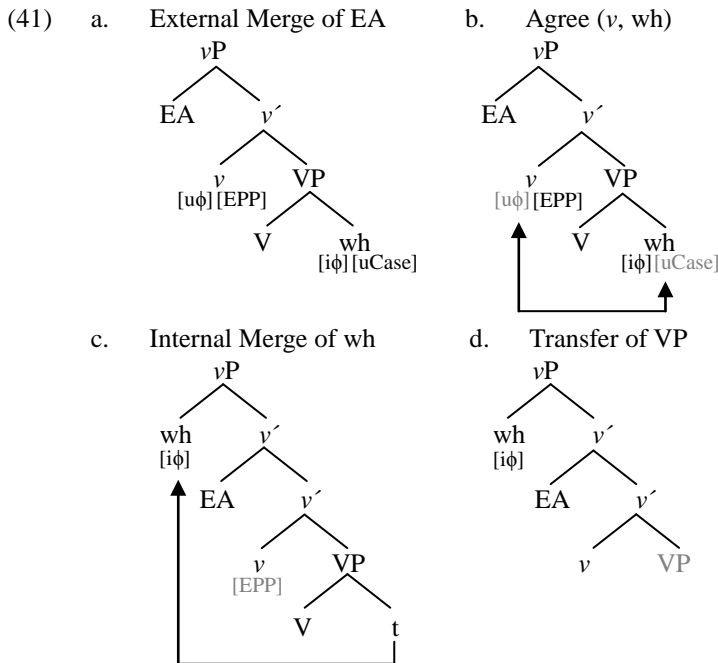


At this point, some remarks are in order on what Chomsky (2001, 2004) assumes for the syntactic computation. First, all syntactic operations, such as Merge, Agree and

Transfer, are applied freely. Second, v has an unvalued ϕ -feature $[u\phi]$ and is optionally assigned an EPP-feature $[EPP]$ while the wh -phrase has a valued ϕ -feature $[i\phi]$ and an unvalued Case-feature $[uCase]$. Finally, $[EPP]$ can be deleted when the projection dominating it creates a specifier by Internal Merge. Given these points, four tasks remain at stage (39):

- (40) a. External Merge of EA
 b. Agree (v , wh) for ϕ -features (which deletes $[u\phi]$ and $[uCase]$)
 c. Internal Merge of wh (which deletes $[EPP]$)
 d. Transfer of v 's complement

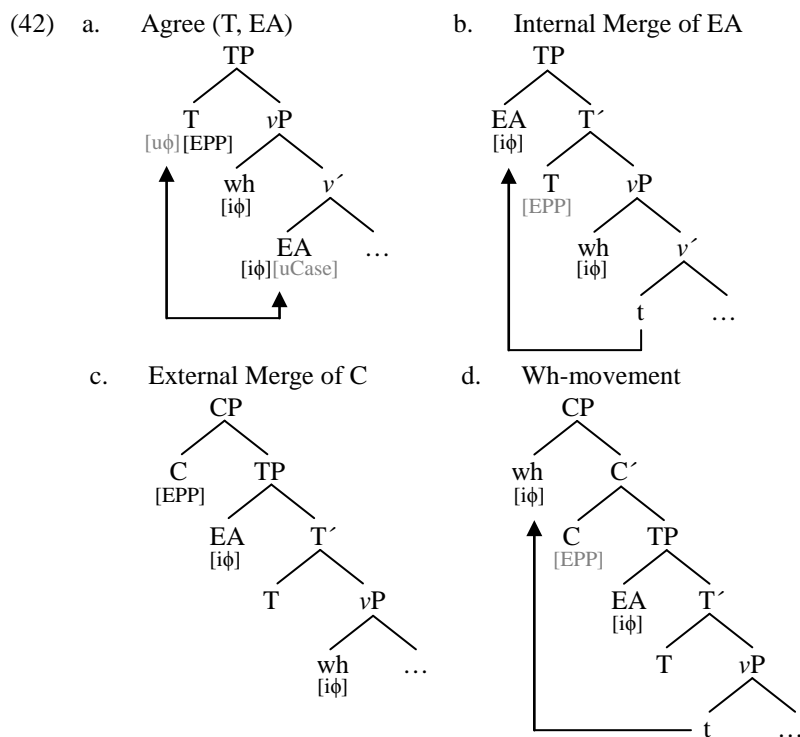
Under the system with non-ordered operations, those listed above are ordered naturally. Transfer (40d) must be ordered after Agree (40b) and Internal Merge (40c); otherwise, the latter operations would lose the domain for application. Subsequently, Agree and Internal Merge must be ordered after External Merge (40a), because EA must get into v 's first specifier position under the configurational θ -Theory.⁸ Thus, the derivation proceeds as follows (with EA's relevant features omitted):



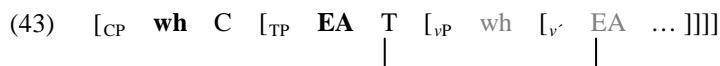
⁸ Chomsky (2004) assumes that External Merge can be performed in a “tucking-in” fashion (Richards 1999). When Internal Merge first occurs to the edge of vP , External Merge can get into a more internal position of vP . If this assumption is adopted, we need not consider how to specify the order between External Merge and Internal Merge.

INTERNAL MERGE TO THE PHASE EDGE IN PSEUDO-GAPPING

Note that this derivation complies with the HIM view, since it requires Internal Merge to be higher than External Merge in terms of the configurational θ -Theory. The head T is now introduced with $[\text{u}\phi]$ and $[\text{EPP}]$. T is required to trigger Agree, not with the wh-phrase, but with EA for ϕ -features, since the wh-phrase has deleted its $[\text{uCase}]$, thus being inactive for Agree. At the first glance, the problem is that the wh-phrase blocks Agree (T, EA) as an intervener for the DIC. However, the phase-level evaluation system solves this problem, since it allows locality principles to be violated derivationally. Thus, the derivation undergoes Agree (T, EA), triggers Internal Merge of EA to $[\text{Spec}, \text{TP}]$, and introduces the phase head C with $[\text{EPP}]$ for wh-movement:



The derivation then triggers Transfer of C's complement, evaluating whether outputs by the operations so far satisfy the DIC. Here we recall that only the head of a chain can count as an intervener for the DIC under the chain-based evaluation. Thus, there is no locality problem, as schematized below:



In (43), the element wh, intervening in the Agree relationship (T, EA), is not the head of a chain, thus inducing no violation of the DIC.

We have seen how Chomsky (2001, 2004) maintains the HIM view. Under his implementation, Internal Merge of α to the νP edge is forced to take place higher than External Merge of EA, since the configurational θ -Theory requires EA to be in the most internal edge. Although the resulting configuration has α as an intervener between T and EA, the system of phase-level evaluation allows Agree (T, EA) if α later evacuates the higher edge position of νP .

We now confirm that our phase theory of pseudo-gapping highlights a limitation with Chomsky's (2001, 2004) HIM view. Note that the immediate prediction from it is that Agree (T, EA) should be blocked if α stays in the higher edge position of νP , as schematized below:

$$(44) \quad [_{CP} \ C \ [_{TP} \ \mathbf{EA} \ T \ [_{\nu P} \ \alpha \ [_{\nu'} \ \mathbf{EA} \ \dots]]]]$$

In (44), α is the head of a chain and occurs within the Agree relationship (T, EA), so that it counts as an intervener for the DIC. Thus, sentences derived from (44) should be ungrammatical. However, this prediction fails. Recall that our phase theory of pseudo-gapping forces remnant XPs to remain at the edge of νP . Thus, if the HIM view is correct, the pseudo-gapping part in (45a) should be represented as in (45b):

$$(45) \quad \begin{array}{ll} \text{a.} & \text{Mary hasn't dated Bill, but she has __ Harry.} \quad (\text{Sag 1976: 52}) \\ \text{b.} & [_{CP} \ C \ [_{TP} \ \text{she} \ T \ [_{\nu P} \ \text{Harry} \ [_{\nu'} \ \text{she} \ \dots]]]] \end{array}$$

Note that the moved remnant XP (i.e., *Harry*) in (45b) corresponds to α in (14). Hence, according to our theory, the pseudo-gapping construction should be regarded as evidence against Chomsky's implementation of the HIM view. This is because examples such as (45) are grammatical, suggesting that the derivation succeeds in carrying out Agree (T, EA).

In sum, we have shown by means of our phase theory of pseudo-gapping that Chomsky's (2001, 2004) HIM view for cyclic movement is incorrect. Of course, this does not suggest that the LIM view is on the right track, since it is incompatible with the configurational θ -Theory for EA. Though we do not prefer one view over another, it should be concluded that the HIM view must seek an alternative implementation.⁹

5 CONCLUSION

In this paper, we investigated the pseudo-gapping construction in accordance with the movement-cum-deletion tenet. We argued that the remnant movement should not be

⁹ Richards (2004) reaches the same conclusion on different grounds. He attempts to maintain the HIM view by proposing the elimination of the DIC from the grammar. See his original paper for details.

integrated into heavy NP shift (Jayaseelan 1990), object shift (Lasnik 1999) or the Dutch type of scrambling (Johnson 2001, Baltin 2003). We then proposed to identify the remnant movement simply as A-movement to the edge of vP and claimed that the (multiple) assignment of EPP-features and (Multiple) ϕ -Match allows the phase head v to cause A-movement of remnant XPs to its edge in a probe-goal fashion. Our theory suggested that Chomsky's (2001, 2004) implementation of phase-cycled movement is not totally correct.

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