Chapter 11

On the size of Spell-Out domains: Arguments for Spell-Out of intermediate projections

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It is a widely held assumption in the Minimalist framework that Spell-Out domains are uniformly complements of phase heads. Contrary to this, the present paper proposes that a traditional intermediate or bar-level projection of phase heads constitutes Spell-Out domains if a phase head is in a spec-head agreement relation. I defend this proposal by examining cases of Spell-Out at CP-phase levels, discussing two types of phenomena which are sensitive to the size of Spell-Out domains. First, I discuss Richards's (2010) Distinctness. It regulates the distribution of functional items within a Spell-Out domain. Case resistance effects observed by Stowell (1981) are investigated in terms of Distinctness and it is shown that the distribution of different types of clauses is correctly accounted for by the proposed analysis, but not by the standard account of Spell-Out. Second, I discuss ellipsis under the view that ellipsis sites correspond to Spell-Out domains. It is shown that this approach to ellipsis accounts for Merchant's (2001) sluicing-COMP generalization and its exception when combined with the proposed analysis.

1 Introduction

It has been widely assumed since Chomsky (2000) that the notion of phase plays a prominent role in the syntactic computation. One of its functions is to trigger the operation Spell-Out, which sends syntactic structures created by Merge in a bottom-up fashion to the sensorimotor interface. The application of Spell-Out makes its target inaccessible to syntactic operations at later stages (phase-impenetrability condition, Chomsky 2000) and, therefore, cyclicity effects are

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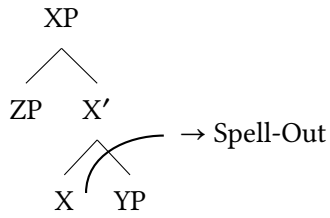
derived as a consequence of the multiple Spell-Out model adopted in the current Minimalist theorizing (Uriagereka 1999). Moreover, the phase-impenetrability condition succeeds in reducing computational burden because search space can be limited by Spell-Out.

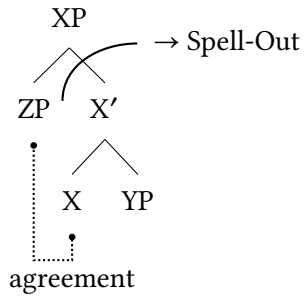
This paper makes a proposal on the size of Spell-Out, which is standardly assumed to be the complement of a phase head, as schematized in (1):

(1)



In (1) X is a phase head and its complement, i.e. YP, constitutes a Spell-Out domain with the phase head and its specifier escaping being spelled out. The standard analysis assumes the size of Spell-Out domains not to change whether a phase head has a specifier or not. Instead, the paper proposes that a traditional intermediate projection undergoes Spell-Out if a phase head is in a spec-head agreement relationship, as shown in (2):

(2)



I empirically motivate this proposal by showing that it accounts for cross-constructional and cross-linguistic patterns related to Spell-Out at CP-phase levels.

First, this paper discusses Richards's (2010) Distinctness condition. Roughly put, it prevents two nodes that are of the same functional type from being in a single Spell-Out domain. Therefore, the size of Spell-Out domains is crucial. Case resistance effects observed by Stowell (1981) are examined and the distributional properties of different types of clauses are shown to fall out from the present analysis.

Second, I examine ellipsis under the view that it is a null form of Spell-Out, that is, ellipsis arises when Spell-Out domains receive no phonological realizations (Gengel 2006, 2009, van Craenenbroeck 2010, Bošković 2014, Wurmbrand 2017). It is shown that my proposal accounts for Merchant's (2001) sluicing-COMP generalization and, potentially, its exception.

This paper is organized as follows. Section 2 presents my proposal and how it is feasible in the current theory of syntax. Section 3 shows consequences my proposal brings to the Distinctness condition. Section 4 aims to account for the sluicing-COMP generalization. Section 5 is a conclusion.

2 Background and proposal

In the early Minimalist program (Chomsky 1995), the operation Merge is responsible for identifying labels and therefore labels are parts of the syntax. Thus, applied to two objects α and β, Merge forms a new object K, of the form {γ, {α, β}}, where γ is its label. This form of Merge is no longer available in Chomsky (2013, 2015), where Merge is defined in the simplest form: Merge (α, β) = {α, β} (see also Collins 2002). Since we do not have labels in syntax, we cannot have syntactic notions that are defined in terms of labels, such as complement, specifier, or intermediate/maximal projection. In this context, it is impossible to state, for example, that maximal projections, but not intermediate projections, can be a target of syntactic operations. Since we do not have the distinction between maximal and intermediate projections due to the lack of labels, we cannot refer to only one of them. Thus, there are no principled reasons to prohibit the application of syntactic operations *only* to traditional intermediate projections[1] and I propose that Spell-Out applies to an "intermediate projection" of a phase head if it undergoes "spec-head agreement," arguing that selectional considerations make the proposed possibility of Spell-Out available.

(3) shows the proposed derivation of embedded interrogative clauses which involve "spec-head agreement" (shading shows a Spell-Out domain):

(3) $[_{vP}$ wonder [what$_i$ C_Q $[_{TP}$ you T_ϕ cook $t_i]$]]

In the interrogative clause, the C-head agrees with the *wh*-phrase and it is moved to the edge of the CP, being in the "spec-head" configuration. Following Frampton & Gutmann (2000), I assume Agree to be feature sharing and would like to

[1] I will keep using terms and labels of "intermediate or bar-level projections" and "spec-head relations" for expository purposes. Using these terms does not imply that they are syntactically definable.

suggest that "the specifier" shares features with a phase head as a consequence of "spec-head agreement." I propose this shared feature on the specifier will do for selection from a higher head.[2,3] In (3) the verb *wonder* selects an interrogative clause and I assume that, to satisfy this selectional requirement, the property of interrogative has to be syntactically present when the verb and the interrogative clause are merged. The property/feature of interrogative originally comes from the C-head but it also exists in the specifier of CP as a consequence of Agree. Since the feature on the specifier suffices for the selection, the phase C-head need not be accessible in the next cycle and, I propose, it is spelled out with its complement, as shown in (3). Note that the possibility of Spell-Out of "intermediate projections" relies on the feature sharing. When there is no agreement relationship between a phase head and its "specifier," the complement of the phase head constitutes a Spell-Out domain. Consider (4a), which shows the intermediate stage of the derivation of (4b):

(4) a. $[_{vP}$ think [what$_i$ C $[_{TP}$ you T_ϕ cook t$_i$]]]
b. What does John think you cooked?

In (4a) no spec-head agreement takes place. If the phase head were spelled out with its complement, the verb *think* would not see any feature of declarative when the verb and the clause are merged. Hence, the phasal complement, not 'the intermediate projection,' has to undergo Spell-Out here. The same goes for (5a), which shows the embedded clause with no specifier:

(5) a. $[_{vP}$ think [C $[_{TP}$ you T_ϕ cook]]]
b. Does John think you cook?

[2]The idea that a shared feature plays a crucial role in selection is similar to Chomsky's (2013) idea that the {XP, YP} structure can be labeled via Agree of their prominent features.

[3]The proposed analysis shares the same spirit as Ott's (2011) analysis of free relatives. He argues for Spell-Out of "intermediate projections" based on free relatives. (i) shows his analysis of a free relative which occurs as a complement of verbs:

(i) $[_{vP}$ eat [what$_i$ C_{FR} $[_{TP}$ you T_ϕ cook t$_i$]]]

Ott argues that the free relative is formed via the movement of a *wh*-phrase triggered by the edge-feature of C_{FR} and the Spell-Out of C′. Ott motivates the Spell-Out of C′ from the lack of interpretable features on C_{FR}. He argues, since C-heads in free relatives lack interpretable features, they are spelled out with TP in (i), and the element in [Spec, CP] serves for selection and label determination. He does not allow for Spell-Out of "intermediate projections" for interrogative CP since interrogative C has an interpretable feature that serves for selection from a higher head.

Summarizing, I have proposed that a traditional "intermediate projection" constitutes a Spell-Out domain if a phase head undergoes feature-sharing with its "specifier." My proposal predicts that the size of Spell-Out domains changes depending on whether a phase head undergoes "spec-head agreement" or not. In the following sections, I present two kinds of cross-linguistic and cross-constructional evidence for my claim.

3 Distinctness effects

Richards (2010) proposes Distinctness as a condition imposed on linearization of syntactic objects:

(6) Distinctness
If a linearization statement ⟨α, α⟩ is generated, the derivation crashes.

It prohibits a linearization statement which instructs a certain node has to precede itself because it is contradictory. Richards argues that under the certain assumptions regarding the organization of grammar, Distinctness leads to the consequences that there cannot be two functional elements of the same syntactic category in a single Spell-Out domain.

Following Chomsky (1995, 2000, 2001), Richards assumes that trees created by syntax do not have information on linear order, and they are linearized via a version of Linear Correspondence Axiom (Kayne 1994) at the point of Spell-Out. Moreover, he adopts the framework of Distributed Morphology (Halle & Marantz 1993, Marantz 1997, Embick & Noyer 2007), where functional heads are associated with their phonological features via post-syntactic late insertion. Under this model of grammar, linearization of syntactic objects occurs prior to the assignment of phonological information to functional elements. It is then expected that different functional heads of the same type cannot be distinguished and may be regarded as the same syntactic object due to their scarcity of features that may be useful to differentiate them from each other. For concreteness consider the situation in which Spell-Out applies to the whole structure in Figure 1, in which two instances of functional category α are present.

Since the higher α asymmetrically c-commands the lower one, ⟨α, α⟩ is generated. Crucially these α's are not distinguished because of the lack of vocabulary insertion at the stage of Spell-Out and the derivation crashes. The Distinctness condition thus forbids the same kind of functional categories to be in the same Spell-Out domain.

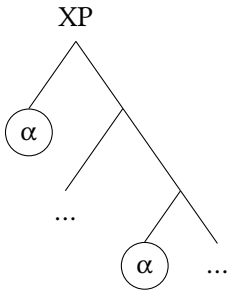


Figure 1: Structure with a Distinctness violation

The Distinctness condition has implications for a wide range of linguistic phenomena. One of them is case resistance (Stowell 1981), which is illustrated by facts like (7):

(7) * They're talking about [that they need to leave].
(Richards 2010: 137)

To account for the ungrammaticality of (7) in terms of Distinctness, Richards assumes the structure in Figure 2 and adopts two assumptions. First, P is not a phase head when taking CP-complements. Second, following Emonds (1985), prepositions and complementizers are effectively of the same category, hence we cannot have P and C in a single Spell-Out domain.

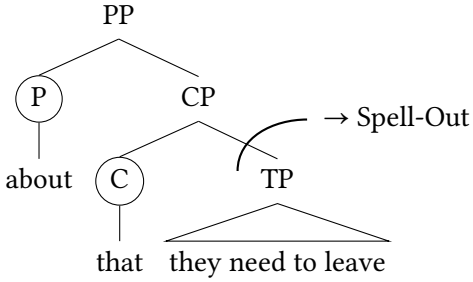


Figure 2: The PP of (7)

Given these assumptions, (7) is ruled out because P and C are in the same Spell-Out domain. When the phase above CP triggers Spell-Out, P and C are linearized in the same Spell-Out domain. Since P and C belong to the same type, they cannot be linearized, causing a violation of Distinctness.

The case resistance principle does not apply to interrogative clauses, as Richards (2010: 139) notes:

(8) They're talking about [what they should buy].
(Richards 2010: 139)

This fact, however, cannot be accounted for in terms of Distinctness, if we assume the standard version of Spell-Out. It is incorrectly predicted that P and C induce a contravention of Distinctness in Figure 3, as in Figure 2.[4]

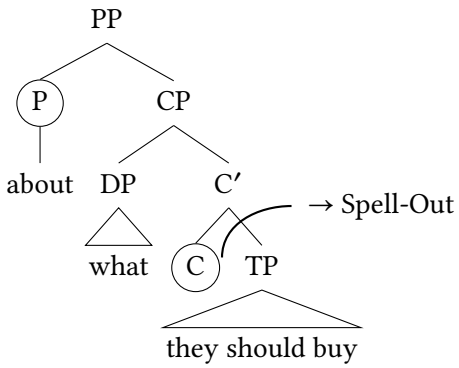


Figure 3: The PP of (8) in the standard analysis

One might argue that case resistance effects are absent here because there is a DP-layer above CP and it triggers Spell-Out. This analysis predicts the absence of Distinctness effects between elements inside interrogative clauses and those outside them.[5] There is a piece of evidence for the relevance of Distinctness here, however. Consider (9):

[4]Recall that linearization takes place before late insertion. Therefore, as far as linearization is concerned, phonologically overt and null functional items have the same status and both of them can cause a violation of Distinctness.

[5]This is the analysis of the grammaticality of (8) by Richards (2010: 139, 215 fn. 67). He motivates the presence of DP-layers by noting that interrogative clauses, like nominals, have to come with *of* when they are complements of nominals:

(i) the question *(of) [what they should buy]
(Richards 2010: 139)

The postulation of DP-layers above interrogative clauses, however, leads to a problem when we look at (9a). Richards (2010) accounts for its ungrammaticality as a Distinctness effect with the structure in Figure 4. Note that if there were a DP-layer above CP here, no Distinctness effects would arise because the D-head would trigger Spell-Out of CP. Thus, Richards (2010) needs to assume that interrogative clauses involve DP-layers when their specifier is DP, but not when their specifier is PP. In the following I develop an alternative analysis which avoids this complication.

I also would like to mention that there are cases in which interrogative clauses do not need

(9) a. * They're talking about [with whom they should discuss this].
b. They don't know [with whom they should discuss this].
(Richards 2010: 139)

(9) shows interrogative clauses with a PP specifier. They can be complements of verbs, but not prepositions. This contrast suggests that the two prepositions in (9a) induce a violation of Distinctness, as shown in Figure 4.

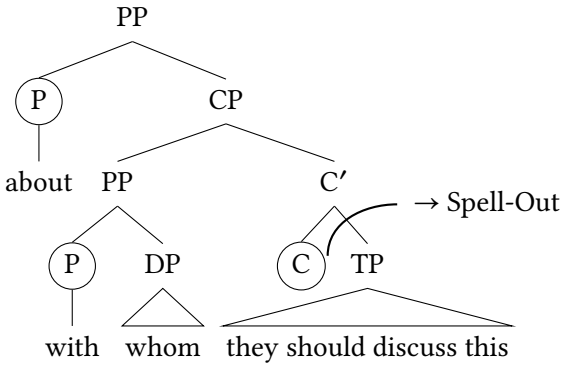


Figure 4: The PP of (9a) in the standard analysis

Given the Distinctness-based account of (9a), the question arises why Figure 3 does not induce such a violation. The grammaticality of (8), on the one hand, suggests that the edge of the free relative is separated from the preposition by a Spell-Out boundary. The ungrammaticality of (9a), on the other hand, suggests that they belong to the same Spell-Out domain. This state of affairs is hard to reconcile under the standard analysis of Spell-Out since it defines the edge of phases as a phase head and its specifier uniformly. The proposed analysis, by contrast, gives us a correct characterization of Spell-Out domains to account for these cases. Consider the structure of these cases in terms of the present proposal given the structure of declarative and interrogative clauses.

First, declarative clauses take no specifier. Therefore, TP-complements of C are Spell-Out domains. Case resistance effects for declarative clauses then are

the insertion of *of*, which may suggest that interrogative clauses need not be nominals at least in some cases:

(ii) In many cases there is a question whether there is a code violation.
(https://bellevuewa.gov/city-government/departments/community-development/conflict-assistance/types-of-conflicts)

expected given the structure in Figure 2. Second, interrogative clauses involve "spec-head agreement" with *wh*-phrases. Thus, "intermediate projections" of C undergo Spell-Out. Figure 5 is the structure for (8).

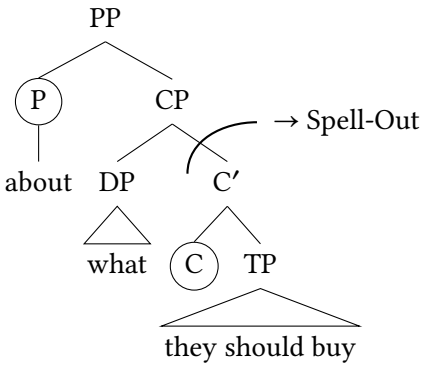


Figure 5: The PP of (8) in the proposed analysis

Crucially, the present analysis puts the phase head C into the Spell-Out domain with its complement. This separates the preposition and the complementizer into different Spell-Out domains, avoiding a violation of Distinctness. The absence of case resistance effects for interrogative clauses is thus also correctly predicted. Finally, consider (9a). The present analysis gives it the structure in Figure 6.

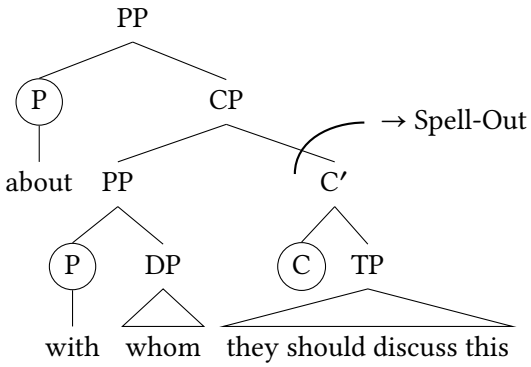


Figure 6: The PP of (9a) in the proposed analysis

Due to the "spec-head agreement" the phase head is spelled out with its complement. Still, the specifier of the phase head escapes Spell-Out. Therefore, the Distinctness effect is correctly predicted to be caused by the two prepositions.

The proposed analysis thus gives an account of the case resistance patterns of declarative and interrogative clauses.

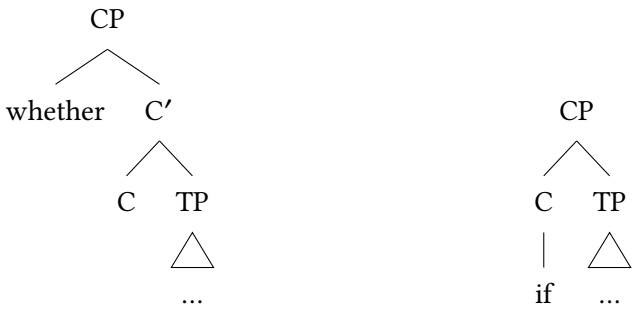
It should be noted that my analysis allows an interrogative clause to occur as a complement of prepositions not because it is an interrogative clause but because "spec-head agreement" occurs within it. Similarly, it prevents declarative clauses from occurring as a complement of prepositions not because it is a declarative clause but because there is no Spell-Out of an "intermediate projection." My proposal predicts that prepositions can take clauses as long as there is an application of Spell-Out of "intermediate projection," irrespective of their semantic types. I show that this prediction is correct using *whether*-clauses, *if*-clauses, and *how*-clauses.

Kayne (1991) discusses the status of interrogative *whether* and *if*. Though both of these can introduce embedded yes-no interrogative, they show certain syntactic differences. For example, consider (10):

(10) a. I wonder whether I should go.
b. I wonder whether to go.
c. I wonder whom I should invite.
d. I wonder whom to invite.
e. I wonder where I should go.
f. I wonder where to go.
g. I wonder if I should go.
h. * I wonder if to go.
(Haegeman & Guéron 1999: 175–176)

(10a–10f) shows that *whether*, like *wh*-phrases, can introduce finite and non-finite clauses. This leads me to the treatment of *whether* as a kind of *wh*-phrase. (10c–10h) indicates that *if* behaves differently from *wh*-phrases with respect to the selection of clauses: it has to take finite clauses. To express the difference in question, I assume, following Kayne (1991), that *whether* is a *wh*-phrase that occupies a specifier of C, while *if* is a complementizer. More specifically, I assume the structures in Figure 7 for interrogative clauses introduced by these elements.

Whether occupies a specifier of C which requires its specifier to be a *wh*-phrase. This kind of C does not impose selectional restrictions on the finiteness of TP. *If* is a complementizer and needs to take a finite clause as its complement as its selectional restrictions. What is the most important difference on these structures in the present discussion is that the *whether*-clause involves "spec-head agreement," whereas *if*-clause does not. This difference leads to the prediction



(a) *whether* (b) *if*

Figure 7: Structures of *whether*- and *if*-clauses

that *whether*-clauses, but not *if*-clauses, can occur as complements of prepositions. Since there is "spec-head agreement" within *whether*-clauses, C-heads are spelled out with their complements. Therefore, they are spelled out before prepositions which take them are, with no violations of Distinctness. *If*-clauses, on the other hand, send TP to the interface given its structure. When P selects CP, then, C and P belong to the same Spell-Out domain and cause a violation of Distinctness. (11) shows that the prediction is borne out:

(11) It depends on {whether|*if} we have enough time left.
(Huddleston & Pullum 2002: 974)

The proposed analysis thus correctly predicts that clauses cannot be selected by prepositions with no spec-head agreement, even if they are interrogative.[6]

[6]The present analysis predicts the contrast in (11) assuming the structural differences between *whether*- and *if*-clauses in Figure 7. As a reviewer points out, some analyses of *if*-clauses posit a null operator in its specifier (see Larson 1985, Han & Romero 2004, Wu to appear). Under this analysis, the null operator would agree with *if* and the present analysis does not predict the contrast between *whether*- and *if*-clauses in question. The reviewer points out that the variation in the structural analysis of *if*-clauses may be related to speaker variation of judgment of data like (11). S/he notes that "*[i]t depends on if* does not sound too bad in [his/her] dialect of English (maybe slightly worse than *whether*)" and provides the following naturally occurring example of *depends on if*:

(i) Carmelo Anthony's impact depends on if he finishes games.
(https://www.youtube.com/watch?v=oa7aolbngrU)

Given the structural variation in the structure of *if*-clauses, the present analysis predicts this variation among speakers. For speakers who reject *depends on if*, they assume the structure

The present analysis also predicts that declarative clauses can occur as complements of prepositions if they involve Spell-Out of "intermediate projections." Legate (2010) discusses declarative clause introduced by *how*:

(12) They told me how the tooth fairy doesn't really exist.
'They told me that the tooth fairy doesn't really exist.'
(Legate 2010: 121)

She argues that *how*-clauses are derived by base-generating *how* in CP-specifiers. Interestingly, this type of declarative clauses can be complements of prepositions.

(13) They told me about how the tooth fairy doesn't really exist.
(Legate 2010: 122)

Though Legate assumes null DP-layers above CP to account for their behaviors like definite DPs, this type of clause provides a potential case of declarative clauses with "spec-head agreement" and they can be complements of P.[7]

To summarize, this section has discussed the distribution of various types of clauses. It has shown that the syntactic structure, but not the semantics, of clauses, is important. Given Distinctness, the proposed analysis has offered an account for it, correctly predicting that the presence or absence of 'spec-head' agreement and the category of 'specifier' play an important role.

4 Sluicing

This section aims to derive Merchant's (2001) sluicing-COMP generalization and give an account of its exceptions from the proposed mechanism of Spell-Out. In

in Figure 7b, in which no spec-head agreement occurs, hence a violation of Distinctness is caused when *if*-clauses occur as a complement of P. For speakers who accept it, *if*-clauses have a null operator in its specifier and 'spec-head agreement' triggers Spell-Out of 'intermediate projections,' as in *whether*-clauses, and therefore they do not find the contrast between *whether*- and *if*-clauses in question. I would like to thank the reviewer for raising this point.

Another reviewer points out that *if*-clauses can be used with prepositions in the combination of *about if* and *as if*. He or she also notes that in these usages the *if*-clauses are not interrogative types, which I discussed in the main text. This may suggest that, contrary to interrogative *if*-clauses, these *if*-clauses involve structures with 'spec-head agreement.' I would like to thank the reviewer for noting these constructions and to leave the investigation of these cases for future research.

[7] It is worth mentioning that Legate notes close resemblances between *how*-clauses and free relatives involving *how*, and Ott (2011) argues for Spell-Out of "intermediate projections" for the derivation of free relatives. See Footnote 3 for his analysis of free relatives.

so doing, I assume that ellipsis has a direct connection with Spell-Out domains. Specifically, I assume that ellipsis arises as a consequence of not realizing a Spell-Out domain at PF (Gengel 2006, 2009, van Craenenbroeck 2010, Bošković 2014, Wurmbrand 2017).

Based on a number of languages, Merchant (2001: 62) argues for the generalization (14):

(14) In sluicing, no non-operator material may appear in COMP.

Let us first see the validity of this generalization. English, Dutch, German, and Danish all exhibit verb-second in matrix interrogatives:

(15) a. Who has Max invited? [English]
b. Wen hat Max eingeladen? [German]
c. Wie heeft Max uitgenodigd? [Dutch]
d. Hvem har Max inviteret? [Danish]
(Merchant 2001: 63)

When sluicing applies in theses sentences, the remnant cannot include the auxiliary:

(16) a. A: Max has invited someone.
B: Really? Who (*has)? [English]
b. A: Max hat jemand eingeladen.
B: Echt? Wen (*hat)? [German]
c. A: Max heft iemand uitgenodigd.
B: Ja? Wie (*heeft)? [Dutch]
d. A: Max har inviteret en eller anden.
B: Ja? Hvem (*har)? [Danish]
(Merchant 2001: 63)

Given the structure shown in Figure 8 and the TP-Spell-Out/-ellipsis analysis of sluicing, the question arises as to why the auxiliaries must be elided in (16).[8]

[8]One may account for the obligatory absence of auxiliaries in matrix sluicing by arguing that ellipsis of TP blocks T-to-C head-movement. Lasnik (1999) and Boeckx & Stjepanović (2001) develop such analyses. However, Merchant (2001) shows that the sluicing-COMP generalization holds even for material usually base-generated in C. For example, certain varieties of Dutch allow an overt complementizer to co-occur with a *wh*-phrase in [Spec, CP]:

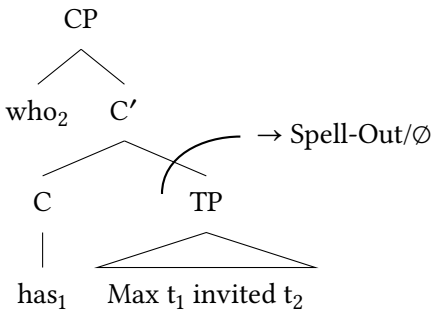


Figure 8: Sluicing in the standard analysis

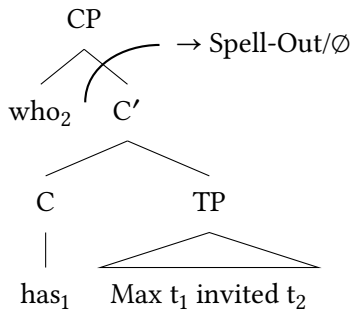


Figure 9: Sluicing in the proposed analysis

My proposal on Spell-Out domains accounts for the sluicing-COMP generalization straightforwardly. Consider Figure 9, which shows the present analysis of sluicing. Since interrogative clauses involve "spec-head agreement," Spell-Out/ellipsis targets C′. Since the C-head is a part of the Spell-Out domain, only the "specifier," i.e. *wh*-operator, can survive sluicing.

It is tempting to try to account for counter-examples of the sluicing-COMP generalization in terms of the present analysis. Takita (2012) provides such a counter-example from Japanese. He argues that a certain type of apparent sluicing in Japanese are "genuine" sluicing constructions in the sense that it is derived by movement of *wh*-phrases followed by clausal ellipsis, as in sluicing, for example, in English.[9] He presents (17a) as a real sluicing example in Japanese. It

(i) Ik weet niet, wie (of) (dat) hij gezien heeft. [(esp. Southern) Dutch]
I know not who if that he seen has
'I don't know who he has seen.'
(Merchant 2001: 74)

Importantly, a grammatical sluiced counterpart of (i) involves only *wh*-phrase:

(ii) Hij heeft iemand gezien, maar ik weet niet {wie |*wie of |*wie dat |*wie of dat}.
he has somone seen but I know not who who if who that who if that
'He saw someone, but I don't know who.'
(Merchant 2001: 75)
[Dutch]

This shows that the absence of T-to-C movement in sluicing cannot be the whole story of the sluicing-COMP generalization.

[9]Japanese has the construction that is apparently sluicing but has a different structure from real

involves control predicates which take interrogative non-finite clauses and the second sentence involves sluicing, whose structure is shown in (17b):

(17) a. Taroo-wa [PRO dono zyaanaru-ni zibun-no ronbun-o das-oo
Taroo-TOP which journal-to self-GEN paper-ACC submit-INF
ka] kimeta-ga, Hanako-wa [dono zyaanaru-ni ka] kimekaneteiru.
Q decided-but Hanako-TOP which journal-to Q cannot.decide
'(intended) Though Taroo decided [to which journal [to submit his paper]], Hanako cannot decide [to which journal [to submit her paper]].'

b. Hanako [$_{vP}$ [$_{CP}$ to which journal$_1$ [$_{TP}$ PRO ...t$_1$] C$_Q$] cannot.decide]

Note that sluicing in Japanese leaves the C-head as well as *wh*-phrase intact, thus posing a counter-example to the sluicing-COMP generalization. Under the

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sluicing. A notable characteristic of this construction is that it allows the copula *da* to occur in the construction.

(i) Taroo-wa [Ziroo-ga nanika-o katta to] itteita-ga, boku-wa [nani-o (da)
Taroo-TOP Ziroo-NOM something-ACC bought that said-but I-TOP what-ACC COP
ka] sir-anai.
Q know-not
'Taroo said that Ziroo bought something, but I don't know what.'

Importantly, this copula cannot occur in embedded questions:

(ii) Taroo-wa [Ziroo-ga nanika-o katta to] itteita-ga, boku-wa [kare-ga
Taroo-TOP Ziroo-NOM something-ACC bought that said-but I-TOP he-NOM
nani-o katta (*da) ka] sir-anai.
what-ACC bought COP Q know-not
'Taroo said that Ziroo bought something, but I don't know what he bought.'

This contrast suggests that it is unlikely that (i) is derived from (ii).

This kind of complication will not arise for "genuine" sluicing since it does not allow the copula to occur. Compare (iii) and (17a):

(iii) * Taroo-wa [PRO dono zyaanaru-ni zibun-no ronbun-o das-oo ka] kimeta-ga,
Taroo-TOP which journal-to self-GEN paper-ACC submit-INF Q decided-but
Hanako-wa [dono zyaanaru-ni da ka] kimekaneteiru.
Hanako-TOP which journal-to COP Q cannot.decide
'(intended) Though Taroo decided [to which journal [to submit his paper]], Hanako cannot decide [to which journal [to submit her paper]].'

See Takita (2012) for arguments for the real sluicing status of the construction in question.

present analysis, that the C-head survives sluicing means that C-head does not undergo "spec-head agreement" and only the TP-complement is spelled out or elided. The absence of "spec-head agreement" in Japanese sluicing does not seem unreasonable given that Japanese is often characterized as an agreement-less language and lacks obligatory *wh*-movement. Though the detail of the analysis needs to be worked out I believe that the present analysis tells us some insight as to why Japanese does not conform to the sluicing-COMP generalization.[10]

To summarize this section has offered an account of Merchant's (2001) generalization in terms of ellipsis as a null form of Spell-Out. That non-operator materials do not survive sluicing has been argued to be a consequence of 'spec-head agreement' in sluicing, which makes traditional C-bar projections a Spell-Out/Ellipsis site.

5 Conclusion

This paper has proposed that "intermediate projections" undergo Spell-Out when phase heads enter a "spec-head" relationship. I have shown that the proposed analysis accounts for case resistance effects in terms of Distinctness and for the sluicing-COMP generalization under the view of ellipsis as null Spell-Out.

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[10] As reviewers point out, there are other cases which are argued to be an instance of sluicing with an non-operator remnant, i.e., counter-examples to Merchant's (2001) generalization (see van Craenenbroeck (2010), van Craenenbroeck & Lipták (2013), Marušič et al. (2015, 2018) a.o.). Generally speaking, these cases are analyzed within the cartographic approach, which posits the rich structure within CP-areas (Rizzi (1997) et seq.), and non-operator remnants are argued to be in the fine-grained CP-structures. The present paper assumes a parsimonious structure for CP. I hope to address in future research the question of how the present analysis deals with these cases and it can be implemented within the cartographic approach.

Abbreviations

ACC	accusative
COP	copula
GEN	genitive
INF	infinitive
NOM	nominative
Q	question particle/marker
TOP	topic

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Chapter 12

Stripping in Hindi: Does clause size matter?

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Wurmbrand (2017) shows that *that*-less complements can embed the ellipsis construction known as stripping in English. In Hindi, it is possible to embed stripping even in the presence of the complementizer like element *ki*. We argue that the crucial difference between English and Hindi is the position in the structure the complementizer resides. The analysis of Hindi stripping also sheds light on negative stripping and alternative questions.

1 Introduction

Wurmbrand (2017) explores the elliptical operation known as stripping. In the original formulation of the stripping transformation, the structural condition for the transformation was specified as conjunction (see e.g., Hankamer 1979). This was done to ensure that ellipsis could not occur in embedded environments. As the sentences in (1) suggest, stripping is possible in conjoined structures, but not embedded under speech and attitude verbs (elided material appears in ~~strikeout~~).

(1) a. Jane loves to study rocks and geography ~~she likes to study t~~ too.
b. * Jane loves to study rocks and John says that geography ~~she loves to study t~~ too.

Following in this tradition, Merchant (2003) also specifies that stripping can only occur in coordinations by having the ellipsis licensing E-feature come with a *u*Conj feature that must be checked in an agree relation with a conjunction head. Wurmbrand notes that such theories cannot account for cases where stripping is

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possible in embedded environments when there is no overt complementizer as shown in (2).

(2) Jane loves to study rocks and John says geography ~~she loves to study t~~ too.

Based on the distinction between sentences like (1b) and (2), Wurmbrand proposes the generalization in (3).

(3) *Embedded stripping generalization*
Embedded stripping is only possible when the embedded clause lacks a CP.

She goes on to propose a novel analysis of stripping that accounts for this generalization. Near the end of her paper, she considers languages where it is not clear that (3) holds. Consider the example in (4) from Hungarian (van Craenenbroeck & Lipták 2006, 2008, 2013). In (4), it appears that embedded stripping is possible even though the complementizer head *hogy* is present.

(4) János meghívott valakit és azt jiszem hogy Bélát.
János invited someone.ACC and that.ACC think that Bélá.ACC
'János invited someone and I think that it was Bela.'

One language not discussed by Wurmbrand is Hindi. In this paper we demonstrate that Hindi *ki* can also be present in embedded stripping, but does not conform to the generalization that languages that allow for a structure like (4) have *wh*-movement to the specifier of FocP. We instead put forth an analysis based on the respective height of the complementizer like elements. This analysis can provide a satisfactory answer to this puzzle and also has implications for the nature of Hindi complementation, the structure of negative stripping and also the derivation of alternative questions.

The paper is outlined as follows, in Section 2, we explore the Hindi data and the distribution and nature of *ki* in Hindi. In Section 3, we present our analysis and some extensions to different elliptical constructions. In Section 4, we conclude.

2 Initial Hindi data

Like English, Hindi allows for stripping in coordinations with *lekin* 'but' and *aur* 'and'. This is demonstrated in (5) with *lekin*. In (5), the second conjunct has undergone stripping only leaving negation and *Mohan-ko* behind as the remnant.

(5) Sita-ne Ram-ko tohafaa diyaa, lekin Mohan-ko nahi.
Sita-ERG Ram-DAT gift give.PRF but Mohan-DAT NEG
'Sita gave Ram a gift, but not Mohan.'

Note that *Mohan-ko* must bear the dative case, if it appears in the unmarked absolutive as in (6), the example becomes ungrammatical. This follows from the ellipsis analysis of (5), as case connectivity is a hallmark characteristic of clausal ellipsis (Merchant 2001).

(6) * …lekin Mohan nahi.
…but Mohan.ABS NEG
'…but not Mohan.'

In addition to case-connectivity, Hindi stripping also conforms to the P-stranding generalization. Example (7) shows that Hindi postpositions cannot be stranded under movement and also obligatorily appear in the Hindi sluicing like construction.

(7) a. * Kis aap ke saath kaam kar-te haiN.
who 2PL GEN with work do-HAB AUX
Intended: 'Who do you work with?'

b. Sita khaana pakaa rahii hai, par Ali-ko nahiiN pa-taa
Sita food cook PROG AUX.PRS, but Ali-DAT NEG know-HAB.M
kis-ke liye/*kis/kuan.
who-GEN for/*who.OBL/*who.NOM
'Sita is cooking, but Ali doesn't know for whom.'
(Gribanova & Manetta 2016: 643)

Just as in the sluicing like construction, stripping also obligatorily requires the postposition, as shown in (8).

(8) Ham-ne Ravi ke liye khaanaa banaayaa, aur Mohan ke *(liye) bhii.
1PL-ERG Ravi GEN for food make.PRF.3 and Mohan GEN *(for) also
'We made food for Ravi and, for Mohan too.'

Now let us turn to the stripping in embedded clauses. These judgments are less clear cut than others presented here. Gribanova & Manetta (2016) assign similar examples "?/*". It is unclear whether this indicates that there is inter speaker variation. The Hindi speakers consulted for this paper (including the second author)

allow for embedded striping, and as shown in (9), it is possible with or without the complementizer like element *ki*.[1]

(9) Sita-ne daawaa kiyaa ki Ram use bahar ghumaane le jaa saktaa
Sita-ERG claim do.PRF KI Ram her out visit.INF take go can.IMPRF
hai, lekin vah nahii sochtii (ki) Mohan bhii.
be.PRES, but she NEG think.IMPRF (KI) Mohan also
'Sita claimed that Ram would ask her out, but she didn't think Mohan too.

Kush (2016) also reports similar variation in such structures, which he refers to as single remnant gapping. For a subset of his consultants, the examples in (10) and (11) are acceptable.

(10) Akhbaar-me likhaa thaa ki Manu-ne Sita-ko dehk-aa,
newspaper-in written aux.PAST.M.3SG C Manu-ERG Sita-OBJ see-PFV.M.SG
lekin magazin-me likhaa thaa ki Rina-ko ~~dekh-aa~~.
but magazine-in written aux.PAST.M.3SG C Rina-OBJ ~~see-PFV.M.SG~~
'It was written in a newspaper that Manu saw Sita, but it was written a magazine that (Manu saw) Rita.'

(11) Akhbaar-me likhaa thaa ki Manu-ne Sita-ko dehk-aa,
newspaper-in written aux.PAST.M.3SG C Manu-ERG Sita-OBJ see-PFV.M.SG
lekin magazin-me likhaa thaa ki Rina-ne ~~Sita-ko~~
but magazine-in written aux.PAST.M.3SG C Rina-ERG ~~Sita-obj~~
~~dekh-aa~~.
~~see-PFV.M.SG~~
'It was written in a newspaper that Manu saw Sita, but it was written in a magazine that Rina (saw Sita).' (Kush 2016: 70 & 71)

This variation also appears to tied to availability of embedded gapping. For all of Kush's consultants that found (10) and (11) acceptable, they also allowed for embedded gapping, as shown in (12) (see also Farudi 2013 for similar observations and for further discussion).

[1]Bhattacharya & Simpson (2012) note that *ki* occurs in Hindi sluicing like constructions as well, as shown below.

(i) Raam-ne kuch ciiz cori-kii-thii, par muhje nahe maluum *(ki) kyaa.
Raam some thing stealing-DO-PST but I NEG know C what
'Ram is stealing something but I don't know what.' (Bhattacharya & Simpson 2012: 199)

Our informants also allow for *ki* to occur in sluicing like constructions, but like the stripping examples its presence is not obligatorily, but is slightly preferred.

(12) Manu-ne Sita-ko dekh-aa aur [Rina-ne soch-aa/
Manu-ERG Sita-OBJ see-PFV.M.SG and [Rina-ERG think-PFV.M.SG/
Rina-ko lag-aa] ki Tanu-ne Mira-ko ~~dekh-aa~~.
Rina-DAT strike-PFV.M] C Tanu-ERG Mira-OBJ ~~see-PFV.M.SG~~
'Manu saw Sita and Rina thought/ it seemed to Rina that Tanu saw Mira.'
(Kush 2016: 53)

This correlation is suggestive of analyses that treats gapping as a subspecies of stripping, but with multiple remnants (see Johnson 2018 for extensive discussion of the relation between the two constructions).[2]

While the interspeaker variation found in Hindi is interesting and deserves further attention, for our purposes, we will focus on the subset of Hindi speakers that do allow for embedded stripping and gapping. For such speakers, both embedded stripping and gapping are allowed in the presence of the complementizer like element *ki*.

Note again that we find the case connectivity effects that we saw in the more classic cases of stripping (13a), and as shown in (13b) we once again see obligatory postposition pied piping.

(13) a. Sita-ne Ram-ko tohafaa diyaa aur mujhe lagtaa hai
Sita-ERG Ram-DAT gift give.PRF and 1SG.DAT feel be.PRES
Mohan-*(ko) bhii.
Mohan-*(DAT) also
'Sita gave Ram a gift and I think Mohan too.'

b. Ham-ne Ravi ke liye khaanaa banaayaa aur mujhe lagtaa
1PL-ERG Ravi GEN for food make.PRF.3 and 1SG.DAT feel
hai Mohan ke liye bhii.
be.PRES Mohan GEN for also
'We made food for Ravi and I think for Mohan too.'

This once again suggests that clausal ellipsis is also at work in such examples.

We find another type of clausal ellipsis reminiscent of stripping sometimes refered to as alternate negation clauses in Sinha & Thakur (2005). As far as we know,

[2] As Johnson notes, gapping examples, originally from Weir (2014), parallel to Wurmbrand's stripping examples are also acceptable, as shown below.

(i) a. John ate oysters and I suspect Mary swordfish.
b. John ate oysters and I imagine Mary swordfish. (Weir 2014: 333)

Just as in Wurmbrand's examples, the complementizer *that* must be absent in such examples.

this construction has received less attention in the generative literature. Interestingly for our purposes, the negative element that proceeds the remnant in such constructions is morphologically complex, consisting of a negative morpheme *naa* and *ki*, the complementizer like element.[3] Just as in the previous examples, case-matching is enforced, as shown in (14).[4]

(14) Ham-ne aap-ko bulaayaa thaa naaki un-*(ko).
1PL-ERG 2SG-DOM called be.PST NEG.KI 3PL-DOM
'We called you, not them.'

As with the other examples, postposition omission is not allowed, as shown in (15).

(15) Ham-ne Ravi ke liye khaanaa banaayaa naaki Mohan ke *(liye).
1PL-ERG Ravi GEN for food make.PRF.3 NEG.KI Mohan GEN *(for)
'We made food for Ravi, not for Mohan.'

The above data also rule out the possibility that the ellipsis site contains a cleft or copula structure. In the examples below we see that continuations with a copula are ungrammatical.

(16) a. * Ham-ne Ravi ke liye khanna banaayaa thaa aur mujhe lagtaa
1PL-ERG Ravi GEN for food make.PRF.3 be.PST and 1SG.DAT feel
hai ki Mohan ke liye bhii thaa.
be.PRES KI Mohan GEN for also be.PST
Intended: 'We made food for Ravi and I think for Mohan too.'

b. * Ham-ne aap-ko bulaayaa thaa naaki un-ko thaa.
1PL-ERG 2SG-DOM call be.PST NEG.KI 3PL-DOM be.PAST
Intended: 'We called you, not them.'

So it appears that the complimentizer like element *ki* can occur in stripping like constructions in Hindi. Both in embedded environments (for some speakers) and in the alternate negation clauses.

[3] *na(a)* is just one of the three negative morphemes found in Hindi (*mat* and *nahii* being the other two). It occurs with most non-indicative verb forms and also in *neither … nor* constructions. See Bhatia 1995 for extensive discussion of negation in Hindi.

[4] It has also been claimed that *kyuNki* 'because' can be decomposed in to *kyuuN* 'why' + *ki* and *jabki* 'whereas' can be decomposed into *jab* 'when' + *ki*.

2.1 Does Hindi have *wh* focus movement?

As we have shown Hindi does have a stripping like operation even in the presence of the complementizer like element *ki*. In this section, we consider whether Hindi conforms to the generalization that languages that allow for stripping with complementizers have obligatory focus driven *wh*-movement (van Craenenbroeck & Lipták 2013).

Hindi *wh*-questions have been extensively studied (see Dayal 2017 for a recent discussion), and it has been suggested that Hindi does have focus driven movement, but to the specifier of *v*P, not a position in the clausal periphery. This explains the fact that *wh*-elements occur immediately before the verb, as shown in (17).

(17) a. Anu-ne kyaa khariidaa?
Anu-ERG what bought
'What did Anu buy?'

b. Yeh kavitaa kis-ne likhii?
this poem who-ERG wrote
'Who wrote this poem?'

c. Tum-ne paisaa kis-ko diyaa?
you-ERG money who-DAT gave
'Who did you give money to?'

It is unclear whether such movement is obligatory, however. As we see in (18), the *wh*-elements can also remain in-situ without issue, and in some cases, sound more natural than their counterparts in (17).

(18) a. Kis-ne yeh kavitaa likhii?
who-ERG this poem write
'Who wrote this poem?'

b. Tum-ne kis-ko paisaa diyaa?
you-ERG who-DAT money gave
'Who did you give money to?'

So it is quite tenuous to claim that Hindi has obligatory focus movement. Even if we were to accept this claim, Hindi may still pose an issue for van Craenenbroeck & Lipták (2013) as the claim in that work is that the head that attracts the *wh*-element is the head the hosts the E-feature (i.e., the head whose complement undergoes ellipsis). Under this theory, we are lead to predict that Hindi

sluicing/stipping targets VP. Gribanova & Manetta (2016) show that this cannot be case, as the auxilary verb *ho*, typically thought to be a realization of a T head, is elided in sluicing.

(19) Ali koi kitaab caah-taa hai. Ham-eN nahiiN pa-taa kaunsii
Ali some book want-HAB.M AUX. We-DAT NEG know-HAB.M which.F
~~Ali caah-taa hai~~.
Ali want-HAB.M AUX
'Ali wants some book, but we don't know which.' (Gribanova & Manetta 2016: 643)

A similar test can be used to show the stripping also targets something larger than VP. Below the auxiliary *hai* is part of the elided material suggesting that ellipsis must be larger than VP.

(20) Ali kitaab caah-taa hai aur muhje lagtaa hai ki kalam bhii.
Ali book want-HAB.M AUX and 1SG.DAT feel AUX KI pen also
'Ali wants a book. I think (he wants) a pen too.'

2.2 What is *ki*?

The element *ki* is subject of debate in the literature. Some researchers have claimed that it is similar to a coordination marker, others have claimed that it is a complementizer similar to English *that*, we show that neither view fully captures the behavior of *ki*.

Dwivedi (1994) suggests that *ki* is in fact a conjunction marker that has a selection restriction such that it may only conjoin two CPs. Since this proposal, there have been several arguments against it. Take negative sensitive items licensing as an example. As shown in (21), negation in the first conjunct of a true coordination cannot license a negative sensitive item in the second conjunct. Example (21a) involves negation in the first clause and the negative sensitive element in the second clause and the result is ungrammatical. If both the negation and negative sensitive element are within the same clause, then the sentence is grammatical, as seen in (21b).

(21) a. * MaiN-ne bahut logoN-ko nahi bulaaya thaa lekin koii
I-ERG very people-DOM NEG invite-PRF be-PST but someone
bhi aayaa.
even come-PRF
Intended: 'I did not invite many people, but nobody came.'

b. MaiN-ne bahut logoN-ko bulaaya thaa lekin koii bhii
I-ERG very people-DOM invite-PRF be-PST but someone even
nahi aayaa.
NEG come-PRF
'I invited many people, but nobody came.'

If *ki*, conjoined two clauses, we would predict that negation in the first clause could not license a negative sensitive item in the second clause. This prediction is not correct as shown in (22). The negation in the first clause can license the use of the negative sensitive item in the second clause.

(22) Sarita-ne nahii kahaa ki koii bhii aayaa.
Sarita-ERG NEG say KI someone even came
'Sarita did not say that anyone came.'

The fact that negation can license the negative sensitive item in the second clause suggests that the second clause is subordinate to the first clause. This allows for the matrix negation to c-command/scope over the negative sensitive item and properly license it.

This suggests that the second clause introduced by *ki* is in fact embedded within the first clause suggesting it is complementizer like English *that*, but, as shown in (23), *ki* does not have the same selection restrictions as *that*. It can introduce both declarative (23a) and interrogative (23b) complement clauses.

(23) a. Us-ne kahaa ki maiN sach boluNgaa.
3SG.ERG said KI 1SG truth speak.FUT
'He said that I speak the truth.'

b. Sudha-ne puchaa ki maiN kab jaauNgii.
Sudha-ERG asked KI 1SG when go-GO
'Sudha asked whether I will leave.'

This suggests that Hindi *ki* does not correspond directly to English *that*. Following previous works, we suggest that *ki* is a general subordination marker and does not contribute information about clause type.

3 Towards an analysis: Height matters

In this section, we explore the idea that the variation in the height of heads in the left periphery affects their ability to coincide with ellipsis. We propose that *ki* resides higher in the clausal periphery than English *that* and this height difference explains the difference in behavior in stripping as well.

We have seen that *ki*, unlike English complementizers, appears agnostic to clause type. It shows up in both declarative and interrogative complements. This leads us to postulate that *ki* is in fact just a marker of subordination and does not encode clause type information (see Bhatt & Yoon 1991 for a similar proposal and also Davison 2003 who argues that *ki* resides high in a Force projection). This is supported by examples like (24). In (24) we see both *ki* and the polar question marker *kyaa* in the embedded clause. Note that the order of the two elements is fixed: *ki* must precede *kyaa*. The other order would result in the utterance becoming ungrammatical.

(24) a. Ram-ne puchhaa ki kyaa Sita aayegii.
Ram-ERG asked KI what Sita come.FUT
'Ram asked whether Sita will come.'

b. * Ram-ne puchhaa kyaa ki Sita aayegii.
Ram-ERG asked what KI Sita come.FUT
'Ram asked whether Sita will come.'

This data suggests that *ki* occupies a higher position than the head that contributes clause type information. We will assume a expanded CP in line with Rizzi (1997). We suggest that *ki* simply marks subordination between two clauses and resides in a subordination phrase (SubP) and that the height of the complementizer that allows it to survive stripping. We assume the representation in Figure 1 for the embedded stripping cases. *Ki* heads the subordination phrase that is the topmost projection in the clause and takes a Focus projection as its complement. The remnant of stripping moves to the specifier of the Focus projection followed by ellipsis of the complement of FinP.[5]

This analysis correctly predicts that other materially such as markers of Force can occur in stripping in Hindi. In (25), *kyaa* marks the clause as interogative and can survive stripping.[6]

[5] An anonymous reviewer asks what drives the movement of the remnant to the Focus position. We assume, following Hartman & Ai (2009), that focused phrases dominated by e-given phrases are given an interpreted focus feature, it is this feature that ensures that the remnant moves to the focus projection and avoids ellipsis.

[6] Hindi also has a construction similar to *why*-stripping where a focused constituent and *kyuN* ('why') survive ellipsis as shown below.

(i) Ram-ne roTii khaaii, lekin mujhe nahii maaluum roTii hii kyuN.
Ram-ERG bread eat.PST but 1SG.DAT not know bread EMP why
'Ram ate bread, but I don't know why only bread.'

We leave further investigation of this construction as a matter of future research.

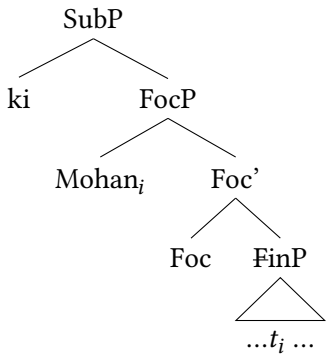

Figure 1: Clause structure for Hindi stripping

(25) Sitaa-ne Ravi ke liye khaanaa banaayaa lekin mai jaanaa chaahataa
Sita-ERG Ravi GEN for food make.PRF.3 but I to.know want
huN ki kyaa Mohan ke liye bhii.
be.PRES KI what Mohan GEN for also
'Sita made food for Ravi but I want to know whether (she made food) for Mohan also.'

So our analysis of Hindi stripping allows for heads higher in the left periphery to survive ellipsis. Interestingly, the idea that height of the complementizer like element plays a role in its ability to survive stripping has recently been proposed by Yoshida & Myers (2018). They are analyzing stripping like constructions under *if* in English, as shown in (26).

(26) John likes to drink whiskey. If scotch, I will pour him an Islay. (Yoshida & Myers 2018: 1)

Note that like stipping in coordinations the remnant can occur with negation as shown in (27).

(27) John likes to drink scotch, if not scotch, then bourbon.

Yoshida & Myers (2018) argue that if *if* is a type of complementizer, then such examples may also constitute a counterexample to the embedded stripping generalization. They argue that *if* is a Force head that sits atop the focus projection that hosts the remnant of stripping in its specifier. Since it resides high in the clause, it is able to appear in stripping parallel to our treatment of *ki* in Hindi. English *that* on the other hand is low in the structure in Fin (e.g., Baltin 2010) and cannot survive ellipsis.

3.1 Stripping with negation

Let us now turn to stripping like constructions that involve negation. These included stipping in a coordination (28) but also the alternate negation clause (29).

(28) Sita-ne Ram-ko tohafaa diyaa, lekin Mohan-ko nahi.
Sita-ERG Ram-DAT gift give.PRF but Mohan-DAT NEG
'Sita gave Ram a gift, but not Mohan.'

(29) Ham-ne aap-ko bulaayaa thaa naaki un-*(ko).
1PL-ERG 2SG-DOM called be.PST NEG.KI 3PL-DOM
'We called you, not them.'

In the literature on negative stripping, there has been two proposals about the structure of negation (Merchant 2003, Wurmbrand 2017, den Dikken & Griffiths 2018). Under one view, it is argued that negation in negative stripping is the result of a high sentential negation Figure 2. The other view argues instead that such structures involve constituent negation Figure 3.

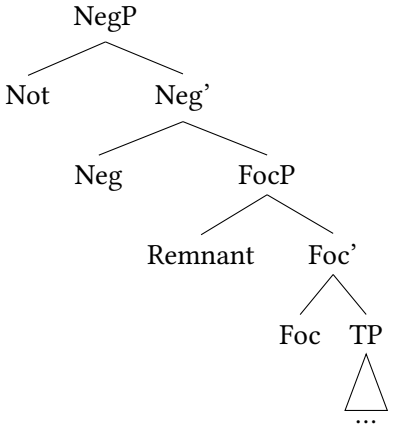

Figure 2: High sentential negation analysis of negative stripping

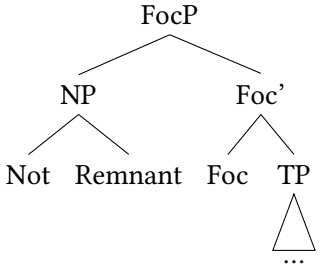

Figure 3: Constituent negation analysis of negative stripping

The Hindi data, especially the alternate-negation, seem to favor the sentential approach, as it appears that negation does not form a constituent with the remnant, but rather forms a morphological word with the subordination marker *ki*. To account for this structure we assume that high sentential negation takes the subordination phrase as it complement, the remnant moves to the focus projection followed by FinP ellipsis. *ki* undergoes head movement to the negation head.

At PF, negation in the specifier of NegP and *ki* form a word via m-merger. The syntax we assume is shown in Figure 4.[7]

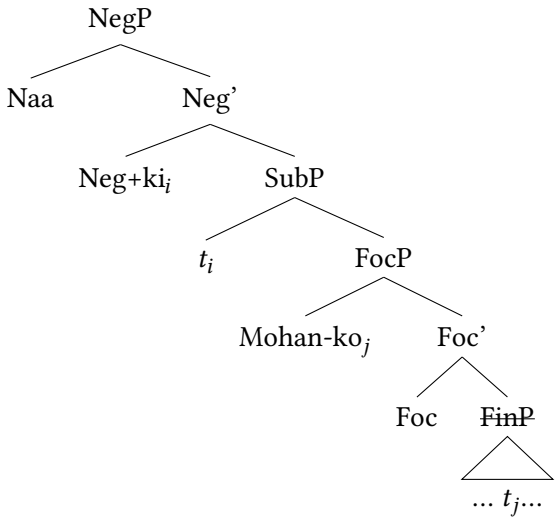

Figure 4: Structure of alternate-negation stripping in Hindi

By treating *ki* as a high subordination marker, we can account for its appearance in stripping like constructions in Hindi. We argued that height of the complementizer mattered for its ability to appear in stripping, both with and without negation. This approach mirrors a similar proposal of *if*-stripping in English made by Yoshida & Myers (2018).

3.2 Extension to alternative questions

We have argued that *ki* is a subordinator. A potential issue for this analysis is that *ki* can behave as a disjunction marker as shown in (30).

(30) (Kyaa) tum-ne Ravi ke liye khaanaa banaayaa yaa/ki Mohan ke
(what) 2PL-ERG Ravi GEN for food make.PRF.3 or/KI Mohan GEN
liye?
for
'Did you make food for Ravi or for Mohan?'

[7]It is important to note that headedness is not harmonic in Hindi with some heads following their complements and some heads proceeding them. We present the left periphery as uniformly head initial, but this is an idealization as we can be seen from comparison of (28) and (29), what appears to be the negation head can either proceed or follow the remnant. We leave an analysis of the word order variation for future research.

For many Hindi speakers, it is also possible that *yaa* and *ki* co-occur, again making a morphologically complex word *yaaki* in such examples. This may appear on the surface to be an issue for our analysis as it appears that *ki* in (30) can take a PP as a complement instead of a clause level projection. There is reason to believe that such examples actually also involve a clausal complement, but with another ellipsis operation. First note that such questions in English are ambiguous between a polar reading which requires a Yes/No answer and alternative reading which is answered with one of the two PPs.

(31) Did you make food for Ravi or for Mohan?
   a. Yes/No (*Polar*)
   b. For Ravi/For Mohan (*Alternate*)

The examples with *ki* in Hindi, however, only allow for the alternative reading. This is important, as it has been argued that the alternative reading involves clausal ellipsis (Han & Romero 2004, Gračanin-Yuksek 2016, Podobryaev 2017). Additional evidence for an ellipsis analysis comes from P-omission. Podobryaev (2017) shows that in alternative questions in Russian, the second disjunct can only omit a preposition if that preposition can be stranded under movement, i.e., it conforms to the p-stranding generalization (Merchant 2001). In light of this, compare the examples in (32). In the English example (32a), it is possible to omit the preposition in the second disjunct, as it is possible to strand prepositions in English. In the Hindi example in (32b) omission of the postpostion in second disjunct leads to ungrammaticality. This follows from the ellipsis analysis as we have already seen that Hindi does not tolerate postposition stranding under movement or P-omission under sluicing.

(32) a. Did you make food for Ravi or Mohan?
   b. * Kyaa tum-ne Ravi ke liye khaanaa banaayaa ki Mohan ke?
   what 2PL-ERG Ravi GEN for food make.PRF.3 KI Mohan GEN
   'Did you make food for Ravi or for Mohan?'

We assume the structure below in Figure 5 for the second disjunct in alternative questions. Once again, *ki* will act as a subordination marker, there is movement of the remnant to a focus projection followed by clausal ellipsis. This analysis hence allows us to keep a uniform syntax for *ki* (i.e., it always takes a clause complement) and also accounts for the lack of P-omission in Hindi.

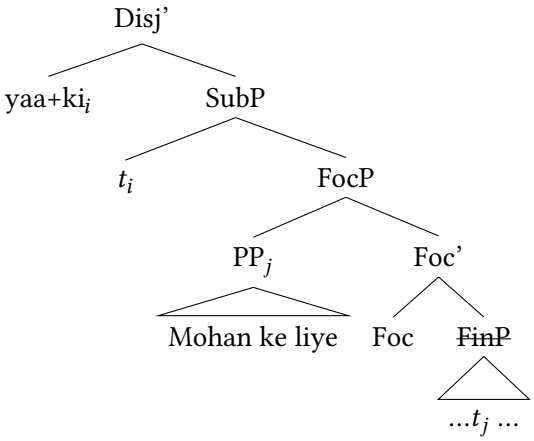

Figure 5: Ellipsis analysis of alternative questions with *ki*

4 Conclusion

By discovering that stripping can occur in embedded environments in English as long as there was no complementizer, Wurmbrand (2017) argued that clause size mattered for the availability of stripping. In this paper we attempted to show that height in the clause also mattered for the availability of certain complementizer-like heads to survive ellipsis.

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