On \textit{wh}-extraction out of VP ellipsis bled by subject-auxiliary inversion

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Park, Myung-Kwan and Han, Sumi. 2016. On \textit{wh}-extraction out of VP ellipsis bled by subject-auxiliary inversion. \textit{Korean Journal of English Language and Linguistics} 16-2, 447-468. This paper investigates \textit{wh}-extraction out of VP ellipsis in English which is bled by subject-auxiliary inversion (SAI) applying only to the ellipsis clause but not to the antecedent clause. To elucidate the interaction of \textit{wh}-extraction out of VP ellipsis with SAI, we first reinstate the requirement of successive cyclicity for \textit{wh}-movement, which will leave behind a trace at the periphery of the VP that undergoes ellipsis. To boot, we redefine the domain for parallelism/identity on extraction-permitting ellipsis, proposing that it includes the three elements such as the extracted element, the ellipsis-licensing element, and the elided constituent. It will be shown below that both the reinstated general requirement for \textit{wh}-movement and the redefined domain for parallelism are instrumental to accounting for the full paradigm of examples involving \textit{wh}-extraction out of VP ellipsis interacting with SAI.

\textbf{Keywords:} \textit{wh}-extraction out of VP ellipsis, subject-auxiliary inversion, parallelism/identity (domain), successive cyclicity, VP periphery

1. Introduction

Extraction out of ellipsis/deletion (EooE) refers to a phenomenon where a certain syntactic element escapes from a constituent to be elided/deleted. The example involving EooE is represented by the Sluicing or TP ellipsis construction (cf. Ross (1969); Chung et al. (1995)), as in (1):
In the approach adopting (PF) deletion, the sentences in (1a) and (1b) are known to experience the following derivations:

(2) a. Somebody just left - guess [CP [who]1 [TP just left]].
   b. They claimed they had settled on something, but it wasn’t clear [CP [what]1 [TP they claimed they had settled on]].

In these structures, the *wh*-element is extracted to the [Spec,CP] position before deletion applies to the TP that it has just escaped from.

In (2), the TP undergoes deletion after EooE. In (3), on the other hand, the VP may also undergo deletion.

(3) a. I think you SHOULD adopt one of these puppies, but I can’t predict which one you actually WILL.
   (Schuyler 2001: (49))
   b. ABBY took GREEK, but I don’t know what language BEN did.
   (Merchant 2008: (31c))

In a parallel way to the derivations in (2), the sentences in (3a) and (3b) undergo the following derivations, disregarding some details we will return to below.

(4) a. I think you SHOULD adopt one of these puppies, but I can’t predict [which one]1 you actually WILL [TP adopt t1].
   b. ABBY took GREEK, but I don’t know [what language]1 BEN did [TP take t1].
The second type of EooE involving VP ellipsis is known to be subject to the two restrictions inside and outside the elided site (cf. Merchant (2008); Lasnik (2001)). The first restriction that is enforced outside the elided site is the constraint of MaxElide formulated in Merchant (2008) as follows:

(5) MaxElide

Let XP be an elided constituent containing an A’-trace. Let YP be a possible target for deletion. YP must not properly contain XP ($XP \not\subset YP$).

Roughly put, the constraint of MaxElide states that if ellipsis applies in a structure with a $wh$-trace, ellipsis should target the largest constituent possible. More accurately, it requires that if ellipsis targets an XP containing an A’-trace, XP must not be properly contained in any YP that is a possible target for deletion.

The second restriction that is in force inside the elided site is the size of VP ellipsis when EooE applies. As Lasnik (2001) notes, $wh$-extraction out of VP ellipsis is severely restricted even when there is no island violation in the first place. Regular $wh$-movement out of an embedded clause is typically fine and Sluicing is just as good, but VP ellipsis involving $wh$-extraction is degraded, as follows:

(6) a. They said they heard about a Balkan language, but I don’t know which Balkan language they said they heard about.

b. They said they heard about a Balkan language, but I don’t know [which Balkan language]$_1$ [they said they heard about]$_1$.

c. * They said they heard about a Balkan language, but I don’t know [which Balkan language]$_1$ they did [say
The similar pattern of behavior is found for extraction out of an object DP, as below:

(7) a. They heard a lecture about a Balkan language, but I don’t know which Balkan language they heard a lecture about.
b. They heard a lecture about a Balkan language, but I don’t know [which Balkan language] \[\text{they heard a lecture about} \, t_1\].
c. * They heard a lecture about a Balkan language, but I don’t know [which Balkan language] \[\text{they did} \, \text{hear a lecture about} \, t_1\].

Even short movement of a direct object wh-element behaves in a rather similar fashion.

(8) a. They studied a Balkan language but I don’t know which Balkan language they studied.
b. They studied a Balkan language but I don’t know [which Balkan language] \[\text{they studied} \, t_1\].
c. ?? They studied a Balkan language but I don’t know [which Balkan language] they did [\text{study} \, t_1].

Some readers may blame the unacceptability of (7c), (8c) and (9c) on a violation of MaxElide. The insertion of the contrasting focus material outside the VP that prevents the larger constituent TP from being a possible target for deletion, thereby bleeding MaxElide, does not help improve on the grammatical status of the following sentences.

(9) * John said they heard about a Balkan language, but I
don’t know [which Balkan language]₁ MARY did [VP say they heard about tr].

(10) * John heard a lecture about a Balkan language, but I don’t know [which Balkan language]₁ MARY did [VP hear a lecture about tr].

In this regard, on top of MaxElide, the restriction on the size of VP ellipsis that allows extraction out of it is a real one.

The third restriction on wh-extraction out of VP ellipsis we will investigate in depth in this paper is the interaction of it with subject-auxiliary inversion (SAI). The following set of examples make a point:

(11) a. Mary will kiss Bill. Who will JOHN *(kiss)?

    b. If you aren’t drinking water, then what ARE you *(drinking)?
       (Hartman (2011))

(12) Mary is eating cake. What is JOHN *(eating)?
       (Messick and Thoms (2016))

(13) * I’m going to make a candlestick. What are YOU *(going to make a candlestick)?
       (Hardt (1999))

(14) John kissed Mary, but I wonder who HARRY did.
       (Fiengo and May (1994))

(15) I saw Abby, but Bart, I DIDN’T.
       (Merchant 1999)

As initially noted by Hardt (1999), VP ellipsis with wh-extraction out of it is not allowed. The examples in (11a-b) and (12) with SAI are bad when the matrix VP is elided. These examples cannot be ruled out by MaxElide because the contrasting focus material outside the VP bleeds MaxElide. Note, however, that when SAI does not occur in the embedded clause of (14) or in the topicalization construction of (15), extraction out of VP ellipsis is fine as long as it does not impinge on MaxElide nor the restriction on the size of VP ellipsis with
This paper concentrates on the third restriction: the interaction of extraction-permitting VP ellipsis with SAI. We first review Messick and Thoms’s (2016) recent work on such an interaction and point out some drawbacks on their analysis. Seeking an alternative analysis, we reinstate the requirement of successive cyclicity for \textit{wh}-movement particularly out of VP ellipsis and go on to redefine the domain of parallelism/identity on extraction-permitting ellipsis. We finally demonstrate that the redefined domain of parallelism/identity on ellipsis provides a reasonable analysis for movement of \textit{wh}-adverbials as well as \textit{wh}-objects in the clause involving both VP ellipsis and SAI.

2. Previous analyses

Hardt (1999) initially notes that there is a contrast between the presence or absence of SAI in allowing extraction of VP ellipsis. Hartman (2011) follows up on this contrast to provide an analysis for it.

(16) You say you’ll pay me back, but you haven’t told me when (you will).
(17) We know Anna is going to resign. The only question is: when (*will she)?

The key idea that Hartman proposes to account for this contrast is that traces of all kinds of movement (including A and head movement) must leave variables which count for the LF calculation of identity/parallelism on ellipsis. Note that, in his analysis, the \textit{wh}-adverbial is generated as an adjunction to TP. When the relevant operators/binders and variables undergo the $\lambda$-conversion, the embedded and the matrix question clauses of
(16) and (17) are represented as follows:

(18) \[ CP \text{ when } \lambda x [c' x [TP \text{ you } \lambda y [T' \text{ will } [TP y \text{ pay me back }]]]] \]

(19) \[ CP \text{ when } \lambda x [c' \text{ will } \lambda y [TP x [TP \text{ she } \lambda z [TP z \text{ resign }]]]] \]

For the LF calculation of identity/parallelism on ellipsis, Hartman assumes the following condition on it (cf. Takahashi and Fox (2005)):

(20) For ellipsis of EC [elided constituent] to be licensed, there must exist a constituent, which reflexively dominates EC, and satisfies the parallelism condition in (21). [Call this constituent the parallelism domain (PD).]

(21) Identity/Parallelism on ellipsis: PD satisfies the parallelism condition if PD is semantically identical to another constituent in the antecedent clause, modulo focus-marked constituents.

Going back to the representations, (18) satisfies (21) because the PD is T' where the variable left behind by the raised subject is bound by the associated \(\lambda\)-operator. However, (19) does not because the PD is C' where the interleaving of binding paths enlarges it in such a way that the T to C movement of the auxiliary leaves a variable within the TP which is in turn bound from just outside C'. Since not the antecedent clause but only the ellipsis clause has a T to C movement, (21) is violated.

Hartman notes importantly that (17) can be improved on by the presence of focus in the TP domain as follows:

(22) a. Mary woke up at 7:00. When did JOHN?
b. If Anna isn’t going to resign today, then when WILL she?

Such a presence of focus in the TP domain will rule out Sluicing as an ellipsis option, and thus application of MaxElide to the PD (which encompassed the scope of the operator in Spec,CP) will yield deletion of VP since this is the largest constituent which could be licitly deleted.

Although Hartman successfully accounts for the interaction of SAI with extraction of a wh-adverbial from VP ellipsis, such an extraction is not a bona fide example because the wh-adverbial is not extracted from within the ellipsis site but from outside it. Now we examine what happens when Hartman’s analysis applies to matrix wh-object questions that are extracted from VP ellipsis. It seems that his analysis comes apart at the seams in these examples. We repeat (11a) and (14) below as (23) and (24):

(23) Mary will kiss Bill. Who will JOHN *(kiss)?
(24) John kissed Mary, but I wonder who HARRY did.

These sentences would have the following LF representations after the λ-conversion.

(25) \[
\begin{array}{c}
\text{CP} \quad \text{who} \quad \lambda x \quad [\text{C will} \quad \lambda y \quad [\text{TP JOHN} \quad \lambda z \quad [\text{z} \quad \text{TP kiss} \quad \text{y}]]]]
\end{array}
\]

(26) \[
\begin{array}{c}
\text{CP} \quad \text{who} \quad \lambda x \quad [\text{TP HARRY} \quad \lambda y \quad [\text{TP did} \quad \text{TP kiss} \quad \text{y}]]]
\end{array}
\]

In both sentences of (25) and (26), the PD is C’ where the wh-object variable is bound by the operator. The contrasting focus material in the TP domain of these two examples will lead
to opting for deletion of VP because this is the largest constituent which could be licitly deleted, incorrectly ruling in the two examples.

Messick and Thoms (2016) picks up the problem that Hartman (2011) leaves off with: that is, why (23) with VP ellipsis is unacceptable, while (22a-b) with the same ellipsis are acceptable. They attempt to plug the problem by incorporating two ideas. One is successive-cyclicity of *wh*-movement out of VP ellipsis (initially adopted by Lasnik and Park (2013) for the analysis of such a kind of movement). When this idea is embraced, (27) and (28) are slightly altered versions of (25) and (26):

\[
\begin{align*}
(27) & \text{[CP who } \lambda x \text{[c will } \lambda y \text{[TP JOHN [r y [vP x } \lambda x' [v [vP kiss x]]]]]]] \\
(28) & \text{[CP who } \lambda x \text{[TP HARRY [r did [vP x } \lambda x' [v [vP kiss x]]]]]]]
\end{align*}
\]

Messick and Thoms remove A-movement of the raised subject in (27) and (28) from the \(\lambda\)-conversion, which fits with previous work on reconstruction that has shown that A-movement often seems not to leave a trace (Chomsky (1995); Lasnik (1998)). *Wh*-movement in (27) and (28), on the other hand, is successive-cyclic, stopping off at intermediate \(vP\) and CP projections on the way to the final scope position. If we assume that each intermediate step of movement creates a separate variable binding configuration (as does Hartman (2011)), then the projection \(\lambda x'\) in (27) and (28) that is “closed off” by the binder in the intermediate landing site ought to create a PD (the underlined portion, namely \(v'\) above) in which ellipsis will apply to derive VP-ellipsis. Viewed in another slightly different light, since Sluicings is ruled out by placing focus in the TP domain, hence making the information structure properties of Sluicing and VP-ellipsis distinct, then in (27) and (28) it will not compete and VP-ellipsis will be possible, so we predict that the intervening focus would save the VP-ellipsis option with
wh-objects and related extractions from VP.

Successive-cyclicity of wh-movement out of VP ellipsis is instrumental to the correct analysis of the VP-ellipsis option with embedded wh-objects in (28), but it over-generates, incorrectly ruling in the VP-ellipsis option with matrix wh-objects accompanied by SAI in (27). To settle this problem, Messick and Thoms assume that all auxiliary verbs that occur in T move there from a lower vP projection.

(29) $[\text{CP who } \lambda x [\text{[C will } \lambda y [\text{[TP JOHN [T y [vP } \lambda x' [v y' [vP kiss x-]}}}]]]]$

They point out that the trace of v-to-T movement ensures that the vP is no longer a PD, since it contains a trace which is bound from T, and the result is that the smallest possible PD is the one created by the second step of successive-cyclic wh-movement. But since this PD contains within it the path of T-to-C movement, the result is that the PD-matching constituent in the antecedent clause must also contain T-to-C movement in order for to meet identity/parallelism on ellipsis. Thus, Messick and Thoms predict that matrix extraction of a wh-object from VP-ellipsis when the antecedent clause does not involve inversion, as in (23), will always involve a parallelism violation, since the binders created by the moved object and the moved auxiliary will always overlap and hence “extend” the smallest putative PD up to C’, where non-parallelism with respect to T-to-C movement is found.

However, Messick and Thoms’s assumption that all auxiliary verbs generated in the v position move to T (or further to C) is of no use in accounting for the unacceptability of the following examples:

(30) a. I’m going/trying to make a candlestick. * What are
YOU?
b. Susan seems to have read a book. * Which book does BILL?
c. John could have been eating a lobster. * What could MARY?

(31) a. I’m going to make a candlestick. * What are YOU going/trying to?
b. Susan seems to have read a book. * Which book does BILL seem to?
c. John could have been eating a lobster. ?* What could MARY have been?

These sentences contain a phrasal auxiliary verb like be going to or a sequence of auxiliary verbs like could have been. The T or C apparently hosts the first auxiliary in the sequence, but not the one generated in the v position. In these sentences it is impossible to ensure that the binders created by the moved wh-object and the moved auxiliary will overlap and hence extend the smallest putative PD (i.e., v’) up to C’, where non-parallelism with respect to T-to-C movement is found, incorrectly ruling in these sentences.

3. Towards an analysis

The main concern in this paper is to account for the contrast in acceptability between (23) and (24), which are repeated below as (32) and (33):

(32) Mary will kiss Bill. Who will JOHN *(kiss)?
(33) John kissed Mary, but I wonder who HARRY did (kiss).

The two clauses where a wh-object moves out of VP ellipsis
differ in the presence or absence of SAI, which is apparently responsible for the contrast in acceptability between (32) and (33).

In the same fashion as Messick and Thoms (2016), we also take a parallelism/identity-based approach to this contrast. A couple of relevant remarks are in order. Messick and Thoms (2016) note that when SAI occurs in the antecedent clause, in contrast to (32) the sentences turn into acceptable ones, as follows:

(34) A: What’s he told you?
    B: What HASN’T he (told you)?

(35) Who will Bill kiss, and who will JOHN (kiss)?

The acceptability of these sentences render clear evidence showing that identity/parallelism on ellipsis is a prerequisite for the interaction of extraction-permitting VP ellipsis with SAI.

The following embedded *wh*-object questions are tantamount to the matrix *wh*-object questions in (34) and (35), except for the absence of SAI:

(36) I know which book Max read, and which book Oscar DIDN’T (read).    (Fiengo and May (1994))

(37) I know how many homeworks I’ve graded, but I don’t know how many BILL has.    (Chung et al. (1995))

Now to examine the full paradigm of examples, the following examples also deserve attention where the first clause involves SAI without *wh*-movement:

(38) (?) Did John read some of the books last night, I don’t know, but I know which book BILL did.

(39) (?) Did Susan learn a Balkan language, I don’t know, but I know what Balkan language PAUL did.
These sentences are acceptable.

What happens when only SAI applies in the antecedent clause, while SAI together with *wh*-object extraction out of VP ellipsis applies in the ellipsis clause? The following sentences illustrate such a kind of structure:

(40) ? Did John read some of the books last night, I don’t know, but which book did BILL, I know.
(41) ? Did Susan learn a Balkan language, I don’t know, but what Balkan language did PAUL, I know.

The sentences in (40) and (41) are a little degraded, but they are not out of the question. With (38)-(39) and (40)-(41) taken together, a violation of parallelism/identity is invited only when SAI occurs in the case of *wh*-object extraction out of VP ellipsis, but it does not occur in a parallel way in the non-question, declarative antecedent clause.

SAI does not affect identity/parallelism on ellipsis when no *wh*-extraction out of VP ellipsis is involved. The following sentences have SAI in the clauses where VP ellipsis applies:

(42) Some of the boys are working on the assignment.
    Are they all?
(43) John hasn’t gotten along with Grandpa lately.
    Has he ever?

In (44) and (45), SAI applies in the antecedent clause.

(44) A: Has John read Slaughterhouse Five?
    B: Yes, he HAS.
(45) A: Did you play the piano?
    B: No, I DIDN’T.
The emerging generalization is that SAI bleeds only \textit{wh}-extraction out of VP ellipsis when it does not apply in the antecedent clause, thus violating identity/parallelism on ellipsis.

To account for this generalization, we first reinstate the requirement of successive cyclicity for \textit{wh}-movement (surprisingly rarely adopted in the previous analysis of \textit{wh}-movement from VP ellipsis), which dictates that it leaves behind a trace at the periphery of VP that undergoes ellipsis (cf. Lasnik and Park (2013); Messick and Thoms (2016)). The second idea we embrace is that when extraction occurs out of ellipsis, the domain for identity/parallelism on ellipsis includes not only the ellipsis site but both the extracted element and the ellipsis-licensing element. This means that in the case of Sluicing, this domain will be CP, as represented by underlining for (1), repeated (46):

\begin{enumerate}
\item \textit{Somebody just left - guess [CP [who] [TP \textit{just left}]].}
\item \textit{They claimed they had settled on something, but it wasn’t dear [CP [what] [TP they claimed they had settled on t]].}
\end{enumerate}

Turning to VP ellipsis, the domain for identity/parallelism on VP ellipsis is \textit{vP}. This conception is grounded on the fact that when what is extracted out of VP is a non-\textit{wh}-element, it may stay at the periphery of VP (following Lasnik (1995) on the basis of the initial work of Pseudogapping by Levin (1986)), as follows:

\begin{enumerate}
\item \textit{You can’t count on a stranger, but you can [\textit{vP count-t}].}
\item \textit{John spoke to Mary more often than Peter did [\textit{vP Anne speak to t-t}].}
\end{enumerate}

Since \textit{wh}-extraction out of VP ellipsis drops by the same [Spec,\textit{vP}] position that the surviving element in Pseudogapping occupies, the domain containing this position is a right candidate
as the domain for parallelism/identity on VP ellipsis.

The conspicuous difference between TP ellipsis (i.e., Sluicing) and VP ellipsis, however, lies in the fact that the surviving wh-element out of TP ellipsis merges into the [Spec,CP] as a final landing site, but the surviving wh-element out of VP ellipsis merges into the [Spec,vP] as an intermediate position, yet to finish its journey. We suggest that the syntactic relation that the surviving wh-element out of VP ellipsis has with another element outside the vP has a secondary role in the course of meeting identity/parallelism on VP ellipsis.

The case in point as such a syntactic relation is the relation between a non-subject wh-element and the finite tense marker in the T position in the matrix clause. We assume that this relation paves a way for the application of T-to-C movement. Informally, following Gengel (2007), non-subject monotone-decreasing elements such as wh-expressions and other SAI-triggering elements are taken to enter into an Agree relation with the matrix tense, making the latter ready to undergo T-to-C movement.

This syntactic relation that the surviving wh-element out of VP ellipsis has with the matrix tense is critical in making a distinction between (32) and (33), repeated in (48) and (49):

(48) Mary will kiss Bill. Who will JOHN *(kiss)?
(49) John kissed Mary, but I wonder who HARRY did (kiss).

In (49) such a syntactic relation is absent both in the ellipsis and the antecedent clauses, meeting the secondary requirement of identity/parallelism on extraction-permitting ellipsis. In (48), however, the ellipsis and the antecedent clauses are not parallel in terms of the availability of such a relation, thus violating the parallelism condition.

We assume that yes-no questions in English are formed by the
null disjunction operator based-generated in the C position or at the periphery of vP (Romero and Han (2004); Jayaseelan (2001)). Either option of base-generation for the null disjunction operator makes it possible to account for (38) and (40), repeated in (50) and (51):

(50) (?) Did John read some of the books last night, I don’t know, but I know which book BILL did.
(51) ? Did John read some of the books last night, I don’t know, but which book did BILL, I know.

In (51), the matrix *wh*-object out of VP ellipsis moves to the [Spec,vP] position in the ellipsis clause, entering into an Agree relation with the matrix T. In a parallel way, the null disjunction operator generated at the edge of vP enters into an Agree relation with the matrix T. In (50), however, the embedded *wh*-object does not relate to the embedded T in the ellipsis clause, and the base-generation of the null disjunction operator directly in the C-position ensures meeting identity/parallelism on ellipsis.

In passing, it is to be noted that Pseudogapping is fine in *yes-no* questions, while the antecedent clause is a declarative one:

(52) You can’t count on a stranger, but can you on a FRIEND?
(53) John didn’t speak to Mary, but did he to Anne?

The acceptability of these sentences follow from our analysis. Unlike *wh*-expressions, non-*wh*-ones do not enter into an Agree relation with T, circumventing a violation of identity/parallelism on ellipsis because of the mismatch between the ellipsis and the antecedent clauses in the application of SAI.

In addition, the Agree relation that the *wh*-object out of VP
ellipsis has with the local finite tense may invite a violation of identity/parallelism on extraction-permitting ellipsis. The following examples, however, are not ruled out by such a violation:

(54) John kissed Mary. Well, Who do you think (that) HARRY did?
(55) ABBY took GREEK. Well, What do you think (that) BEN did?

In the examples, the local tense that the wh-object out of VP ellipsis has an Agree relation with is the embedded one, but not the matrix one, which implies that the domain for identity/parallelism on extraction-permitting ellipsis is not extended unlimitedly, but it is confined to the domain where the wh-object in the [Spec,vP] position just out of VP ellipsis enters into a local syntactic relation outside it.

We now turn to cases involving wh-adverbials. Merchant (2008) initially notes that their movement in the embedded clause involving VP ellipsis is not subject to MaxElide, as follows:

(56) You say you’ll pay me back, but you haven’t told me when (you will).

Merchant (2008), Hartman (2011) and Messick and Thoms (2016) assume that they are generated outside VP ellipsis, more correctly, as adjoining to TP, thus not inviting a violation of MaxElide.

However, the following examples in (56) and (58) show that their movement in the matrix clause involving VP ellipsis seem to be susceptible to MaxElide:

(57) We know Anna is going to resign. The only question is:
when (*will she)?

(58) a. Mary woke up at 7:00. When did JOHN?
   b. If Anna isn’t going to resign today, then when WILL she?

To understand focus effects on the matrix clause involving movement of *wh*-adverbials outside VP ellipsis, it is instructive to compare it with movement of *wh*-objects in the same environment in (32), repeated below as (59):

(59) Mary will kiss Bill. Who will JOHN *(kiss)?

The sentence in (59) involving the latter movement of *wh*-objects is unacceptable, but the sentences in (58) involving the former movement of *wh*-adverbials outside VP ellipsis are fine. What distinguishes movement of *wh*-adverbials from movement of *wh*-objects? Movement of *wh*-adverbials does not enter into an Agree relation with T, but movement of *wh*-objects does, thus calling for the secondary application of identity/parallelism on ellipsis in the matrix clause. In this regard, the sentences in (58) are assimilated not to the one in (59), but to the one in (33), repeated as (60):

(60) John kissed Mary, but I wonder who HARRY did (kiss).

In this sentence, there is no SAI in the embedded clause, which means the absence of an Agree relation that the embedded *wh*-object has with the embedded T. This points to the fact that MaxElide is enforced in the VP-ellipsis containing clauses where movement occurs from properly within TP, excluding movement of *wh*-adverbials from a TP-adjoined position.

What happens if *wh*-adverbials undergo long-distance
movement and the complex VP is elided? The following sentences, taken from Hartman (2011), make a relevant case:

(61) A: John will ask Mary to leave at 5.
    B: When will TOM?
    \(\sqrt{\text{matrix}} / *\text{embedded}\)

(62) JOHN said Mary would leave at noon, but I forget when BILL did.
    \(\sqrt{\text{matrix}} / *\text{embedded}\)

These sentences show that the wh-adverbials that undergone long-distance movement cannot be interpretively associated with the embedded predicate within the elided complex VP. They are interpretively associated only with the matrix predicate. The absence of the former reading points to the fact that while long-distance moving wh-adverbials in the ellipsis clause obey the requirement of successive cyclicity, their corresponding implicit adverbials do not (May (1977); Lasnik and Park (2013)), which results in violating scopal parallelism. The following example shows that when the antecedent clause involves parallel successive cyclic long-distance movement of the wh-adverbial, the sentence allows the reading where the wh-adverbial in the ellipsis clause is interpretively associated with the embedded predicate which is included in the complex VP.\(^1\), \(^2\)

\(^1\) The contrast between (62) and (63) is assimilated to the contrast between (ia) and (ib):

(i) a. * John became very upset, but I don’t know how upset BILL did.
    b. ? I know how upset JOHN became, but I don’t know how upset MARY did.

The extraction out of ellipsis in the ellipsis clause necessitates the parallel mode of extraction to satisfy identity/parallelism on extraction-permitting ellipsis.

\(^2\) While the wh-adverbial cannot undergo long-distance extraction out of VP ellipsis as in (ia), it can do so out of TP ellipsis as in (ib). This points to the fact that extraction out of VP ellipsis always meets the
(63) I know when JOHN said Mary left, but I don't know when BILL did.³ √ matrix / √ embedded

4. Conclusion

This paper started with the review of Messick and Thoms’s (2016) recent paper on extraction out of ellipsis, concentrating on the interaction between extraction-permitting VP ellipsis and SAI. Pointing out the problem with their assumption that all auxiliary verbs that occur in T move there from a lower vP projection, we sought an alternative analysis for the interaction, proposing that the domain for parallelism/identity on extraction-permitting VP ellipsis is vP, in a parallel way that the domain for parallelism/identity on extraction-permitting TP ellipsis/Sluicing is CP. We suggest, however, that wh-extraction out of VP ellipsis be distinguished from wh-extraction out of TP ellipsis because the wh-element in [Spec,vP] out of VP ellipsis is still to enter into a syntactic relation outside the vP, thus being required to meet parallelism in this domain. The syntactic relation that

³ Merchant (2008) notes that when there is no contrastive focus in the TP domain, the sentences with extraction of wh-adverbials from VP exhibit only a marginal degree of acceptability, as follows:

(i) a. ?? Abby knew when he had quit, but Beth didn’t know when he had.
   b. ?? Abby asked when he had quit, but Beth didn’t ask when he had. (Merchant (2008: 142))
On *wh*-extraction out of VP ellipsis bled by …

concerns us is the one that the moving *wh*-object in [Spec,vP] has with the finite tense, which feeds the application of T-to-C movement. The absence of this syntactic relation in the antecedent clause leads to ruling out its presence in the ellipsis clause where the *wh*-object moves out of VP ellipsis. It was also shown above that *wh*-adverbials in the matrix clause involving VP ellipsis pattern like *wh*-objects extracted out of embedded VP ellipsis, in that neither of them participate in an Agree relation with T that triggers SAI.

References


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