Phonological Suppression of Anaphoric Wh-expressions in English and Korean

Park, Myung-Kwan
Department of English Linguistics, Interpretation and Translation
Dongguk University
Seoul, Korea 100-715
parkmk@dgu.edu

Abstract

This paper follows the lead of Chung (2013), examining the phonological suppression of the wh-expression in English and Korean. We argue that the wh-expression itself cannot undergo ellipsis/deletion/dropping, as it carries information focus. However, it can do so, when in anaphoricity with the preceding token of wh-expression, it changes into an E-type or sloppy-identity pronoun. This vehicle change from the wh-expression to a pronoun accompanies the loss of the wh-feature inherent in the wh-expression. In a certain structural context such as a quiz question, the interrogative [+wh] complementizer does not require the presence of a wh-expression, thus the expression being optionally dropped.

1. Introduction

As Chung (2013) notes, the interrogative expression in Korean corresponding to the wh-expression in English cannot be phonologically suppressed, as follows:

(1) A: na-nun chelswu-ka ecey mwues-ul
I-Top Chelswu-Nom yesterday what-Acc sass-nunci molu-keyss-ta.

bought-Interr don't know
'I don't know what Chelswu bought yesterday.'
B: na-to yenghuy-ka ecey *(mwues-ul)
I-also Yenghuy-Nom yesterday what-Acc sass-nunci molukeyssta.
bought-Interr don't know
'I don't know what Yenghuy bought yesterday.'

In the conversation between speakers A and B, speaker B’s sentence is required to bear the interrogative expression mwues 'what', despite the fact that another token of the same expression is mentioned in the previous sentence spoken by speaker A.

Apparently, the same distribution of the wh-expression is found in English, as follows:

(2) A: I don't know what John bought yesterday.
B: *I don't know Bill did (buy-what yesterday), either.
B’: I don't know *(what) Bill did (buy yesterday), either.

As in (2B), the wh-expression what cannot be included in the portion deleted by VP ellipsis. Nor is it phonologically suppressed after it is moved to the embedded [Spec,CP] position, as in (2B’).

Chung (2013) attempts to account for the impossibility of phonologically suppressing the interrogative expression in Korean by adopting the pro hypothesis for the null argument. More specifically, Chung follows the line of analysis advanced by Ahn and Cho (2012), who propose that the null argument as pro always substitutes for NP, but not for the next higher QP projected by the functional element Q such as a quantity word or a wh-feature, as schematized below:

---

1 We occasionally use the theory-neutral notion 'phonologically suppress(ion)' to refer to such terms as (phonological) dropping, copy trace deletion, ellipsis/deletion, etc.
Chung's analysis works fine for Korean, but his analysis squarely faces a problem when it is extended to examples like (2B) and (2B') in English, where the empty pro is known not to be available in grammar.

We examine this issue of why the interrogative or wh-expression is not phonologically suppressed. We argue that the interrogative or wh-expression in its own form cannot be deleted, because it carries informational focus or new information. However, it can undergo deletion when it is anaphoric with the preceding interrogative or wh-expression and potentially changes into a pronoun. This vehicle change from the interrogative or wh-expression to the corresponding pronoun results in loss of the wh-feature inherent in the former expression, so that the resulting pronoun necessarily fails to enter into successful Agree relation with the interrogative complementizer, inducing a derivational crash.

2. The syntax of wh-expression: Wisdom from English

In this section we examine the phonological suppression of the wh-expression in English. First of all, the wh-expression or relative wh-operator can be phonologically suppressed in relative clauses, as follows:

(4)a. We read the article [ (which) Smith recommended].
b. The safe [ (which) Henry keeps his money in ] has been stolen. Baker (1995: 293)

In (4), the head of the chain formed by the relative pronoun or wh-operator which can be dropped. We understand this dropping of the relative pronoun along the line of analysis for the copy trace(s), as in (5):

(5) What did Stacy say [((what)1 Becky bought (what)1)]?

In the course of the wh-movement, the moving wh-expression leaves behind its copy trace(s) along the way to its target position. The difference between the movement of the relative wh-operator and the regular wh-movement is that in the case of the former, the chain created by the relative wh-operator forms an 'extended' chain with the relative antecedent. This results in allowing the head of the chain created by the relative wh-operator to be dropped, in identity with the relative antecedent, which is now the head of the extended chain.

A question that arises is why the following sentence is ungrammatical:

(6) *Who1 do you wonder [CP t'1 [TP t1 won the trace]]?

It is argued in Lasnik and Saito (1984) that the intermediate trace t'1 cannot qualify as an operator since it does not contain the relevant feature. Their argument, however, does not seem to hold water, in light of the copy trace analysis of wh-movement, which dictates that the literal copy of the moving wh-expression occurs instead of the trace, as follows:

(6)' *Who1 do you wonder [CP who1 [TP who1 won the trace]]?

The ill-formedness of (6)' is, in the more recent analysis (cf. Chomsky (2000), (2001a, b)), attributed to the illegitimate step of movement from the embedded to the matrix [Spec,CP] position, as the moving wh-expression has its featural requirement met in the embedded [Spec,CP] position, being unable to undergo further movement.

One thing to note regarding the copy trace deletion of the chain formed by the wh-expression or the relative wh-operator is that the copy trace left behind by the wh-expression or the relative wh-operator changes into a resumptive pronoun (though as well-known, the resumptive pronoun in English allegedly occurs within an island structure), as follows:

(7)a. This is the chef1 that Ted inquired how *e1/she1 prepared the potatoes
b. The detective interrogated a man1 who the prosecutor knows why the officer arrested *e1/him1.

The availability of a resumptive pronoun instead of a copy trace linked to the moved wh-expression clearly points to the fact that the copy trace is a kind of pronoun realized in anaphoricity with the head of the chain (i.e., the
Not only do the wh-expression and the relative wh-operator undergo phonological suppression as part of copy trace deletion, but the wh-expression is also part of Sluicing or TP deletion, as follows:

(8)a. The report details what IBM did and why
b. Who did the suspect call and when

Merchant (2001: 201)

Drawing attention to examples like (8a-b), Merchant (2001: 201-4) argue that the second conjunct clause in (8a-b) involve deletion of TP where the expression corresponding to the wh-expression is an E-type pronoun. In other words, the elided TP in (8a-b) is understood as the reconstructed or actually attested TP in (9a-b):

(9)a. The report details what IBM did and why
b. Who did the suspect call and when

Merchant (2001: 203)

This shows that the questioning wh-expression can be substituted for by the (E-type) pronoun. Note that the E-type pronoun as part of the full or elided clause covaries in reference with the questioning wh-expression. The availability of (9a-b) corresponding to (8a-b) involving ellipsis renders compelling evidence showing that the wh-expression is represented as a pronoun inside a portion to be deleted. The form change (or vehicle change, following Fiengo and May's (1994) and Merchant's (2001) terminology) of the wh-expression into a pronoun inside the portion to be deleted seems to be a reasonable option, as the whole portion to be deleted or the expressions within it are construed as discourse-given or anaphoric to the previous verbal discourse.

It seems, however, that the anaphoric substitution of the E-type pronoun for the wh-expression is restricted to Sluicing or TP ellipsis. The following sentences accommodate the interpretation where the wh-expression in the first conjunct clause and the substituting pronoun that putatively occurs in the elided VP of the second conjunct clause can be referentially distinct:

(10)a. I know when John read what, but I don't know where Bill did.
   b. John asked me why Mary bought what, but John didn't ask me how Susan did.

In other words, in (10a) what John read may be referentially different from what Bill did. Note that the pronoun in the elided VP of the second conjunct clause, which is vehicle-changed from the wh-expression in the first conjunct clause, may be understood as a sloppy-identity pronoun.

The difference between (8a-b) and (10a-b) in regard to the interpretation of the ellipsis-internal pronoun anaphoric to the preceding wh-expression reminds us of the contrast between TP and VP ellipsis in regard to the ability to introduce new discourse referents by using indefinite expressions, which Chung et al. (2011) discuss. In fact, Chung et al. suggest that the contrast in question is correlated with the size of ellipsis site and the domain of existential closure that unselectively binds all indefinite expressions. Chung et al. argue that TP ellipsis involves LF reconstruction or re-use of the antecedent TP into the ellipsis site, whereas VP ellipsis involves PF deletion/unpronunciation of a vP. Departing from Chung et al., let's instead assume that both cases of ellipsis involve PF deletion. Furthermore, we take the domain of existential closure to be the smallest constituent in which all the predicate's arguments have had a chance to be introduced, presumably the position adjoined to vP. Given these assumptions, the two cases of deletion are taken to proceed in the following fashion:

(11) TP ellipsis:

\[ [CP \left[ \begin{array}{l} \exists \text{subject DP} \end{array} \right] \left[ \begin{array}{l} \text{VP object DP} \end{array} \right] ] \]

(12) VP ellipsis:

\[ [CP \left[ \begin{array}{l} \exists \text{subject DP} \end{array} \right] \left[ \begin{array}{l} \text{object DP} \end{array} \right] ] \]

TP and VP deletion differ in regard to whether the ellipsis site includes the existential closure operator (\[ \exists \]). The ellipsis site of the former case DOES include the existential operator as in (11). As the identity/parallelism condition on deletion demands that the indefinite expressions (including wh-expressions) in the ellipsis TP be identical/parallel in reference to their correlate expressions in the antecedent TP, TP ellipsis requires strict identity/parallelism. However, VP ellipsis allows looser or sloppy
identity/parallelism, because the existential operator is outside of the VP to be deleted as in (12).

Returning to the examples in (2), repeated below as (13), we are now in a position to account for the impossibility of phonologically suppressing the wh-expression in (13B) and (13B').

(13)A: I don't know what John bought yesterday.
B: *I don't know Bill did (buy what yesterday), either.
B': I don't know *(what) Bill did (buy t yesterday), either.

Recall that the portion to be deleted or the expressions within it are discourse given, so that the wh-expression changes into a corresponding pronoun. Otherwise, the wh-expression carries information focus and so cannot be subject to deletion, as stated below:

(14) The wh-expression carries information focus and so cannot be subject to deletion.

In Merchant's (2001) notion of e-givenness, the wh-expression cannot count as e-given information.

To repeat, the wh-expression has to change into an (E-type or sloppy-identity) pronoun to be included in the portion to be deleted. However, the resulting pronoun vehicle-changed from the wh-expression does not carry the wh-feature inherent in the wh-expression. This anaphoric process is a culprit for the ungrammaticality of (13B) and (13B'). For the sake of the exposition, we represented the wh-expression in (13B) and (13B') as undergoing deletion or dropping, but the wh-expression in (13B) and (13B') as undergoing deletion or dropping, but the wh-expression in (13B) and (13B') as undergoing deletion or dropping, but the wh-expression in (13B) and (13B') as undergoing deletion or dropping, but the wh-expression in (13B) and (13B') as undergoing deletion or dropping, but the wh-expression in (13B) and (13B') as undergoing deletion or dropping, but the wh-expression in (13B) and (13B') as undergoing deletion or dropping, but

Under this circumstance, the pronoun fails to enter into successful Agree relation with the interrogative complementizer, resulting in a derivational crash (cf. Chung (2013)).

Leaving this section, we note that there is an additional set of examples where the wh-expression is phonologically suppressed. The relevant examples are as follows:

(15)a. The first emperor of the Roman empire was?
   b. In ancient Rome, Nero tried to destroy the city by?
   c. The Christian movement to reclaim the Iberian Peninsula was called?
   d. The three most well-known teas are Darjeeling, Assam, and?
(taken from http://shrines.rpgclassics.com/psx/inrl2/poktelevisionquiz.shtml)

In these sentences that are used as quiz questions, the expected Subject-Aux Inversion does not apply, which indicates that the examples in (15) are assimilated to the echo wh-questions in (16) which are also used as quiz questions.

(16)a. Christianity became the official religion of the Roman empire with what?
   b. 300 years ago, the first roller coaster was built in what country?

In this regard, it seems right to say that what is phonologically suppressed in (15a-d) is the echoic wh-expression as found in (16). It is also to be noted that the phonological suppression takes place only at the right edge of the sentence.

Why is it possible to drop the echoic wh-expression in quiz questions as in (15)? The answer to this question may be that the echoic wh-expression can be dropped in register-dependent contexts such as quizzes. Still the more important aspect of quiz questions using echoic wh-expressions is that they do not bear the interrogative complementizer (cf. Sobin (2010)). Therefore, the optional dropping of an echoic wh-expression in quiz questions does not result in a derivational crash.

3. Extension to Korean

In the previous section, we saw that the wh-expression undergoes phonological suppression as part of copy trace deletion or TP- or VP-deletion. Especially in the latter case, the wh-expression can be part of TP- or VP-deletion when it vehicle-changes into an (E-type or

The contrast between TP and VP ellipsis in terms of existential closure reminds us of the parallel difference between them in terms of voice match. Merchant (2013) argues that TP ellipsis requires voice match, whereas VP ellipsis does not. This difference follows from the fact that TP ellipsis always includes a Voice head, but VP ellipsis does not.

2The contrast between TP and VP ellipsis in terms of existential closure reminds us of the parallel difference between them in terms of voice match. Merchant (2013) argues that TP ellipsis requires voice match, whereas VP ellipsis does not. This difference follows from the fact that TP ellipsis always includes a Voice head, but VP ellipsis does not.
sloppy-identity) pronoun, (though in the former case, the copy trace changes into a resumptive pronoun in restricted structural contexts). However, it itself cannot be part of TP- or VP-deletion because it is inherently construed as new information.

We turn to Korean, where the \( wh \)-expression can be scrambled out of the embedded interrogative clause, unlike in (6) of English:

\[(17)\]a. chelswu-ka [yenghuy-ka mwues-ul Chelswu-Nom Yenghuy-Nom what-Acc sassnunci] alko siphehanta.
b. mwues-ul, [chelswu-ka [yenghuy-kamwues-ul/ti sassnunci] alko siphehanta].

Unlike in (6) of English, in (17b) the scrambling of the \( wh \)-expression proceeds to the matrix clause without entering into Agree relation with the embedded interrogative complementizer, anticipating the undoing of it to its original position in the covert syntax (cf. Saito (1989)). The copy trace left behind by the overt-syntax scrambling of the \( wh \)-expression undergoes copy trace deletion, in identity with the head of the chain formed by this scrambling.

The \( wh \)-expression can also be part of ellipsis, as follows:

\[(18)\]a. chelswu-ka mwues-ul sass-nunci Chelswu-Nom what-Acc bought-Interr alko iss-ciman, know-Concessive - way-i-nici-nun molukeyssta.

way-Copu-Interr-Contrast don't know. 'I know what Chelswu bought, but I don't know why.'
b. chelswu-eykey etten mwuncey-lul Chelswu-to which question-Acc phwuless-nunci mwules-ciman, solved-Interr asked-Concessive ettehkey-i-nici-nun mwutci anhassta. how-Copu-Interr-Contras ask didn't 'I asked Chelswu which question he solved, but I didn't ask how.'

In (18), either mwues 'what' or ettenmwuncey 'what question' can be part of clausal ellipsis (or Pseudosubjecting, following Merchant's (1998) terminology). Given the analysis for English, we can say that the \( wh \)-expressions in (19a-b) each changes into an E-type pronoun in the context of clausal ellipsis.

However, returning to the example in (1), repeated below as (19), (19B) turns out to be unacceptable, if the \( wh \)-expression is phonologically suppressed.

\[(19)\]A: na-nun chelswu-ka ecey mwues-ul I-Top Chelswu-Nom yesterday what-Acc sassnunci molu-keys-sta. bought-Interr don't know 'I don't know what Chelswu bought yesterday.'
B: na-to yenghuy-ka ecey mwues-ul I-also Yenghuy-Nom yesterday what-Acc sassnunci molukeys-sta.
bought-Interr don't know 'I don't know what Yenghuy bought yesterday.'

Continuing on extending the analysis proposed for English to Korean, we account for (19B) without the overtly-realized \( wh \)-expression by saying that the \( wh \)-expression itself cannot be phonologically suppressed haphazardly, since it carries new information. However, it can be dropped only when it changes into a discourse-old pronoun. As correctly argued by Chung (2013), mwues-ul 'what' can change into the empty pronoun pro that Korean utilizes but English does not. When this applies, however, there is no expression that the embedded interrogative complementizer can partake in legitimate Agree relation with, thus ultimately resulting in a derivational crash. By contrast, though the \( wh \)-expression within clausal ellipsis in the second conjunct clause of (18a-b) changes (in fact, has to change) into a pronoun, the additional \( wh \)-expression such as way 'why' and ettehkey 'how' steps in to successfully establish Agree relation with the interrogative complementizer.

The following example (with some slight modification) reported by Chung (2013) can be accounted for along the same line of analysis as (18):

\[(20)\] chelswu-nun nwu-ka encey tenass-nunci Chelswu-Top who-Nom when left-Interr Cosaha-ko, examine-Conj yenghuy-nun (nwuka) eti-lo. Yenghuy-Top who-Nom where-for
The difference between (18) and this example is that, on the one hand, the former contains one single *wh*-expression, but the latter contains multiple *wh*-expressions in the first conjunct clause. Unlike (19B), on the other hand, both (18) and (20) contain an additional *wh*-expression in the second conjunct clause, which participates in Agree relation with the interrogative complementizer, despite the other anaphoric argument *wh*-expression changing into a pronoun.

One thing worth noting is the referentiality of the *wh*-expression that is phonologically suppressed in the second conjunct clause of (18) and (20). It seems that there is no disagreement about the *wh*-expression that is part of clausal ellipsis in (18). It is construed as an E-type pronoun, as found in the similar structural context of (8a-b) in English. Several linguists that I consulted about (20) also claimed that the phonologically suppressed *wh*-expression *nwu-ka* 'who' in the second conjunct clause of (20) is only interpreted as an E-type pronoun. However, I concur with Chung's (2013) report that the phonologically suppressed *wh*-expression *nwu-ka* 'who' in the second conjunct clause of (20) allows for sloppy-identity interpretation. In our analysis, the *wh*-expression *nwu-ka* 'who' in the second conjunct clause of (20) changes into an empty pronoun that is construed as a sloppy-identity one in the interpretive component. Note at this point that the size of phonological suppression is critical for the interpretation of the pronoun which is vehicle changed from the *wh*-expression. In (18), the pronoun is part of clausal ellipsis, allowing for E-type interpretation. In (20), by contrast, the pronoun is a null argument, allowing for sloppy-identity interpretation in addition to E-type interpretation. As suggested above for English, the domain of existential closure and parallelism in ellipsis come into play, distinguishing the pronoun in (18) and that in (20) in terms of interpretational aspects.

Now turning to quiz questions in Korean, we note the usual instances of such questions, as follows:

(21)a. seykvey-eyse kacang kin  *kang-un*?

world-in  most long river-Top
'The longest river in the world is?'

b. seykvey-eyse kacang manhi phallin cha

world-in  most many sold car

TOP 3-nun

TOP 3-Top

thoyothagololla, photu F silicu, *kuliko*

Toyota Corolla, Ford F Series, and

(*ikes-un*)?

(this-Top)

'The 3 best-selling cars in the world are

Toyota Corolla, Ford F Series, and

(this)?'

To construct a quiz question, Korean utilizes the Topic marker with somewhat peculiar intonation on it, with the immediately following string of words phonologically suppressed at the right edge of the sentence. This formulaic device is extended to the non-quiz type of sentences in (22), reported by Chung (2013):

(22)A: chelswu-ka sakwa-lul *swunhuy-eykey*

Chelswu-Nom apple-Acc Swunhuy-to

encey cwuess-n?

when gave-Interr

'When did Chelswu give an apple to Swunhuy?'

B: ecey

yesterday

'Yesterday.'

A: kulem, yengswu-ka sakwa-lul

then, Yengswu-Nom apple-Acc

yenghuy-eykey-nun

Yenghuy-to-Top

(encey cwuessni)?

when gave-Interr

'Then, Yengswu gave an apple to

Yenghuy when?'

As in (22), the second sentence by speaker A has its right edge dropped immediately after the Topic marker.

It seems that the dropping of the right of the sentence does not obey such a syntactic condition as constituent-hood, allowing the embedded predicate and the matrix predicate to be phonologically suppressed, excluding the other embedded constituents.

(23)A: chelswu-ka [swunhuy-ka

Chelswu-Nom Swunhuy-Nom

nonmwun-ul manswu-eykey

article-Acc Manswu-to
We take the insensitivity to constituent-hood in the course of producing a quiz question to indicate that the dropping of the string of words is non-syntactic and the quiz question like (21a-b), just as in English, does not involve the interrogative complementizer, so that it does not require the presence of the wh-expression within it.

4. Conclusion

This paper has investigated why the wh-expression cannot be deleted/elided nor part of the portion to be deleted/elided. We have argued that the wh-expression is construed as information focus, not being able to undergo deletion, otherwise impinging on the recoverability condition on deletion/ellipsis. However, it can be substituted for by a pronoun in an anaphoric relation with the preceding token of wh-expression. Under this circumstance, it can be deleted/elided or part of the portion to be deleted/elided, but at the cost of losing the wh-feature inherent in it. Thus, if the wh-feature is in demand for the Agree relation with the interrogative complementizer, the pronoun that is vehicle-changed from the wh-expression cannot provide such a feature. In fact, this is the paradoxical situation for the wh-expression to be deleted/elided or part of the portion to be deleted/elided. If it remains in its form, it cannot be subject to deletion/ellipsis. If it changes into an anaphoric pronoun, the resulting pronoun ends up with losing the wh-feature the corresponding wh-expression used to have.

In passing, we have first discussed the two different types of pronouns that are vehicle-changed from wh-expressions: E-type pronoun and sloppy-identity pronoun. This distinction follows from the domain of existential closure and the parallelism/identity condition on deletion/ellipsis. Second, as Merchant (2001) and Chung (2013) note, when one wh-expression changes into an anaphoric pronoun, failing to enter into Agree relation with the interrogative complementizer, the multiple wh-question makes available an additional wh-expression, which steps in to do so instead. Third, the quiz question construction employs the echo wh-question strategy, thereby the interrogative complementizer in the construction not requiring for the expected Agree relation with an expression with the wh-feature. Thus, the dropping of the wh-expression in this construction does not lead to a derivational crash.

References

Ahn, Hee-Don and Sungeun Cho. 2012. On Some ellipsis phenomena in Korean. In Proceedings of the 14th Seoul Internal Conference on Generative Grammar: Three Factors and Syntactic Theory, ed. Bum-Sik Park. 3-33. Seoul, Korea: Hankuk Publishing Co.

Baker, Carl Lee. 1995. English Syntax. 2nd edition. Cambridge, MA: the MIT Press.

Chomsky, Noam. 2000. Minimalist inquiries: The framework. In Step by Step: Essays on Minimalism in Honor of Howard Lasnik, ed. Roger Martin, David Michaels and Juan Uriagereka, 89-155. Cambridge, MA: MIT Press.

Chomsky, Noam. 2001a. Beyond explanatory adequacy. MIT Occasional Papers in Linguistics 20. Cambridge, Mass.: MIT, Department of Linguistics and Philosophy, MITWPL.

Chomsky, Noam. 2001b. Derivation by phase. In Ken Hale: A Life in Language, ed. Michael Kenstowicz, 1-52. Cambridge, MA: the MIT Press.

Chung, Daeho. 2013. On the nature of null WH-phrases in Korean. Linguistic Research 30.3:473-487.

Chung, Sandra, William Ladusaw, and James McCloskey. 2011. Sluicing(−) Between structure and inference. In Representing Language: Essays in Honor of Judith Aissen, ed. R. Gutierrez-Bravo et al., 31-50. California Digital Library eScholarship Repository. Linguistic Research Center, UCSC.

Fiengo, Robert, and Robert May. 1994. Indices and
Identity. Linguistic Inquiry Monographs 24. Cambridge, MA: MIT Press.
Lasnik, Howard, and Mamoru Saito. 1984. On the nature of proper government. Linguistic Inquiry 15:235-289.
Merchant, Jason. 1998. "Pseudosluicing": Elliptical Clefts in Japanese and English. In Zas Working Papers in Linguistics, ed. Artemis Alexiadou, N. Fuhrop, Paul Law and U Kleinhenz, 88-112. Berlin: Zertrum Fur AllgemeineSprachwissenschaft.
Merchant, Jason. 2001. The Syntax of Silence:

Sluicing, Islands, and the Theory of Ellipsis. Oxford: Oxford University Press.
Merchant, Jason. 2013. Voice and ellipsis. Linguistic Inquiry 44:77-108.
Saito, Mamoru. 1989. Scrambling as semantically vacuous A’-movement. In Alternative Conceptions of Phrase Structure, ed. Mark Baltin and Anthony Kroch, 182-200. Chicago: University of Chicago Press.
Sobin, Nicholas. 2010. Echo questions in the Minimalist Program. Linguistic Inquiry 41.1: 131-148.