## Why-Stripping in English and Korean: A Direct Interpretation Approach

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## Abstract

The Why-stripping construction consists of *why* and a remnant but conveys the same propositional content as fully sentential source, inducing formmeaning mismatch. Similar to other ellipsis phenomena such as sluicing, the construction thus allows to unexpress clausal material, but the unexpressed, elided material needs to be recovered in a proper way. This paper discusses two different approaches for the analysis of the Why-stripping in English and Korean: ellipsis and direct interpretation approaches. Discussing several key empirical facts, the paper argues for a direct interpretation (DI) approach, couched upon the framework of Construction-based HPSG and an independently motivated theory of dialogue context.

**Key words**: *why*-stripping, ellipsis, deletion, direct interpretation, question-under-discussion

## **1** Introduction

Why-stripping in English and Korean consists of the adverbial *why* with a non-wh remnant, as attested in the corpus examples in (1a) and (1b):<sup>1</sup>

(1) a. "Daddy, will you buy me a violin?" Sonya said. "Why violin?" (COCA 1995 FIC) b. "appa, hakkyo-ey ton iman-won dad school-to money 20,000-won kacy-eta cwu-e." "way bring-CONN please-IMP why iman.won?" 20,000-won? 'Dad, please bring me 20,000 won to school?' 'Why 20,000 won?'

As illustrated in both examples, Why-stripping in each language involves *why* followed by a nonwh remnant which receives focal stress. Note that each of the Why-stripping constructions *Why violin?* and *Why 20,000 won?* is a nonsentential utterance (NSU), but receives a sentential interpretation. Such a form-meaning mismatching NSU, similar to sluicing, thus raises the question of how we can account for the semantically propositional character of what appears to be syntactically less than sentential structures (Merchant 2004, 2012, Ginzburg and Sag 2000).

In the analysis of such an ellipsis phenomenon, much of the previous literature has focused on three main questions: syntactic, identity, and licensing questions (see, among others, Merchant 2012 and Phillips and Parker 2014). The 'syntactic' question inquires if there is any syntactic structure for the elided parts that are given in the context. The 'identity' question concerns the relationship between the understood material in ellipsis and its antecedent, focusing on the question of whether the identity rela-

<sup>&</sup>lt;sup>1</sup>COCA: Corpus of Contemporary American English

tion is syntactic or semantic. The 'licensing' question looks into what allows for the ellipsis of the missing material.

In answering these questions, two main approaches have been offered: PF-deletion (Ross 1969, Merchant 2004) and the Direct Interpretation (DI) approach (Ginzburg and Sag 2000, Culicover and Jackendoff 2005, Sag and Nykiel 2011). The PFdeletion assumes that the ellipsis site has internally structured material through the derivation, positing ordinary syntax which undergoes some kind of deletion and renders the syntax unpronounced. In particular, Yoshida et al. (2015) claim that Why-stripping involves movement of the focused phrase violin followed by clausal ellipsis. Unlike these two, the DI approach assumes that there is no syntactic structure at the ellipsis site other than the wh-phrase. In this paper, we try to show that the DI approach can be a feasible alternative in accounting for syntactic/semantic identity conditions as well as other concerning grammatical properties observed in Korean Why-stripping construction.

## **2** Some basic properties

#### 2.1 Why-stripping in English

Sluicing and *why*-stripping both involve a type of ellipsis, but one difference lies in the fact that the latter allows only *why* with the non-wh remnant bearing focal stress (Merchant 2012, Ortega-Santos et al. 2014, Yoshida et al. 2015):

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(2)	Why-stripping:
(4)	winy-suipping.

- A: John was eating natto.
- B: Why/\*How/\*When NATTO?
- (3) Sluicing:
  - A: Someone was eating natto.
  - B: Who?/How?/When?
  - B': \*Who/\*How/\*When NATTO?

Just like sluicing, *why*-stripping can also occur in embedded environments:

- (4) a. Someone was eating natto, but I am wondering who?
  - b. John was eating natto, but I'm wondering why NATTO (and not other things)?

Another key property of *why*-stripping is that a variety of linguistic expressions can serve as the non-wh-remnant, as noted by Yosida et al. (2015: 328):

- (5) a. A: John danced with Mary. B: Why [WITH MARY]?
  - b. A: John believes many strange things. One day he said that ghosts exist. Another day he said that trolls exist.
    - B: Why [THAT TROLLS EXIST]?

The examples in (6) show that the remnants can be even the ones that do not in general serve as the target of typical syntactic operations.

- (6) a. A: John made too weak an espresso. B: Why [TOO WEAK]?
  - b. A: John should sell his banana boat. B: Why [SELL]?
  - c. A: Veterans are honored after death, but not before. B: Why [AFTER]?

Yosida et al. (2015: 328) also note that unlike matrix *why*-stripping, the embedded why-stripping requires a linguistic antecedent:

- (7) [Context: John, eating sushi, miso-soup, and also natto.]
  - B: Why NATTO?
  - B: \*I don't understand why NATTO.

As the contrast shows, matrix *why*-stripping can be licensed with no linguistic antecedent, but embedded *why*-stripping cannot.

#### 2.2 Korean why-stripping

Korean Why-stripping is a lot different from English (see Nakao et al. 2013 for Japanese). One main difference concerns that unlike English *why*-stripping and *wh*-stripping behave alike:

- (8) A: John-i kimchi-lul mek-ess-e. John-NOM kimchi-ACC eat-PST-DECL John ate kimchi.
  - B: way/ettehkey/encey KIMCHI-LUL? why/how/when kimchi-ACC? 'Why KIMCHI?/How KIMCHI?/When KIMCHI?'

Similar to English, *why*-stripping can occur in embedded environments (see Nakao et al. 2013 for Japanese data):

 Mimi-ka kimchi-lul mek-ko Mimi-NOM kimchi-ACC eat-CONN iss-nuntey, way pizza-ka ani-nci exist-but why pizza-NOM not-QUE molu-keyss-e not.know-pres-DECL 'Mimi is eating kimchi, but I wonder why not pizza.'

A variety of linguistic category seems to serve as the remnant of Korean *why*-stripping.

- (10) a. A: Mimi-ka Momo-wa chwum-ul Mimi-NOM Momo-with dance-ACC cwu-ess-e. B: way Momo-wa? dance-PST-DECL why Momo-with 'A: Mimi danced with Momo. B: Why with MOMO?'
  - b. A: Mimi-nun tal-ey thokki-ka Mimi-TOP moon-at rabbit-NOM santa-ko mit-e B: way live-COMP believe-DECL way tal-ey thokki-ka santa-ko? moon-at rabbit-NOM live-COMP 'A: Mimi believes that a rabbit lives in the moon. B: Why that a rabbit lives in the moon?'

c. A: Mimi-ka ecey cip-ey Mimi-NOM yesterday home-at
o-ass-e B: way ecey?
come-PST-DECL why yesterday?
'A: Mimi came home yesterday. B: Why YESTERDAY?'

The remnant in Korean can also be one that does not serve as the target of typical syntactic operations:

- (11) a. A: Mimi-ka acwu pissa-n Mimi-NOM very expensive chayk-ul sasse B: way pissa-n? book-ACC bought why expensive 'A: Mimi bought a really expensive book. B: Why expensive?'
  - b. A: Mimi-ka chayk-ul sey kwon Mimi-NOM book-ACC three CL
    ilkesse. B: way sey kwon?
    read why three CL?
    'A: Mimi read three books. B: Why three?'

In (11a), the remnant matches with the specifier of the NP *expensive book*, while the one in (11b) is just a numeral-classifier. Both of these expressions typically do not undergo syntactic operations.

# 3 Arguments for deletion approaches

#### 3.1 English data

Observing the basic properties of why stripping in English, Ortega-Santos et al. (2014) and Yoshida et al. (2015) argue that the construction involves a base generation of why in the Spec of CP with movement of the focused remnant to the specifier position of a Focus projection, and clausal ellipsis of the remaining parts:

(12)  $[_{CP1} Why [_{CP2} NATTO [_{TP} he was eating t_{natto}]]]?$ 

This movement plus ellipsis account seems to be mainly motivated from connectivity effects, as set forth by Yoshida et al. (2015: 331–337). First, consider the selectional restriction on the preposition type by the matrix verb:

(13) a. Matrix *why*-stripping

A: John relies on Mary. B: Why ON/\*OF MARY (but not others)?

b. Embedded *why*-stripping

John relies on Mary, but I don't understand why ON/\*OF MARY.

The remnant PP's preposition value needs to match with the preposition of the correlate selected by the verb in the antecedent clause.

Note also that the PP remnant can optionally omit the preposition in both matrix and embedded *why*stripping:

- (14) a. A: John was talking to Mary. B: Why (to) Mary?
  - b. John was talking to Mary, but I don't understand why (to) Mary.

This so-called P-stranding generalization (Merchant 2004) seems to support clausal ellipsis: since either the focused PP *to Mary* or the NP only *Mary* (stranding *to* behind) can undergo movement with the ellipsis of the remaining clause, we then expect the optionality of the preposition.

The requirement of voice matching also supports clausal ellipsis. Similar to sluicing but different from VP-ellipsis as illustrated in (15), *why*-stripping disallows voice mismatching as shown in (16):

- (15) a. The janitor must remove the trash whenever it is apparent that it should be [removed]. (VP-ellipsis)
  - Someone must remove the trash, and it is apparent \*who by/\*by who [the trash must be removed]. (Sluicing)
- (16) a. A: Max brought the roses. B: Why/How come Max?
  - b. A: Max brought the roses. B: \*Why by Max?
  - c. \*Max brought the roses, but I don't understand why by Max.

Connectivity effects can be also observed in binding phenomena. Consider the following contrast with the usage of R-expression:

- (17) a. A: He<sub>i</sub> is selling all of these pictures. B:
   \*Why (even) PICTURES OF JOHN<sub>i</sub>?
  - b. A: His<sub>i</sub> mother is selling all of these pictures. B: Why How come (even) PIC-TURES OF JOHN;?

The R-expression *John* in the remnant cannot be conindexed with the subject of the antecedent clause, but when it can be with the genitive specifier *his*. This contrast can be easily accounted for with the postulation of the full structures in the remnant:

- (18) a.  $*He_i$  is selling pictures of John<sub>i</sub>.
  - b. His<sub>i</sub> mother is selling pictures of John<sub>i</sub>.

#### 3.2 Korean data

Korean *why*-stripping also exhibits connectivity effects. The structrual case marking of the remnant needs to match with that of the correlate, as can be observed from the following:

- (19) A: Mimi-ka Momo-lul Mimi-NOM Momo-ACC manna-ss-e meet-PST-DECL 'Mimi met Momo.'
  - B: way Momo-(lul)/\*ka? 'why Momo-ACC/NOM'

The structural case marking ACC here is optional, but when it presents, it must match with the correlate *Momo-lul* 'Momo-ACC'.

The same case marking requirement holds for the semantic case:

- (20) A: Mimi-ka Momo-eykey Mimi-NOM Momo-DAT hwana-ss-e angry-PST-DECL 'Mimi was angry at Momo.'
  - B: way Momo-\*(eykey)?

However, different from English, the semantic case marking here is obligatory.<sup>2</sup>

Just like sluicing in Korean, *why*-stripping also does not tolerate voice mismatching.

(21) A: Mimi-ka Momo-lul ttaly-ess-e. Mimi-NOM Momo-ACC hit-PST-DECL
B: \*Way Mimi-eyuyhay? why Mimi-by
'A: Mimi hit Momo. B: \*Why by Mimi (Momo was hit by Mimi)?'

Binding effects also show us a connectivity effect. Consider the following:

- (22) A: Mimi<sub>i</sub>-uy oppa-ka<sub>j</sub> caki<sub>j</sub> Mimi-GEN brother-NOM self kulim-ul phal-ass-e pictures-ACC sell-PST-DECL 'Mimi's brother sold pictures of himself.'
  - B: way caki<sub>\*i/j</sub> kulim-ul? why self pictures 'Why pictures of himself?

The anaphor *caki* can be coindexed with the head noun *oppa-ka* 'brother', not with the specifier *Mimi*. This can be easily account for with the assumption that there is clausal ellipsis after movement.

# 4 Arguments against Deletion Approaches

#### 4.1 English data

If *why*-stripping involves movement plus ellipsis, the ellipsis approach expects properties of movement operations, we, however, observe island insensitivity

 Mimi-ka <u>nwukwunka-lopwuthe</u> senmwul-ul Mimi-NOM someone-from present-ACC pat-ass-nuntey, nwukwu-(lopwuthe)-i-nci receive-PST-but who-(from)-COP-QUE molu-keyss-ta. not.know-PRES-DECL 'Mimi received a present from someone, but I do not know from whom.' in Why-stripping, as attested by naturally occurring data.

- (23) a. Well, I think what's happening is both risky and immoral. Why immoral?(COCA 2009 SPOK)
  - b. You do five views of it. Why **five**? (COCA 1998 SPOK)

The remnant in (23a) violates the Coordination Structure Constraint while the one in (23b) does not observe the Left Branching Constraint.

Another issue arises with identity with the correlate. In typical *why*-stripping, the remnant corresponds to the correlate in the preceding sentence, which easily allows us to reconstruct the source sentence. However, when taking into consideration a wider range of data, we encounter issues in positing putative sentential sources. Note the following examples with no overt linguistic or discourse correlate:

- (24) a. You worked there, didn't you? You know the answer, so why ask? (COCA 2009 FIC)
  - b. We still love this place. So why go? (COCA 2001 MAG)
  - c. A feeling that things will never get better, so **why try**? (COCA 1999 ACAD)

In such examples, the putative sources for Whystripping can vary. A further complication arises from examples like the following where the remnant seems to refer to the preceding state of affairs:

- (25) a. In fact, they reviewed and approved our press release. So we're a bit scratching our heads to figure out why **this**. (COCA SPOK 2004)
  - b. As they did, they hurt like hell. I groaned. "Fingers hurt, yes? Good. Not lose them. Now shut eyes." "Why that?" (COCA 2003 FIC)

The simple movement-based ellipsis approach also is challenged by attested examples like (26) where there is no complete syntactic identity between the remnant and its correlate:

<sup>&</sup>lt;sup>2</sup>We cannot attribute this to the P-stranding generalization since in sluicing the semantic case marking is optional, as discussed by Kim (2015):

(26) But you changed the policy, saying that a gun used once in a crime should be destroyed, not recycled. Why the change? (COCA 2000 NEWS)

The remnant is an NP, yet its purported correlate is a matrix verb, calling for semantic identity between the two.

#### 4.2 Korean data

Korean sluicing can repair islands, supporting nonmovement analysis (see Kim 2015):

(27)Shally-ka kunye-uy tongsayng-i Shally-NOM she-GEN sister-NOM nwukwunka-lopwuthe cenhwa-lul someone-from phone-ACC pat-un twiey ttenass-nuntey, na-nun receive-PNE after left-but, I-TOP nwukwu-i-nci molu-keyss-ta. who-COP-QUE not.know-PRES-DECL 'Shally's sister left [after receiving a phone call from someone], but I don't know from whom.'

Such island repair, as argued by Kim, then countenance movement-plus-deletion analysis. Note that we also can observe island repair in Korean *why*stripping:

- (28) a. A: Mimi-nun hankwuke-ul malha-nun Mimi-TOP Korean-ACC speak-PNE haksayng-ul manna-ss-e. B: way student-ACC meet-PST-DECL why hankwuke-lul? Korean-ACC?
  'A: Mimi met a student who speaks Korean. B: Why Korean?'
  - b. A: haksayngtul-un hankwuke-wa students-TOP Korean-with kuliko cwungkwuke-kkaci and Chinese-even kongpwuhay-ya hay B: way study-CONN do why cwungkwuke-kkaci? Chinese-even 'A: Students must study Korean and even Chinese. B: Why even Chinese?'

The remnant in (28a) is linked to the expression within the complex NP while the one in (28b) to one of the conjuncts. Both examples thus violat the Complex NP constraint and Coordination Structure Constraint, respectively.

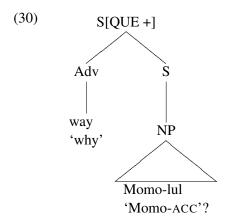
In addition, the remnant of Korean *why*-stripping need not be syntactically identical with the correlate:

- (29) a. A: acik nan Seoul-i cham still I Seoul-NOM really coh-a B: kuluntey way ttena? fond-DECL then why leave 'A: I still like Seoul. B: Then why leave?'
  - b. A: ecey Mimi-ka hayko yesterday Mimi-NOM lay.off
    toy-ess-e. B: mwe? way kulen
    become-PST-DECL what? why that
    il-i?
    thing-NOM
    'Yesterday Mimi was laid off. B: What?
    Why that?'

The remnant in (29a) has not correlate in the preceding antecedent clause. The context just allows us to construct the putative source sentence. In (29b), the correlate refers to the state of affairs described by the antecedent clause.

## 5 A Direct Interpretation approach

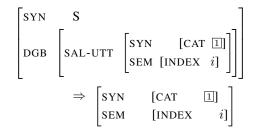
Recognizing such empirical challenges to postulate proper source sentences for ellipsis in Whystripping, we propose a DI (direct interpretation) approach and accept the view that the complete syntax of the fragmental remnant in Why-stripping is just the categorial phrase projection of the fragment itself (see Ginzburg and Sag 2000, Culicover and Jackendoff 2005, Sag and Nykiel 2011, Kim 2015, 2016 among others). Within this view, the *why*-stripping would have a simple structure like the following:



The wh-expression *why* combines with a sentence expression projected from the remnant *Momo-lul* 'Momo-ACC'. Note that Korean allows a variety of fragments, including nominal, verbal, adverbial fragments in the language as illustrated in (31):

- (31) A: Mimi-ka ttena-ss-e. Mimi-NOM leave-PST-DECL 'Mimi left.'
  - B: Mimi-ka? 'Mimi-NOM'
  - B: ttenasse? 'left?'
  - B: cengmal? 'really'

Within the DI approach, there is no syntactic structure at the ellipsis site and fragments are the sole daughter of an S-node, directly generated from the constructional constraints as illustrated in (32):



All the fragments in (31) belong to this Head-Fragment construction. The construction allows the head daughter to be projected to a sentential expression and it corresponds to the category specified by the contextually provided SAL-UTT (salient utterance). The mother is an S, allowing such a phrase to serve as a stand-alone clause. What this constructional-based licensing implies is that the focus marking expression *why* combines with an S projected from any NSU remnant in Whystripping as long as it functions as a SAL-UTT (salient utterance or focus establishing constituent). This is why not only a phrasal constituent but also a single expression can be the remnant in Why-Stripping, as attested by the corpus examples:

- (33) a. When she's in New York, she enjoys relaxing with us. Why **us**? (COCA 2008 FIC)
  - b. A: It was confusing! B: Confusing? Why **confusing**? (COCA 2003 SPOK)
  - c. But they pursued me here. Why here? (COCA 2007 FIC)

The same goes for Korean, as we have seen earlier.

(34) A: Mimi-ka mikwuksan catongcha-lul Mimi-NOM USA-made car-ACC
sa-ss-e B: way mikwuksan?
buy-PST-DECL why USA-made
'A: Mimi bought a USA-made car. B: Why USA-made?'

Note that this analysis implies that there would be no distinction between *why*-stripping and *wh*-stripping in Korean. For example, all of the followings can be a reply to A's utterance in (34):

- (35) a. way sa-ss-e? 'why buy-PST-QUE?'
  - b. encey sa-ss-e? 'when buy-PST-QUE?'
  - c. ethekey sa-ss-e? 'how buy-PST-QUE?'
  - d. etice sa-ss-e? 'where buy-PST-QUE?'

What we can observe here is that any *wh*-expression can combine with the SAL-UTT (or focus establishing constituent).

Note the role of DGB (dialogue-game-board) here where the contextual parameters are anchored and where there is a record of who said what to whom, and what/who they were referring to (see Ginzburg 2012). Uttering the *wh*-question (Why-stripping) in the dialogue introduces the information about QUD (question-under-discussion) as well as SAL-UTT. For example, the following can be a legitimate reply to A's utterance in (34): (36) B: way mikwuksan catongcha-lul? 'why USA-made car-ACC'?

The QUD evoked from a Why-stripping like 'Why USA-made car?' concerns the information such that Mimi bought a USA-made car and B's asking why she bought a USA-made car, not other cars. The lexical nature of why thus eventually helps the fragmental remnant to function as the SAL-UTT (focus establishing constituent). This fragment in fact projects a Head-fragment construction requiring the CAT value of the fragment to be identified with that of the SAL-UTT. The fragment thus carries syntactic (SYN) information about its POS (parts of speech) and CASE value, and its semantic information introduces the index value *i*. Note that within this system *mikwuksan* catongcha-ka 'USA-made car-NOM' cannot serve as a licit fragment simply because the correlate is ACCmarked. The present DI approach, armed with the constructional constraint, can account for the case connectivity effect between the overt correlate and the fragment.

Island repair has been an issue for the deletion approach that involves the application of *wh*movement: the movement cannot violate island constraints, but *why*-stripping license island repair. As a solution, the deletion approach has suggested that the deletion and movement processes are relevant to PF representations (see Merchant 2004 and 2012). By contrast, our DI approach, following Ginzburg and Sag (2000), Culicover and Jackendoff (2005), and Sag and Nykiel (2011), avoids this issue: the remnants are directly generated, and no island-sensitive operations are thus involved. That is, the remnant clause involves no filler-gap dependency and hence no expectation that properties of *wh*-movement will be projected into the grammar of *why*-stripping.

### 6 Conclusion

The DI approach we adopt here introduces no additional syntax: fragments are mapped into nonsentential utterances and induce sentential interpretations from the enriched discourse. Why-stripping is simply the projection of combining the focus marking *why* with such a fragment. This approach at first glance places a heavy burden on the mapping relations from simple fragments to sentential interpretations. However, once we have a system that represents clear discourse structures with the information about salient utterances and question-underdiscussion, we can have straightforward mapping relations from fragments to propositional meaning. The DI approach is further supported by the robust account of flexible connectivity effects, discourse initial fragments, and island repair in English as well as in Korean.

### References

- Culicover, Peter and Ray Jackendoff. 2005. *Simpler Syntax*. Oxford University Press, Oxford.
- Ginzburg, Jonathan. 2012. *The Interactive Stance: Meaning for Conversation*. Oxford: Oxford University Press.
- Ginzburg, Jonathan and Ivan A. Sag. 2000. *Interrogative investigations*. Stanford: CSLI Publications.
- Kim, Jong-Bok. 2016. The Syntactic Structures of Korean: A Construction Grammar Perspective. Cambridge University Press.
- Kim, Jong-Bok. 2015. Syntactic and semantic identity in Korean sluicing: A direct interpretation approach. *Lingua* 66, 260–293.
- Merchant, Jason. 2004. Fragments and ellipsis. *Linguistics and Philosophy* 27, 661–738.
- Merchant, Jason. 2012. Ellipsis. In Artemis Alexiadou, Tibor Kiss, and Miriam Butt, (eds.), *Handbook of Contemporary Syntax*. Berlin: Walter de Gruyter.
- Nakao, Chizuru, Masaya Yoshida, and Ivan Ortega-Santos. 2013. On the Structure of Japanese 'Why'-Stripping. *Proceedings of GLOW in Asia IX*.
- Ortega-Santos I, Yoshida M, Nakao C. 2014. On ellipsis structures involving a wh-remnant and a non-whremnant simultaneously. *Lingua*. 138: 55-85.
- Phillips, Colin and Dan Parker. 2014. The psycholinguistics of ellipsis. *Lingua* 151, 78–95
- Ross, John Robert. 1969. Guess who? In Robert I. Binnick, Alice Davison, Georgia M. Green, and Jerry L. Morgan (eds.), *Proceedings of the Fifth annual meeting of the Chicago Linguistics Society*, 252–286. Chicago, Illinois.
- Sag, Ivan and Joanna Nykiel. 2011. Remarks on Sluicing. In Stefan Müller (ed.), *Proceedings of the HPSG11 Conference*, CSLI Publications.
- Yoshida, Masaya, Chinzuru Nakao, and Ivan Ortega-Santos. 2015. The syntax of Why-stripping. Natural Language and Linguistic Theory. 33(1): 323-370.