On the syntax of ‘why’-like ‘how’ in Korean

Okgi Kim∗

Abstract. The *wh*-phrase *ettehkey* ‘how’ in Korean is forced to be interpreted as a reason *wh*-adverbial corresponding to *way* ‘why’ when it occurs with a causative -key *toy*-construction with past tense. In this paper, I try to answer a simple but fundamental question of whether or not reason *ettehkey* is base-generated in the same position as the ‘high’ *wh*-adjunct *way* (Ko 2005, 2006). I argue that reason *ettehkey* in an interrogative clause is externally merged in its checking position, Spec-CInP, just like *way* (Ko 2006), whereas manner/instrumental *ettehkey* originates below NegP.

Keywords. reason *ettehkey*; manner/instrumental *ettehkey*; Intervention Effect; Anti-Superiority Effect; Negative Island Effect

1. Introduction. In Korean, the *wh*-word *ettehkey*, which corresponds to English *how*, is standardly used as a question whose answer could be manner or instrumental, as illustrated in (1).

(1) A: John-un *ettehkey* kkochypeng-ul kKayss-ni?
   John-TOP how vase-ACC broke-QUE
   ‘How did John break the vase?’
B: amwu cwuce epsi [manner]
   any hesitation without
   ‘Without any hesitation’
B’: mangchi-lo [instrumental]
   hammer-with
   ‘With a hammer’

However, the usage of *ettehkey* is not restricted to such cases. The *wh*-item can be also used non-standardly in that it is forced to be interpreted as a reason *wh*-adverbial when it occurs with a causative -key *toy*-construction with past tense.1 This type of *ettehkey* (henceforth, reason *ettehkey*) is exemplified in (2A) (here and throughout the paper, the *w* superscript is used in glossing reason *ettehkey* and distinguishing it from its standard counterpart (i.e., manner/instrumental *ettehkey*)).2

(2) A: John-un {*ettehkey"/way*} kkochypeng-ul kKay-key toyess-ni?
   John-TOP how/why vase-ACC break-CONN became-QUE
   ‘Why did John break the vase?’
B: silswulo patak-ey telettulyess-e.
   by.mistake floor-LOC dropped-DECL
   ‘(He) dropped (it) on the floor by mistake.’
B’: #amwu cwuce epsi
   any hesitation without
   ‘Without any hesitation

∗ Author: Okgi Kim, University of Wisconsin-Milwaukee (okgikim@uwm.edu).
1 See Yeo (2019) for discussion of causative -key *toy*-constructions.
2 See Tsai (2008) for discussion of Chinese *how-why* alternations.

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The construal of ettehkey as a reason wh-adverbial is verified by the fact that it can be replaced by the regular reason wh-adjunct way why, without affecting the intended meaning of a sentence, as indicated in (2A).

The ‘why’-like behavior of ettehkey introduced above raises many important theoretical questions in terms of syntax, one of which is whether or not reason ettehkey originates in the same position as the ‘high’ wh-adjunct way (Ko 2005, 2006).3 This simple but fundamental question—to my knowledge—has not previously been answered in the literature. Therefore, this paper aims to address the research gap. In this paper, building on Ko’s (2006) analysis of wh-licensing in Korean, I argue that, like way, reason ettehkey in an interrogative clause is base-generated in its checking position, Spec-CIntP, while manner/instrumental ettehkey originates below NegP and undergoes covert movement to Spec-CFocP, configured higher than CIntP (cf. Rizzi 1999, 2001).

The paper is organized as follows. In the following section, I present similarities between reason ettehkey and way with regard to the Intervention Effect and the Anti-Superiority Effect. In Section 3, I present Ko’s (2006) analysis of way. Section 4 discusses where the two variants of ettehkey are base-generated and how they are licensed, based on Ko’s analysis. In Section 5, I conclude.

2. Similarities with way: Intervention Effect and Anti-Superiority Effect. Reason ettehkey behaves like the regular reason wh-adjunct way in terms of the Intervention Effect: unlike other wh-phrases, including manner/instrumental ettehkey, both reason ettehkey and way can be preceded by a Scope Bearing Element (SBE) (a.k.a. an intervener) like amwuto ‘anyone’ that gives rise to the Intervention Effect when it c-commands a wh-phrase (see, among others, Beck & Kim 1997; Ko 2005; Beck 2006; Kotek 2014 for detailed discussions of the Intervention Effect). Consider the following examples:

(3) a. *amwuto Mary-eytayhay ettehkey malha-ci anh-ass-ni?
   anyone Mary-about how talk-CONN not-PST-QUE
   ‘How was no one talking about Mary?’

b. John-i ettehkey Mary-eytayhay amwu-eykey-to malha-ci anh-ass-ni?
   John-NOM how Mary-about anyone-to talk-CONN not-PST-QUE
   ‘How was John talking to no one about Mary?’ (adapted from Choi 2007)

(4) a. amwuto \{ettehkey*/way\} nonmwun-ul ilk-ci anh-key toyess-ni?
   anyone how/why paper-ACC read-CONN not-CONN became-QUE
   ‘Why didn’t no one read papers?’

b. \{ettehkey*/way\} amwuto nonmwun-ul ilk-ci anh-key toyess-ni?
   how/why anyone paper-ACC read-CONN not-CONN became-QUE
   ‘Why didn’t no one read papers?’

Example (3) shows that manner/instrumental ettehkey cannot follow but must precede the SBE. On the other hand, example (4) illustrates that both reason ettehkey and way can follow or pre-
cede the SBE.

Reason *ettehkey* also patterns like *way*, and unlike other *wh*-phrases, with respect to the Anti-Superiority Effect in that it is unable to precede the other *wh*-phrase in a multiple *wh*-question (see, among others, Watanabe 1992 and Saito 1994 for detailed discussions of the Anti-Superiority Effect):

(5) a. John-un *ettehkey* mwues-ul kkayss-ni?
    John-TOP how what-ACC broke-QUE
    ‘What did John break how?’

b. John-un mwues-ul *ettehkey* kkayss-ni?
    John-TOP what-ACC how broke-QUE
    ‘What did John break how?’

(6) a. *John-un {ettehkey"*/way} mwues-ul kkay-key toyess-ni?*
    John-TOP how/why what-ACC break-CONN became-QUE
    ‘What did John break why?’

b. John-un mwues-ul {ettehkey"*/way} kkay-key toyess-ni?
    John-TOP what-ACC how/why break-CONN became-QUE
    ‘What did John break why?’

As observed in (5), manner/instrumental *ettehkey* can precede or follow the *wh*-argument mwues-ul. However, as shown in (6), both reason *ettehkey* and *way* cannot precede but must follow the *wh*-argument in the multiple *wh*-question.

3. Ko (2006): the external merge of *way* in Spec-C_{IntP}. To explain the peculiar behavior of *way* with respect to the Anti-Superiority Effect, i.e., its inability to precede the other *wh*-phrase in a multiple *wh*-question (see (6)), Ko (2006), following Rizzi’s (1999) split-CP hypothesis, assumes that *way* in an interrogative clause is base-generated in its checking position, Spec-C_{IntP}, as illustrated in (7a), while other *wh*-operators covertly move from their base position to Spec-C_{FocP}, configured higher than C_{IntP} for feature checking, as illustrated in (7b).

(7) a. \[
\begin{array}{c}
\text{CP} \\
\end{array} 
\begin{array}{c}
C_{Foc[+Q]} \\
\vdots \\
\text{way} \\
C_{Int[+Q]} \\
[\text{IP} \\
\vdots] \\
\end{array} 
\]

b. \[
\begin{array}{c}
\text{CP} \\
\begin{array}{c}
wh_i \\
C_{Foc[+Q]} \\
\vdots \\
C_{Int[+Q]} \\
[\text{IP} \\
\vdots] \\
\end{array} \\
\end{array} 
\]

Ko further assumes that unlike other *wh*-items, *way* is an SBE that induces the Intervention Effect which she takes as a constraint on *wh*-movement at LF, where a *wh*-phrase cannot be attracted to its checking/scope position across an SBE, as illustrated in (8) (see also Ko 2005; cf. Beck & Kim 1997).

\[C_{IntP} \text{ and } C_{FocP} \text{ correspond to } \text{IntP and FocP, respectively, in Rizzi’s split-CP system for Romance languages.}\]

\[Ko \text{ takes } \text{way} \text{ as an SBE given that it induces focus association, where the answer to a } \text{way}-\text{question differs depending on the association between } \text{way} \text{ and a focus-marked phrase with emphatic stress (see also Bromberger 1992):}\]

(i) a. A: way Adam-i sakwa-lul mek-ess-ni? why Adam-NOM apple-ACC eat-PST-QUE
    ‘Why did Adam eat the apple?’

B: hanumim-i kukes-ul uyyohasiessu-nikka
    God-NOM that-ACC intend-because
    ‘because God intended it (to happen)’

b. A: way ADAM-i sakwa-lul mek-ess-ni?
Let us now examine how Ko’s analysis accounts for the Anti-Superiority Effect. Under her analysis, the Anti-Superiority Effect arises because way as an SBE gives rise to the Intervention Effect by blocking LF movement of the other wh-phrase that it c-commands. For example, (6a) is ruled out because LF movement of the wh-argument mwues-ul to Spec-C<sub>Foc</sub>P is interfered with by the SBE way sitting in Spec-C<sub>Int</sub>P, configured lower than C<sub>Foc</sub>P, as illustrated in (9).

\[
\begin{array}{c}
\text{CPFoc[+Q]} \ldots \text{way} \ C_{\text{Int}[+Q]} \ [\text{IP} \ \ldots \ mwues-ul \ \ldots ]
\end{array}
\]

Ko’s analysis also explains the asymmetry between way and other wh-phrases in terms of the Intervention Effect, where only the former is not subject to the Intervention Effect when c-commanded by an SBE in an interrogative clause (see the contrast between (3a) and (4a)). According to the Intervention Effect constraint, the ungrammaticality of (3a), where manner/instrumental ettehkey is preceded by the SBE amwuto, is because LF movement of the wh-phrase to Spec-C<sub>Foc</sub>P is blocked by the c-commanding SBE, resulting in a derivational crash, as illustrated in (10).

\[
\begin{array}{c}
\text{CPFoc[+Q]} \ldots \ C_{\text{Int}[+Q]} \ [\text{IP} \ amwuto \ \ldots \ ettehkey \ \ldots ]
\end{array}
\]

Meantime, as we have seen in (4), unlike manner/instrumental ettehkey, the reason wh-adverb way can follow an SBE that induces the Intervention Effect. This is because way is licensed in its base position (i.e., Spec-C<sub>Int</sub>P) and, therefore, does not move at LF. For example, (4a) is assumed to involve the LF structure given in (12), where the SBE has undergone overt scrambling over way licensed in Spec-C<sub>Int</sub>P.

\[
\begin{array}{c}
\text{CPFoc[+Q]} \ \ldots \ amwuto_{i} \ \text{way} \ C_{\text{Int}[+Q]} \ [\text{IP} \ \ldots \ t_{i} \ \ldots ]
\end{array}
\]

B: Ivu-ka Adam-eykey kwonhayssu-nikka
   Eve-NOM Adam-DAT recommended-because
   ‘because he was the one that Eve recommended (to eat the apple)’

c. A: way Adam-i SAKWA-lul mek-ess-ni?
B: kukes-i cwupyeney iss-ten yulihan umsik iessu-nikka
   that-NOM around be-MOD only food be-because
   ‘because it (the apple) was the only food around’

d. A: way Adam-i sakwa-lul MEK-ess-ni?
B: kukes-ulo mwues-ul halci mollasu-nikka
   that-with what-ACC to.do be.ignorant.of-because
   ‘because he couldnt think of anything else to do with it’

She thus takes the Anti-Superiority Effect as a variant of the Intervention Effect.

6 She thus takes the Anti-Superiority Effect as a variant of the Intervention Effect.
The well-formed sentence in (4b) is simply explained since *way* is not in the intervention configuration, that is, it is not c-commanded by the SBE, as illustrated in (13).

(13)  \[ \text{CP} \text{ C}_{\text{Foc}+[Q]} \ldots \text{*way} \text{ C}_{\text{Int}+[Q]} \text{ [IP amwuto } \ldots \text{ ]} \]  

4. Base positions of the two variants of *ettehkey*.

4.1. Base-generation of reason *ettehkey* in Spec-C\text{Int}P. As we have observed in Section 2, reason *ettehkey* behaves exactly like the regular *wh*-adjunct *way* in regard to the Intervention Effect and the Anti-Superiority Effect. If Ko’s analysis discussed in the previous section is on the right track, it may be reasonable to assume that reason *ettehkey* in an interrogative clause is base-generated in the same checking/scope position as *way*, namely Spec-C\text{Int}P.

The base-generation of reason *ettehkey* in Spec-C\text{Int}P is supported by the fact that, unlike manner/instrumental *ettehkey*, it cannot co-occur with *way*, as in (14); the two *wh*-expressions compete for the same licensing position (Spec-C\text{Int}P).

(14)  a. *John-un* *ettehkey" way* kkochpyeng-ul kkay-key toyess-ni?  
John-TOP how why vase-ACC break-CONN became-QUE  
‘Why did John break the vase?’

b. *John-un* *way ettehkey" way* kkochpyeng-ul kkay-key toyess-ni?  
John-TOP why how vase-ACC break-CONN became-QUE  
‘Why did John break the vase?’

(15)  a. ?John-un *ettehkey way* kkochpyeng-ul kkayss-ni?  
John-TOP how why vase-ACC broke-QUE  
‘Why did John break the vase how?’

b. *John-un* *way ettehkey way* kkochpyeng-ul kkayss-ni?  
John-TOP why how vase-ACC broke-QUE  
‘Why did John break the vase how?’

Note that the ill-formedness of (15b), where manner/instrumental *ettehkey* is preceded by *way*, is due to the Intervention Effect induced by the SBE *way*, as discussed before.

Another source of support for the external merge of reason *ettehkey* in Spec-C\text{Int}P arises from the fact that it takes obligatory wide scope over negation, just like *way* (Ko 2005):

(16)  John-un \{*ettehkey"/way*\} mikwuk-ey ka-ci anh-key toyess-ni?  
John-TOP how/why America-to go-CONN not-CONN became-QUE  
‘What is the reason x such that John didn’t go to America?’

*What is not the reason x such that John went to America for x?*

Since reason *ettehkey* is directly merged into Spec-C\text{Int}P, it is impossible for it to be interpreted under the negation.

The direct merge of reason *ettehkey* at Spec-C\text{Int}P straightforwardly explains why, just like *way*, it does not show the Intervention Effect when c-commanded by an SBE, as we have seen in (4): since reason *ettehkey* is licensed in its base-generated position, Spec-C\text{Int}P, it does not undergo LF movement across the c-commanding SBE, thereby not violating the Intervention Effect constraint. The sentences involving reason *ettehkey* in (4) are assumed to have the LF structures presented in (17).

(17)  a. \[ \text{CP} \text{ C}_{\text{Foc}+[Q]} \ldots \text{amwuto}_{i} \text{*ettehkey" C}_{\text{Int}+[Q]} \text{ [IP } \ldots \text{ t}_{i} \ldots \text{ ]} \]  
(LF for (4a))
Meantime, if reason *ettehkey* is base-generated in Spec-\(C_{\text{Int}}\) of an embedded declarative clause and is preceded by a scrambled SBE, it exhibits the Intervention Effect just as *way* occurring in the same environment does (Ko 2005). Let us consider the following examples:

(18) a. *John-un [amwuto \{ettehkey*/way\} ku chayk-ul ilk-ci anh-key John-TOP anyone how/why that book-ACC read-CONN not-CONN toyess-ta-ko] malhayss-ni? became-DECL-COMP said-QUE

‘What is the reason x such that John said that no one read that book for x?’

b. John-un [amwuto \{ettehkey*/way\} ku chayk-ul ilk-ci anh-key John-TOP anyone how/why that book-ACC read-CONN not-CONN toyess-nunci] mwuless-ta.
became-QUE asked-DECL

‘John asked why no one read that book.’

c. John-un [Mimi-ka \{ettehkey*/way\} ku chayk-ul ilk-key John-TOP Mimi-NOM how/why that book-ACC read-CONN toyess-ta-ko] malhayss-ni?
became-DECL-COMP said-QUE

‘What is the reason x such that John said that Mimi read that book for x?’

The reason *ettehkey* in (18a) cannot be licensed in its base position because the embedded declarative \(C_{\text{Int}}\) lacks the [+Q] feature. Thus, for feature checking, it needs to move covertly to the matrix interrogative \(C_{\text{Int}}\) containing [+Q]. However, the LF movement required is blocked by the scrambled subject SBE \(amwuto\), inducing the Intervention Effect. This is illustrated in (19).

(19) \[CP1 \quad C_{\text{Int}}_{[+Q]} \quad \ldots \quad \text{ettehkey}\quad C_{\text{Int}}_{[-Q]} \quad [IP \quad t_i \quad \ldots \quad ]\]

Meantime, (18b) is grammatical since the reason *ettehkey* is licensed in its base position, i.e., the embedded interrogative Spec-\(C_{\text{Int}}\), and thus does not move across the c-commanding SBE:

(20) \[CP1 \quad C_{\text{Int}}_{[-Q]} \quad \ldots \quad \text{amwuto} \_i \quad \text{ettehkey}\quad C_{\text{Int}}_{[+Q]} \quad [IP \quad t_i \quad \ldots \quad ]\]

The well-formedness of (18c) is because no element blocks LF movement of the reason *ettehkey* to the matrix \(C_{\text{Int}}\) that does contain [+Q], as illustrated in (21).

(21) \[CP1 \quad C_{\text{Int}}_{[+Q]} \quad \ldots \quad \text{ettehkey}\quad C_{\text{Int}}_{[-Q]} \quad \ldots \quad ]\]

The same line of reasoning applies to the data involving *way* in (18) (see Ko 2005).

The analysis proposed here also provides an explanation for the Anti-Superiority Effect induced by reason *ettehkey*. Under the additional assumption that, like *way*, reason *ettehkey* functions as an SBE, the sentence in (6a) is ruled out because the SBE *ettehkey* interferes with LF movement of the *wh*-argument *mwues-ul* that it c-commands, inducing the Intervention Effect:7

7 Like the regular reason *wh*-adjunct *way*, reason *ettehkey* gives rise to focus affected readings, as in (i), which supports its function as an SBE.
4.2. BASE-GENERATION OF MANNER/INSTRUMENTAL *ettehkey* BELOW NEG_P. Example (23) illustrates the so-called *how-why* asymmetry with regard to the Negative Island Effect, a well-known phenomenon in which negation blocks extraction of certain (*wh*)-phrases (Rizzi 1990; Tsai 2008; Shlonsky & Soare 2011):

(23)  
   a. Why didn’t Geraldine fix her bike?  
   b. *How didn’t Geraldine fix her bike?* (Shlonsky & Soare 2011: (14))

The asymmetry can receive a natural account if we assume that unlike manner/instrumental *how*, reason *why* is directly merged in the CP domain (Rizzi 2001; Tsai 2008; a.o.). On this view, reason *why* is exempt from the Negative Island Effect since it originates above negation, i.e., NegP, as illustrated in (24a). Meantime, the ungrammaticality of (23b) can be explained by assuming that manner/instrumental *how* originates in a structurally lower position below negation; that is, the negator blocks LF movement of the *wh*-phrase to its scope position in the CP domain, as illustrated in (24b).

(24)  
   a. \[ CP \quad \textit{why} \quad [TP \quad \textit{NegP} \quad \ldots \textit{]} \]
   b. \[ CP \quad \textit{how} \quad [TP \quad \textit{NegP} \quad \textit{t}_{\textit{how}} \quad \ldots \textit{]} \]

Note that such an asymmetry also holds for *wh*-questions in Korean:

(25)  
   a. Mimi-nun \textit{way} cha-lul kochi-ci anh-ass-ni?  
      Mimi-TOP *why* car-ACC fix-CONN not-PST-QUE  
      ‘Why didn’t Mimi fix the car?’
   b. *Mimi-nun \textit{ettehkey} cha-lul kochi-ci anh-ass-ni?  
      Mimi-TOP *how* car-ACC fix-CONN not-PST-QUE  
      ‘How didn’t Mimi fix the car?’

As observed in (25a), the reason *wh*-adverb *way* is not subject to the Negative Island Effect,

(i)  
   a. A: \textit{ettehkey}^w \quad Adam-i \quad sakwa-lul \quad mek-key \quad toyess-ni?  
      \quad how \quad Adam-NOM \quad apple-ACC \quad eat-CONN \quad became-QUE  
      ‘Why did Adam eat the apple?’
      B: hanunim-i kukes-ul uytohasiessu-nikka
      ‘because God intended it (to happen)’
   b. A: \textit{ettehkey}^w \quad ADAM-i \quad sakwa-lul \quad mek-key \quad toyess-ni?  
      \quad Ivu-ka \quad Adam-eykey kwonhayssu-nikka
      ‘because he was the one that Eve recommended (to eat the apple)’
   c. A: \textit{ettehkey}^w \quad Adam-i \quad SAKWA-lul \quad mek-key \quad toyess-ni?  
      \quad kukes-i \quad cwupyeney \quad iss-ten \quad yulihan \quad umsik \quad issu-nikka
      ‘because it (the apple) was the only food around’
   d. A: \textit{ettehkey}^w \quad Adam-i \quad sakwa-lul \quad MEK-key \quad toyess-ni?  
      \quad kukes-ulo \quad mwues-ul \quad halci \quad mollassu-nikka
      ‘because he couldn’t think of anything else to do with it’
just like English why. This is readily explained by Ko’s (2006) claim that way is externally merged in Spec-C\textsubscript{Int}P in the left periphery of the clause. On the other hand, the ill-formedness of (25b) can be accounted for by assuming that manner/instrumental etteh\texttt{key} is base-generated below NegP and that its LF movement to Spec-C\textsubscript{Foc}P is blocked by the negator, triggering the Negative Island Effect. Meanwhile, reason etteh\texttt{key} is not subject to the Negative Island Effect, just like way, as in (26), which supports the claim that reason etteh\texttt{key} is base-generated in the CP domain (Spec-C\textsubscript{Int}P).

(26) Mimi-nun etteh\texttt{key}" cha-lul kochi-ci ahn-key toyess-ni?
  Mimi-TOP how car-ACC fix-CONN not-CONN became-QUE
  ‘Why didn’t Mimi fix the car?’

5. Conclusion. In this paper I have investigated reason etteh\texttt{key}-questions and tried to answer the simple but important question of whether or not reason etteh\texttt{key} originates in the same position as the regular wh-adjunct way ‘why’. As for the question, I have proposed that reason etteh\texttt{key} in an interrogative clause is externally merged in its checking position, Spec-C\textsubscript{Int}P, just like way, whereas manner/instrumental etteh\texttt{key} originates below NegP. If this syntactic analysis is correct, it lends support to previous research (e.g., Rizzi 2001; Ko 2006; Tsai 2008) arguing that a reason/causal wh-adverbial merges into the left periphery of the clause without undergoing (LF-)movement.

References
Beck, Sigrid. 2006. Intervention effects follow from focus interpretation. Natural Language Semantics 14. 1–56. https://doi.org/10.1007/s11050-005-4532-y.
Beck, Sigrid, & Shin-Sook Kim. 1997. On wh-and operator scope in Korean. Journal of East Asian Linguistics 6(4). 339–384. https://doi.org/10.1023/A:1008280026102.
Bromberger, Sylvain. 1992. On what we know we don’t know: Explanation, theory, linguistics, and how questions shape them. Chicago: University of Chicago Press.
Choi, Young-Sik. 2007. Intervention effect in Korean wh-questions: Indefinite and beyond. Lingua 117. 2055–2076. https://doi.org/10.1016/j.lingua.2007.01.001.
Ko, Heejeong. 2005. Syntax of why-in-situ: Merge into [Spec, CP] in the overt syntax. Natural Language & Linguistic Theory 23(4). 867–916. https://doi.org/10.1007/s11049-004-5923-3.
Ko, Heejeong. 2006. On the structural height of reason wh-adverbials: Acquisition and consequences. In Lisa Cheng & Norbert Corver (eds.), Wh-movement: Moving on. 319–349. Cambridge, MA: MIT Press.
Kotek, Hadas. 2014. Composing questions. Cambridge, MA: MIT dissertation.
Rizzi, Luigi. 1990. Relativized minimality. Cambridge, MA: MIT Press.
Rizzi, Luigi. 1999. On the position of “Int(ergative)” in the left periphery of the clause. Ms., Universit\textipa{\textipa{di Siena.
Rizzi, Luigi. 2001. On the position of “Int(ergative)” in the left periphery of the clause. In Guglielmo Cinque & Giampaolo Salv\textipa{\textipa{i (eds.), Current studies in Italian syntax. 267–296. Amsterdam: Elsevier.
Saito, Mamoru. 1994. Additional-WH effects and the adjunction site theory. Journal of East Asian Linguistics 3(3). 195–240. https://doi.org/10.1007/BF01733064.
Shlonsky, Ur, & Gabriela Soare. 2011. Where’s ‘why’? Linguistic Inquiry 42. 651–669. https://doi.org/10.1162/LING_a_00064.
Tsai, Wei-Tien Dylan. 2008. Left periphery and how-why alternations. *Journal of East Asian Linguistics* 17. 83–115. https://doi.org/10.1007/s10831-008-9021-0.

Watanabe, Akira. 1992. Subjacency and S-structure movement of wh-in-situ. *Journal of East Asian Linguistics* 1(3). 255–291. https://doi.org/10.1007/BF00130554.

Yeo, Seungju. 2019. On the -key toy-construction as implicit causatives. *Studies in Linguistics* 51. 49-68.