Correlations between island (in)sensitivity and base positions of (non-)standard *wh*-in-situ

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Abstract. It has been well-accepted in the literature that the island (in)sensitivity of *wh*-in-situ falls under the so-called Noun versus Adverb Generalization (NAG), which states that an in-situ *wh*-phrase is island-free iff it is (or contains) a *wh*-nominal (Tsai 1994a,b; Stepanov & Tsai 2008; Fujii et al. 2014). However, we show that the NAG is not sufficient to explain the island behaviors of some (non-)standard in-situ *wh*-phrases in Korean. Alternatively, we suggest that the island (in)sensitivity of in-situ *wh*-phrases may correlate not with their categorial status but with their base-generated positions: specifically, we assume that an in-situ *wh*-phrase that is base-generated in the CP domain (Spec-CP) is island-sensitive, while an in-situ *wh*-phrase that is base-generated below CP/TP is island-insensitive.

Keywords. (non-)standard *wh*-in-situ; island sensitivity; base position; Noun versus Adverb Generalization

1. Asymmetries in island effects. Since Huang (1982a,b), it has been well-known that *wh*-in-situ languages exhibit an argument-adjunct asymmetry with respect to island sensitivity. For an illustration, consider the case of a complex NP island in Chinese and Korean:

(1) a. ni zui xihuan [NP [CP mai *shenme*] de ren]? (Chinese)
   ‘What do you like the person who bought t?’
   you most like buy what DE person

b. *ni zui xinshang [NP [CP *weishenme* gongzuo] de ren]?
   ‘What is the reason x such that you appreciate most people who work for x?’
   (Stepanov and Tsai 2008: (9b))

(2) a. Mimi-nun [NP [CP mwe-*kkay-*] salam]-ul pinanhayss-ni? (Korean)
   Mimi-TOP what-ACC break-MOD person-ACC criticized-QUE
   ‘Mimi criticized the person who broke what?’

b. *Mimi-nun [NP [CP *way* kkochpyeng-ul *kkay-*] salam]-ul pinanhayss-ni?
   Mimi-TOP why vase-ACC break-MOD person-ACC criticized-QUE
   ‘Mimi criticized the person who broke the vase why?’

In both the Chinese and Korean examples, the *wh*-arguments—*shenme* in (1a) and *mwe-* in (2a)—can occur inside the complex NP island, whereas the reason *wh*-adjuncts—*weishenme* in (1b) and *way* in (2b)—cannot.1

To account for such asymmetries in island effects, many researchers (e.g., Tsai 1994a,b; Stepanov & Tsai 2008; Fujii et al. 2014) have argued, under an unselective-binding approach, that the island behaviors of *wh*-in-situ fall under the morphological generalization in (3), which, following Fujii et al. (2014), we refer to as the Noun versus Adverb Generalization.2

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1 The form *mwe-* is a contracted form of *mwues-ul*.

2 A *wh*-nominal that introduces a choice function variable can be licensed inside an island by a Q-operator via unselective binding, as illustrated in (ia). On the other hand, a *wh*-adverb is not licensed in-situ, since it does not
Noun versus Adverb Generalization (NAG):

An in-situ wh-phrase is island-insensitive iff it is (or contains) a wh-nominal. (Fujii et al. 2014: (3))

The NAG gives a straightforward account of the contrasts in (1) and (2): the wh-arguments shenme and mwe-l are island-insensitive since they are wh-nominals, whereas the reason wh-adjects weishenme and way are island-sensitive since they are pure wh-adverbs.

2. Counterexamples to the NAG. Here we show that island (in)sensitivity of in-situ wh-phrases in Korean is not properly constrained by the NAG. Before we proceed, however, we would like to briefly introduce two different but similar types of non-standard wh-question in Korean, whose island behaviors, as we will see, play a key role in testing whether the NAG is empirically correct or not. Consider (4) and (5).

(4) a. Mimi-nun mwe-l\(^w\) kulehkey manhun nonmwun-ul ilkess-ni?
   Mimi-TOP what-ACC so many paper-ACC read-QUE
   ‘Why did Mimi read so many papers?’
   b. Mimi-nun mwe-l ilkess-ni?
   Mimi-TOP what-ACC read-QUE
   ‘What did Mimi read?’

(5) a. John-un ettehkey\(^w\) hankwuk-ey ka-key toyess-ni?
   John-TOP how South.Korea-to go-CONN became-QUE
   ‘Why did John go to South Korea?’
   b. John-un ettehkey kkochpyeng-ul kkyass-ni?
   John-TOP how vase-ACC broke-QUE
   ‘How did John break the vase?’

The wh-questions like (4a) and (5a) are taken to be non-standard wh-questions in the sense that a non-‘why’ wh-phrase receives a ‘why’-like interpretation. In (4a), the wh-phrase mwe-l, which canonically functions as an argument in a sentence as in (4b), behaves like a wh-adject corresponding to way ‘why’. In a similar manner, in (5a), the wh-phrase ettehkey, which is standardly used as a manner or instrumental adjunct as in (5b), is interpreted as a reason wh-adverbial when it occurs with a causative -key toy-construction with past tense.\(^3\) As indicated in (4a) and (5a), throughout the paper, the superscript \(^w\) is used in glossing the non-standard wh-items (i.e., reason mwe-l and reason ettehkey) and distinguishing them from their standard counterparts (wh-argument mwe-l and manner/instrumental ettehkey).

Now let us examine whether or not the NAG correctly predicts island (in)sensitivity of

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\(^3\) See Yeo (2019) for discussion of causative -key toy-constructions.
(non-)standard \textit{wh}-in-situ in Korean. If the NAG is on the right track, then it is expected that manner/instrumental \textit{ettehkey} is island-sensitive, since it is a \textit{wh}-adverb; however, as shown in (6), it is island-insensitive in that it can occur inside a complex NP island or an adjunct island (Chung 2000, 2005).

(6) a. Mimi-nun [\textit{NP [\textit{CP Kim-i \textit{ettehkey} yoliha-n]}] umsik]-ul mekess-ni?
Mimi-TOP Kim-NOM how cook-MOD food-ACC ate-QUE
‘Mimi ate the food that Kim cooked how?’
b. Mimi-nun [\textit{CP Kim-i \textit{ettehkey} umsik-ul yolihay-se]} hwakanass-ni?
Mimi-TOP Kim-NOM how food-ACC cook-because got.upset-QUE
‘Mimi got upset because Kim cooked the food how?’

In dealing with the island insensitivity of manner/instrumental \textit{ettehkey}, Chung (2005) offers an interesting proposal under an unselective-binding approach. On his view, manner/instrumental \textit{ettehkey} can be decomposed into four sub-parts, \(\text{[DP/NNP e-tte-h-key]}\) ‘Det-CNP-do-adverbializer’: the first part \textit{e} is a determiner which combines with the common noun phrase \textit{tte} that follows it, the third part \textit{h(a)} is a transitive verb that takes the preceding DP/NP, and the final part \textit{key} is an adverbializer. Based on this morphological structure, Chung explains that the insensitivity of manner/instrumental \textit{ettehkey} to strong islands is because it contains the nominal element \textit{tte} that introduces a variable subject to unselective binding: that is, its island behavior is captured by the NAG. If Chung’s nominal analysis is on the right track, then it is expected that reason \textit{ettehkey} is island-insensitive, since its morphological form is the same as its standard counter-part; however, that is not the case, as evidenced by the ungrammatical examples in (7) where reason \textit{ettehkey} cannot occur inside a complex NP island and an adjunct island, just like \textit{way}.

(7) a. *Mimi-nun [\textit{NP [\textit{CP Kim-i \{ettehkey*/way\} yoliha-key toy-n]}] umsik]-ul mekess-ni?
Mimi-TOP Kim-NOM how/why cook-CONN become-MOD food-ACC ate-QUE
‘Mimi ate the food that Kim cooked why?’
b. *Mimi-nun [\textit{CP Kim-i \{ettehkey*/way\} umsik-ul yolihay-key toy-se}]
Mimi-TOP Kim-NOM how/why food-ACC cook-CONN become-because got.upset-QUE
‘Mimi got upset because Kim cooked the food why?’

Contra Chung’s proposal, although we treat both manner/instrumental and reason \textit{ettehkey} as pure \textit{wh}-adverbs, the NAG still has difficulty accounting for the asymmetry between the two variants of \textit{ettehkey} in island contexts: since the two variants are \textit{wh}-adverbs, they both must be island-sensitive according to the NAG, contrary to fact.

The NAG may also have difficulty explaining the asymmetry between reason \textit{mwe-l} and its standard counterpart (i.e., \textit{wh}-argument) in island effects. Under the NAG, reason \textit{mwe-l} is predicted to be island-insensitive, since it is a \textit{wh}-nominal; however, the prediction is not borne out, as seen in (8) where reason \textit{mwe-l} is sensitive to a complex NP island, as in (8a), and an adjunct island, as in (8b).

(8) a. *Mimi-nun [\textit{NP [\textit{CP \{mwe-l*/way\} kulehkey manhun nonmwun-ul ilk-un}]
Mimi-TOP what-ACC/why so many paper-ACC read-MOD

808
salam-ul pinanhayss-ni?
person-ACC criticized-QUE
‘Mimi criticized the person who read so many papers why?’
b. *Mimi-nun [CP Kim-i {mwe-l*/way} kulehkey ilcik ttena-se]
   Mimi-TOP Kim-NOM what-ACC/why so ealy leave-because
   hwakanass-ni?
   got.upset-QUE
   ‘Mimi got upset because Kim left so early why?’

3. Correlations between island (in)sensitivity and base positions of (non-)standard wh-in-situ.
In the previous section we have demonstrated that the NAG fails to capture the island (in)sensitivity of some (non-)standard in-situ wh-phrases in Korean. Here, as an attempt to provide a (potential) alternative view to the NAG, we suggest that island (in)sensitivity of in-situ wh-phrases may correlate with their base-generated positions, not with their categorial status (i.e., noun versus adverb), by showing that an in-situ wh-phrase base-generated in the CP domain (Spec-
CP) is island-sensitive, while an in-situ wh-phrase base-generated below CP/TP is island-insensitive.

3.1. Two diagnostic tests for identifying wh-phrases base-generated in the CP domain.
Korean is well-known as exhibiting an asymmetry between way ‘why’ and other wh-
operators with respect to the Intervention Effect: unlike the latter, the former does not exhibit the Intervention Effect when c-commanded by a Scope Bearing Element (SBE) like amwuto ‘anyone’ or man ‘only’ (Beck & Kim 1997; Beck 2006; Ko 2005, 2006). Consider (9).

(9) a. *amwuto mwe-l ilk-ci ahn-ass-ni?
   anyone what-ACC read-CONN not-PST-QUE
   ‘What did no one read?’
   b. *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?’ (adapted from Choi (2007): (1d))
   c. amwuto way nonmwun-ul ilk-ci ahn-ass-ni?
      anyone why paper-ACC read-CONN not-PST-QUE
      ‘Why did no one read the paper?’

As illustrated here, unlike the wh-argument mwe-l and the manner/instrumental ettehkey, the
wh-adjunct way can follow the SBE amwuto.

To account for the peculiar behavior of way in terms of the Intervention Effect, i.e., its
ability to be preceded by an SBE, Ko (2005) assumes that way in an interrogative clause is
externally merged in its checking position, Spec-CP (CP-Modifier Hypothesis), while other wh-
phrases undergo LF movement to Spec-CP for feature checking. This is illustrated in (10).

(10) a. [CP way C_{[+Q]} [IP ... ]]
   b. [CP wh C_{[+Q]} [IP ... t_i ... ]]

In addition, she proposes the Intervention Effect Constraint, where at LF a wh-phrase cannot
move across an SBE to its checking (scope) position, as illustrated in (11) (cf. Beck and Kim
1997).

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4 SBEs also include anh ‘not’, pakkey ‘only’ (NPI), to ‘also’, nwukwunka ‘(non-specific) someone’, and nwukwuna ‘everyone’. See Ko (2005) for relevant examples.
On Ko’s analysis, the ungrammaticality of (9a) and (9b) is simply because the SBE *amwuto blocks LF movement of the given *wh-phrase to Spec-CP, as illustrated in (12).

\[
\begin{align*}
\text{(12)} & \quad \text{a. } [CP \quad C_{[+Q]} \quad [IP \quad \text{amwuto} \quad \text{mwe-l} \quad ... ]] \quad (\text{LF for (9a)}) \\
& \quad \text{b. } [CP \quad C_{[+Q]} \quad [IP \quad \text{amwuto} \quad ... \quad \text{ettehkey} \quad ... ]] \quad (\text{LF for (9b)})
\end{align*}
\]

Meantime, the well-formedness of (9c) is because the *wh-adjunct *way is licensed in its base position (i.e., Spec-CP) and, therefore, does not move across the c-commanding SBE which has undergone overt scrambling over the *wh-phrase:

\[
\begin{align*}
\text{(13)} & \quad [CP \quad ... \quad \text{amwuto}_i \quad \text{way} \quad C_{[+Q]} \quad [IP \quad ... \quad \text{t} \quad ... ]] \\
\end{align*}
\]

As noted by Ko (2005), the external merge of *way at Spec-CP is supported by the fact that it always takes wide scope over negation in an interrogative clause:

\[
\begin{align*}
\text{(14)} & \quad \text{John-un } \text{way } \text{Mary-lul} \quad \text{cohaha-ci-anh-ni} \quad \text{Mary-ACC} \\
& \quad \text{John-TOP why Mary-ACC like-CI-not-QUE} \\
& \quad \text{‘What is the reason x such that John does not like Mary? (Reason } \gg \text{Not)’} \\
& \quad \text{‘*What is not the reason x such that John likes Mary for x? (Reason } \ll \text{Not)’} \\
& \quad \text{(Ko 2005: (55))}
\end{align*}
\]

Since the reason *wh-adjunct *way is base-generated in the CP domain, it is impossible for it to be interpreted under the negation in IP.

Adopting Ko’s ideas, we assume that if a *wh-phrase (i) does not show the Intervention Effect when c-commanded by an SBE in an interrogative clause and (ii) takes obligatory wide scope over negation, then it is taken to be base-generated in the CP domain (Spec-CP).

3.2. EXTERNAL MERGE OF NON-STANDARD *WH-IN-SITU IN THE CP DOMAIN. Reason *mwe-l is assumed to originate in the CP domain given that, like *way, it can be preceded by an SBE, as in (15a), and takes wide scope over negation in an interrogative clause, as in (15b).

\[
\begin{align*}
\text{(15)} & \quad \text{a. } \text{Mimi-man } \{\text{mwe-l}*/\text{way}\} \quad \text{kulehkey manhun nonmwun-ul ilkess-ni?} \\
& \quad \text{Mimi-only what-ACC/why so many paper-ACC read-QUE} \\
& \quad \text{‘Why did only Mimi read so many papers?’} \\
& \quad \text{b. } \text{John-un } \{\text{mwe-l}*/\text{way}\} \quad \text{kulehkey swipkey cichi-cito anh-ni?} \\
& \quad \text{John-TOP what-ACC/why so easily get.tired-CONN not-QUE} \\
& \quad \text{‘What is the reason x such that John does not get tired so easily (Reason } \gg \text{Not)’} \\
& \quad \text{‘*What is not the reason x such that John gets tired so easily for x? (Reason } \ll \text{Not)’}
\end{align*}
\]

Reason *ettehkey also behaves like *way in regard to the Intervention Effect and scopal interactions with negation, as illustrated in (16), indicating that it is base-generated in the CP domain.

\[
\begin{align*}
\text{(16)} & \quad \text{a. } \text{amwuto } \text{ettehkey*/way } \text{nonmwun-ul ilk-ci anh-key toyess-ni?} \\
& \quad \text{anyone how/why paper-ACC read-CONN not-CONN became-QUE} \\
& \quad \text{‘Why didn’t anyone read papers?’}
\end{align*}
\]
b. John-un ettehkey"/way hankwuk-ey ka-ci anh-key toyess-ni?
   John-TOP how/why South.Korea-to go-CONN not-CONN became-QUE
   ‘What is the reason x such that John didn’t go to South Korea? (Reason ≫ Not)’
   *‘What is not the reason x such that John went to South Korea for x? (Reason ≪ Not)’

Meantime, manner/instrumental ettehkey is assumed to be base-generated below NegP (in IP)
in that it is subject to the Negative Island Effect, where negation blocks extraction of certain
(wh-)phrases (Rizzi 1990; Tsai 2008; Shlonsky & Soare 2011). Consider the contrast in (17).

(17) a. Mimi-nun way cha-lul kochi-ci ahn-ass-ni?
   Mimi-TOP why car-ACC fix-CONN not-PST-QUE
   ‘Why didn’t Mimi fix the car?’

b. *Mimi-nun ettehkey cha-lul kochi-ci ahn-ass-ni?
   Mimi-TOP how car-ACC fix-CONN not-PST-QUE
   ‘How didn’t Mimi fix the car?’

As observed in (17a), the reason wh-adjunct way is not sensitive to negation in the clause with
which it is construed. This can be explained by Ko’s (2005) analysis that assumes that way
is base-generated in the CP domain (above NegP). On the other hand, the ungrammaticality
of (17b) can be accounted for by assuming that manner/instrumental ettehkey originates in a
structurally lower position below negation and that its LF movement to Spec-CP is blocked
by the negator, inducing the Negative Island Effect. Notice that, as can be seen in (16), reason
ettehkey is exempt from the Negative Island Effect, just like way, which supports the claim that
reason ettehkey is base-generated in the CP domain.

3.3. ISLAND-SENSITIVE, NON-STANDARD wh-IN-SITU. Taken together, we have seen that the
non-standard in-situ wh-phrases, which are base-generated in the CP domain (Spec-CP), are
island-sensitive (see (7) and (8)), while their standard counterparts (wh-argument and manner/
instrumental wh-adjunct), which are base-generated below CP/TP, are island-insensitive (see
(2a) and (6)).

3.4. ISLAND (IN)SENSITIVITY AND BASE POSITIONS OF OTHER IN-SITU wh-PHRASES. The
other in-situ wh-phrases that we have not examined so far, such as nwukwu ‘who’ and ‘low’
wh-adjuncts like enc ey ‘when’ and eti ‘where’, are all island-insensitive. For instance, exam-
examples in (18) show that they are insensitive to a complex NP island.

(18) a. John-un [NP [CP nwu-ka yoriha-n] umsik-ul] mek-ess-ni?
   John-TOP who-NOM cook-MOD food-ACC eat-PST-QUE
   ‘John ate the food that who cooked?’

b. John-un [NP [CP Mimi-ka enc ey yoriha-n] umsik-ul] mek-ess-ni?
   John-TOP Mimi-NOM when cook-MOD food-ACC eat-PST-QUE
   ‘John ate the food that Mimi cooked when?’

c. John-un [NP [CP Mimi-ka eti-se yoriha-n] umsik-ul] mek-ess-ni?
   John-TOP Mimi-NOM where-LOC cook-MOD food-ACC eat-PST-QUE
   ‘John ate the food that Mimi cooked where?’

All these island-insensitive wh-phrases presented here are known as being base-generated be-
below CP/TP. This is consistent with the proposed view that an in-situ wh-phrase is island-sensitive
iff it is base-generated in the CP domain.

4. Summary. The correlations between island (in)sensitivity and base positions of (non-)standard in-situ wh-phrases in Korean we have examined so far are summarized in Table 1.

| wh-phrases | categories | island (in)sensitivity | base positions |
|------------|------------|------------------------|----------------|
| mwe-lmwares-ul ‘what’ | NP | insensitive | below CP/TP |
| nwukwu ‘who’ | NP | insensitive | below CP/TP |
| ettehkey ‘how’ | AdvP | insensitive | below CP/TP |
| encey ‘when’ | NP/PP | insensitive | below CP/TP |
| eti ‘where’ | NP/PP | insensitive | in the CP domain |
| way ‘why’ | AdvP | sensitive | in the CP domain |

Table 1. Correlations between island (in)sensitivity and base positions of (non-)standard in-situ wh-phrases in Korean

The table shows that an in-situ wh-phrase base-generated below CP/TP is island-insensitive, whereas an in-situ wh-phrase base-generated in the CP domain (Spec-CP) is island-sensitive, regardless of whether the given wh-phrase is a wh-nominal (e.g., reason mwe-l) or a wh-adverb (e.g., manner/instrumental ettehkey), a standard wh-phrase or a non-standard wh-phrase.5

5. How about other wh-in-situ languages?. Our preliminary literature review, which is summarized in Table 2, indicates that the proposed correlation between island (in)sensitivity and base positions of wh-in-situ may also hold for Chinese and Japanese.

| lg. | wh-phrases | island (in)sensitivity | base positions | references |
|-----|------------|------------------------|----------------|-----------|
| Chinese | reason weishenme ‘why’ | sensitive | in the CP domain | Lin 1992, Ko 2005 |
| | purpose wei(-le) shenme ‘for what’ | insensitive | below CP/TP | Stepanov & Tsai 2008 |
| | causal zenme ‘how’ | sensitive | in the CP domain | Tsai 2008, Jin 2016 |
| | manner zenme ‘how’ | insensitive | below CP/TP | Jin 2016, Murphy 2017 |
| | other whs (‘who’, ‘what’, ‘when’, ‘where’) | insensitive | below CP/TP | |
| Japanese | nace ‘why’ | sensitive | in the CP domain | Ko 2005, (Ochi 2014) |
| | donna riyuu-des ‘for what reason’ | insensitive | below CP/TP | Ko 2005, Fujii et al. 2014 |
| | doo (yatte) ‘how’ | insensitive | below CP/TP | Fujii & Takita 2007 |
| | other whs (‘who’, ‘what’, ‘when’, ‘where’) | insensitive | below CP/TP | |

Table 2. Correlations between island (in)sensitivity and base positions of wh-in-situ in Chinese and Japanese

5 In a similar vein, Murphy (2017) proposes that island sensitivity of in-situ wh-adverbs correlates with their adjunction height: that is, vP-adjuncts are island-insensitive, while TP-adjuncts are island-sensitive. This proposal is based on an operator binding approach. See Murphy (2017) for detail discussion.
6. Concluding remarks and further work. In this paper we have demonstrated that the NAG—the well-accepted generalization in accounting for island (in)sensitivity of wh-in-situ—is not enough to capture the island behaviors of some (non-)standard in-situ wh-phrases in Korean. Alternatively, we have suggested that the island (in)sensitivity of (non-)standard in-situ wh-phrases may correlate with their base positions, by showing that an in-situ wh-phrase is island-sensitive iff it is base-generated in the CP domain. However, there remain many important issues to be addressed to confirm the crosslinguistic validity of the generalization and to explain the resulting pattern. We need to do further work to see whether the proposed correlation is applicable over a wide range of wh-in-situ languages and to provide theoretical support. Although we leave the crucial issues unresolved here, we hope the (potential) proposed correlation between island (in)sensitivity and base positions gives researchers new insights into understanding various asymmetries in island effects in wh-in-situ languages.

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