

An Argument/Adjunct Asymmetry in Wh-questions

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1 Introduction

A famous and important set of puzzles in the word order of many languages are known as “intervention effects.” There has been heated debate between syntactic (Beck 1996, Beck and Kim 1997, Hagstrom 1998) and semantic (Honcoop 1998, Beck 2006) accounts of these effects. In the previous literature, intervention effects (henceforth IEs) in wh-questions have been generally assumed to hold for wh-phrases altogether. Although there have been discussions on the idiosyncrasy of there being no IEs for ‘why’ by Ko (2006) for Korean *way* and by Kuwabara (1998) for Japanese *naze*, the asymmetry of argument versus adjunct wh-phrases, shown in (1) and (2) for Korean has never been seriously noticed.

- (1) *Amuto nuku-lul manna-chi anh-ass-ni?
anyone who-acc meet-CHI not. do-Past-Q
‘Who did no one meet?’ (Beck and Kim 1997)
- (2)(?) Amuto encey sukce-lul cechulha-chi anh-ass-ni?
anyone when homework-acc submit-CHI not. do-Past-Q
‘When did nobody submit their homework?’

The main goal of this paper to argue that there exists a clear asymmetry between argument and adjunct wh-phrases with respect to IEs and scrambling operations based on empirical evidence found in Korean and Japanese (section 2), calling into question Beck and Kim’s (1997) unifying analysis for all wh-phrases.

Given the asymmetrical pattern of IEs, I attempt to answer the fundamental question: from where does the divergence between wh-arguments and wh-adjuncts stem? In 3.1, the polarity of wh-phrases will be discussed in terms of interrogative versus existential indefinite properties. In section 3.2, the nominal vs. adverbial properties of wh-phrases will be examined to account for the asymmetry. First, the inherently different characteristics of each wh-phrase are attested by structural case attachment tests (i.e. whether the phrase receives NOM/ACC particles) and complex wh-phrase formation tests. I analyze that the contrasting grammaticality of IEs at the syntactic level originates from the discrepancy between argument vs. adjunct wh-phrases in their root morphology. In 3.3, the case attachment facts of wh-

phrases are suggested to indicate their syntactic locations. In section 4, I propose two distinctive operations for wh-arguments and wh-adjuncts. The conclusion will be given in 5.

2 The Intervention Effects in Wh-questions

2.1 Previous analyses: Beck and Kim (1997)

Korean and Japanese lack the obligatory overt wh-movement of English-type languages. Instead, wh-phrases can be scrambled over to the initial position of the wh-question sentence in these so called *wh-in-situ* languages.

As Beck and Kim (1997) note, scrambling is an optional operation in general, since it triggers neither grammaticality differences nor notable meaning contrasts between the sentences in (3a) and (3b). Thus, both sentences are perfectly grammatical wh-questions with the identical meaning of ‘what did Suna buy?’ in Korean.

- (3) a. Suna-ka mues-ul sa-ss-ni?
 Suna-nom what-acc buy-Past-Q
 b. Mues-ul Suna-ka sa-ss-ni?
 what-acc Suna-nom buy-Past-Q
 ‘What did Suna buy?’ (Beck and Kim 1997)

However, Beck and Kim (1997) argue that the scrambling of wh-phrases is obligatory in the cases where the element preceding the wh-phrase is a scope bearing element such as Negative Polarity Items (NPIs), e.g., *amuto* ‘anyone’ in Korean and *taremo* ‘anyone’ in Japanese. Therefore, the *in-situ* counterparts of wh-phrases as seen in (4b) and (5b) result in ungrammaticality, despite the fact that they remain in their canonical positions.

- (4) a. Nuku-lul amuto manna-chi anh-ass-ni
 who-acc anyone meet-CHI not. do-Past-Q
 b. *Amuto nuku-lul manna-chi anh-ass-ni?
 anyone who-acc meet-CHI not. do-Past-Q
 ‘Who did no one see?’
 (5) a. Mues-ul amuto sa-chi anh-ass-ni?
 what-acc anyone buy-CHI not. do-Past-Q
 b. *Amuto mues-ul sa-chi anh-ass-ni?
 anyone what-acc buy-CHI not. do-Past-Q
 ‘What did no one buy?’ (Beck and Kim 1997)

The surprising fact that wh-phrases cannot follow an NPI has been accounted for as Intervention Effects (IEs) in (6).

(6) Intervention Effects (IEs)

In LF, a wh-phrase may not move across certain Scope-Bearing Interveners. (e.g. NPI, *not*, *only*, *even*)
(Beck and Kim 1997, Hagstrom 1998, Pesetsky 2000)

In the course of interpretational computation, a wh-phrase object needs to covertly move up to the higher position (spec CP) across the subject in order to receive an interpretation at Logical Form (LF). Scrambling of the wh-phrase to the initial position in (4a) and (5a), however, seems to ameliorate the situation. This newly adopted linear order at surface structure – the wh-phrase preceding the intervener – also reorganizes its LF as the wh-phrase is followed by the intervener, so the intervener does not stand in the way of covert wh-phrase movement to spec CP.

As a first clarification based on the observation so far, however, I argue that Beck and Kim's IE generalization for wh-phrases intervened by NPI in (7) be revised to the one by NEG as in (8), meaning the crucial intervening material is the negator structurally blocking the covert wh-movement at LF.

(7) * [. . . [NPI [. . . wh-phrase . . .]] . . . Q] (Beck and Kim 1997)

(8) * [. . . [NEG [. . . wh-phrase . . .]] . . . Q] (Revised)

2.2 A refinement: IEs for wh-arguments vs. no IEs for wh-adjuncts

Although previous analyses of IEs grasp the interactions between interpretation components in argument-wh-questions, the theory requires a revision because I am suspicious of the unifying approach of IEs to all wh-phrases. This has to do in part with the sensitivity of wh-phrases to IEs. From now on, more data of IEs in other wh-phrases will be examined to prove that previous analyses are problematic, showing how they fail to capture the asymmetry between argument and adjunct wh-phrases.

To illustrate, wh-arguments such as *what* and *who* as in Beck and Kim's (1997) examples in the previous section reveal a strong constraint on triggering their scrambling over the intervening NPI. However, empirical discoveries show that the IEs do not strictly hold for adjunct wh-phrases in Korean and Japanese. As seen below, the constraint becomes far weaker or does not exist at all with adjunct wh-phrases such as *when*, *how*, and *why*. In the following data (9) and (10), the scrambling of adjunct wh-phrases across NPIs

seems to be optional as if there are no interveners, as opposed to the wh-argument cases given in the preceding section.

(9) Way/encey/etteke(hese) **amuto** sukce-lul cechulha-chi
 why/when/how(manner) anyone homework-acc submit-CHI
 anh-ass-ni?
 not.do-Past-Q

(10)(?) **amuto way/encey/etteke(hese)** sukce-lul cechulha-chi
 anyone why/when/how(manner) homework-acc submit-CHI
 anh-ass-ni?
 not.do-Past-Q
 ‘Why/when/how(manner) did nobody submit their homework?’

More importantly, the plausibility of asymmetry analysis is further supported by the fact that such phenomena are observed in another *wh-in-situ* language. Japanese data given below also show the exact same asymmetry between obligatorily scrambled argument wh-phrases in (11) and (12), and optionally scrambled adjunct wh-phrases in (13).

(11) a. Dare-o dare-mo mi-na-katta--no.
 who-acc anyone-even see-not-Past-Q
 b.* Dare-mo dare-o mi-na-katta-no.
 anyone-even who-acc see-not-Past-Q
 ‘Who did no one see?’

(12) a. Nani-o dare-mo kawa-na-katta--no.
 what-acc anyone-even buy-not-Past-Q
 b. *Dare-mo nani-o kawa-na-katta-no.
 anyone-even what-acc buy-not-Past-do-Q
 ‘What did no one buy?’

(13) a. **Naze/itu/doo(nikasite) dare-mo** shukudai-o tasa-na-katta-no.
 when/why/how anyone-even homework-acc submit-not-Past-Q
 b.(?) **Dare-mo naze/itu/doo(nikasite)** shukudai-o tasa-na-katta-no.
 anyone-even why/when/how homework-acc submit-not-Past-Q
 ‘Why/when/how(manner) did no one return home?’

Thus far, I have shown that there is a clear discrepancy between argument wh-phrases such as *what*, *who*, *where*, and adjunct wh-phrases like *how*, *when*, *why* with respect to IEs.

3 The Dichotomy of Wh-arguments vs. Wh-adjuncts

In order to argue that the different syntactic behaviors of wh-phrases observed so far are driven by their inherent morphological differences, two morphological aspects of wh-phrases will be provided to draw a line between wh-arguments and wh-adjuncts in this section. First, the negative polarity of each wh-phrase will be tested to prove that only wh-arguments have potential strong negative elements whereas wh-adjuncts do not. Second, the first argument will be connected to show their categorical diversion that wh-arguments, *what*, *who*, and *where*, are nominals while wh-adjuncts, *when*, *how*, and *why*, are adverbs in Korean and Japanese. Finally, based on these lexical properties, I suggest different base locations for wh-phrases.

3.1 Polarity of Wh-phrases: Interrogative vs. Existential Indefinite

In order to correctly capture the nature of wh-phrases in Korean and Japanese, their ambiguity needs to be considered. As with many other languages including Mandarin Chinese, wh-phrases in Korean and Japanese have both interrogative and existential indefinite meaning. To illustrate, *nuku* in Korean can either mean 'who' or 'someone/anyone' depending on the context. Moreover, a wh-phrase becomes a strong negative polarity item when combined with an NPI-marker *to* 'even', and the exact same fact holds true with Japanese *tare-mo* 'who-even', meaning 'anyone'.

One notable argument-adjunct asymmetry arises in this NPI formation from wh-phrases. As illustrated in (14a) below, argument wh-phrase 'what/who/where' plus particle *to* 'even' tend to acquire a strong NPI status, and hence they become synonymous with more overt strong NPI counterparts, namely *amu-to* 'anyone', *amukes-to* 'anything', and *amute-to* 'anywhere', respectively. However, as wh-adjuncts 'when/how/why' are very reluctant to combine with the NPI-inducing-particle *to*, it is also difficult for them to acquire NPI status. On the other hand, the free-choice particle *na* 'or' in (14b) can be more freely attached to 'when' and 'how', although 'why' is still not available for this formation.

(14) Korean wh-phrases + NPI particle (even) & FC (also)

wh-phrases	a)wh+ <i>to</i> 'even':NPI	meaning	b)wh+ <i>na</i> 'also':FC	Meaning
who: nuku	nuku-to	anyone (NPI)	nwukwu-na	anyone (FC)
what: mues	mues-to	anything (NPI)	mues-(i)na	anything (FC)
when: encey	??encey-to	anytime (NPI)	??encey-na (→always)	anytime (FC)
where: etise	etise-to	anywhere (NPI)	etise-na	anywhere (FC)
how: etteke	??etteke-to	anyhow (NPI)	??etteke-na	in any way (FC)
why: way	* way-to	for any rea- son(NPI)	* way-na	for any rea- son(FC)

As seen in (15) below, Japanese wh-phrases reveal even clearer distinction between argument and adjunct wh-phrases.

(15) Japanese wh-phrases + NPI particle (even) & FC (also)

wh-phrases	a)wh+ <i>mo</i> 'even':NPI	meaning	b)wh+ <i>na</i> 'also':FC	Meaning
who: tare	tare-mo	anyone (NPI)	tare-temo	anyone (FC)
what: nani	nani-mo	anything (NPI)	nan(i)-temo	anything (FC)
when: itu	*itu-mo (‘always’)	anytime (NPI)	itu-temo	anytime (FC)
where: toko	toko-mo	anywhere (NPI)	toko-temo	anywhere (FC)
how: too	*too-mo	anyhow (NPI)	too-yat- temo	in any way (FC)
why: naze	*naze-mo	for any rea- son(NPI)	*naze-temo	for any rea- son(FC)

This morphological asymmetry of wh-phrases found in the overt NPI formation leads us to predict that wh-arguments have equally dual possibilities of being interpreted either as wh-interrogative indefinite or as strong NPI while wh-adjuncts tend to keep their wh-interrogative meaning.

3.2 Nominal wh-arguments vs. Adverbial wh-adjuncts

Given the semantic polarity difference, let us move on to the syntactic property of wh-phrases. Evidence will be provided in order to claim that wh-arguments are nominals and wh-adjuncts are adverbials. First, inherently different characteristics of each wh-phrases can be manifested by a structural case attachability test (NOM/ACC particle) in (16) and (17).

(16) NOM/ACC-marker attachability test: Korean wh-phrases

mues-i/lul	'what-nom/acc'	* etteke-ka/lul	'*how-nom/acc'
nuku-ka/lul	'who-nom/acc'	* encey-ka/lul	'*when-nom/acc'
eti-ka/lul	'where-nom/acc'	* way-ka/lul	'*why-nom/acc'

(17) NOM/ACC-marker attachability test: Japanese wh-phrases

nani-ka/o	'what-nom/acc'	* doo-ka/o	'*how-nom/acc'
dare-o	'who-nom/acc'	* itsu-o	'*when-nom/acc'
doko-o	'where-acc'(limited use)	* naze-o	'* why-nom/acc'

The diagnostics above indicate the nominal-adverbial distinction that nominals receive structural cases in order to mark core grammatical roles such as subject or object which convey core semantic roles such as agent or patient, whereas the adverbs with lexical case or no case at all have much less to do with the major semantic roles of the predicate. In this vein, Niskanen (1990) distinguishes between the element with syntactic (structural) case as an NP and the one with lexical (oblique) case as a PP, which verifies the nominal versus adverbial variation. This nominal-adverbial variation based on syntactic-semantic role is in line with Johnston's (1994) discussion on the argument-adjunct distinction in English. Johnston defines an "event" as one semantic unit which would be syntactically and semantically saturated with core arguments. However, adverbial adjuncts are peripheral and optional in semantic and syntactic expression because they provide additional modification for the event.

Second, relevant distinctions between wh-arguments and wh-adjuncts can be found in complex wh-phrase formation in Korean, noted by Chung (2000). As seen in (18), Korean wh-arguments are able to form a wh-phrase cluster attached to another wh-phrase *enu* (roughly translated as 'which'). Along with the case facts, the asymmetry in complex wh-phrase formation also supports the nominal property of wh-arguments and adverbial property of wh-adjuncts because *enu* can only modify nouns.

(18) Formation of complex wh-expressions:

enu {nuku/mues/*eti/*encey/*etteke/*elma/*way}
 which who/what/where/ when/how/how;much/why

On the other hand, the ACC-marker tests discussed above reveal the nominal character of where in Korean and Japanese. To illustrate, *eti-lul* ('where'+ACC in Korean) and *doko-o* ('where'+ACC in Japanese) are arguments, rather than adjuncts, and hence subject to IEs. However, since non-structural case markers such as locative or dative marker can also attach to where in these languages, where should be characterized somewhere between nominals and adverbs in these languages.

3.3 The Locus of Wh-phrases: Case assignment

The case assignment facts discussed so far indicate a crucial distinctive property of wh-phrases—their syntactic location. The argument for their different locations is supported by Johnston's (1994) definition of core arguments vs. peripheral adjuncts with respect to the event. He discusses a possibility that adverbial adjuncts are base-generated by syntactic adjunction and attached to the maximal projection. Accounting for the locus of adjunct clauses in English, he suggests two possible adjunction positions, IP adjunction and VP adjunction, which result in two different types of adjunct clauses. If this different position approach for wh-arguments vs. wh-adjuncts is on the right track, the locus of each wh-phrase in Korean and Japanese can be inferred. The prediction for the correlation between the wh-phrase and the accusative marker overlaps with M-J Kim's (2001) claim about the location of adverbs in Korean: she argues that *lul* ACC-marking is an indicator of syntactic position. Thus, claiming that the abstract [ACC] checking occurs within *v*, she argues that *lul*-marked adverbs stem from *v* whereas non-*lul*-marked adverbs are base adjoined outside the maximal projections, i.e. outside the *vP*. Following Kim (2001), I suggest that the location of wh-arguments with ACC-marking is within *v* while the wh-adjunct without ACC-marking are adjoined position outside the *vP*, i.e. the spec(ifier) of *vP*.

Furthermore, Kim's (2001) distinction of other adverbs with respect to ACC-marking allows for extension to their wh-phrase counterparts. Considering that the location of ACC-marker receiving adverbs such as path length, multiplicative, and durational adverbs in Korean is within the *vP*, the same location is suggested for their wh-counterparts – *meot meyta* ('how many meters', meaning 'how long'), *meot pen* ('how many times'), and *elma tongan* ('for how long').

(19) ACC-receiving wh-phrases in Korean

- a. path length adverb: meot meyta-lul : how many meters- ACC
- b. multiplicative adverb: meot pen -lul : how many times- ACC
- c. durational adverb: elma tongan-lul : for how long- ACC

On the other hand, the location of non-ACC-receiving wh-phrases, hence outside the vP (spec vP in my analysis), also indicates the same location of their wh-counterparts. As shown in (20), it is predicted that the wh-adjunct counterparts of location, manner and frequency adverbs such as *eti-se* 'where'-DAT, *encey* 'when', *etteke* (manner) 'how', and *elmana-caju* 'how often' are adjoined at the spec vP position.

(20) non-ACC-receiving wh-phrases in Korean

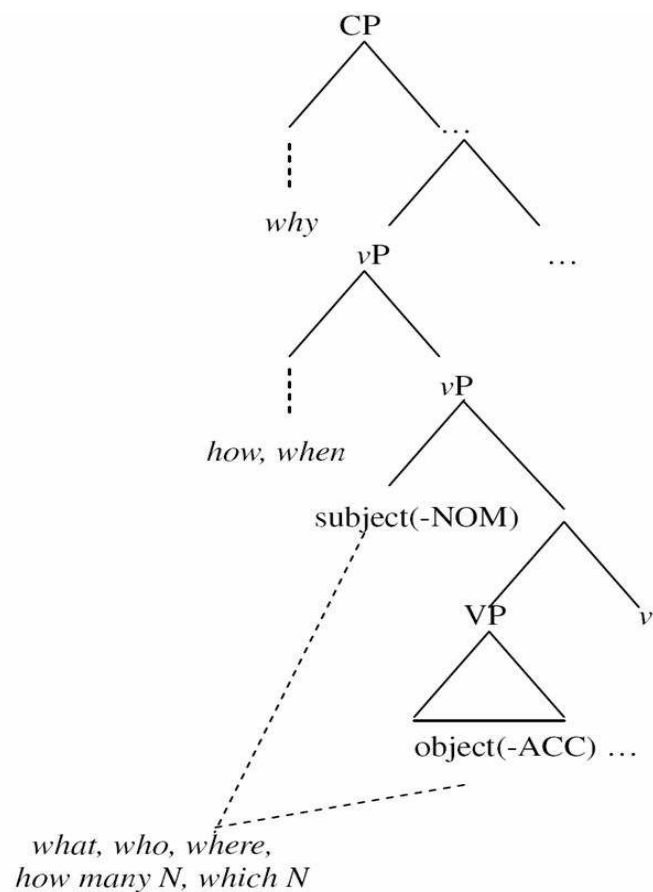
- a. locating adverb: locative eti-se and temporal encey: where-DAT, when
- b. manner adverb : etteke : (manner) how
- c. frequency adverb: elmana-caju : how often

More remarkably, the same analysis is applicable to Japanese adverbs and therefore Japanese wh-phrases. Based on durational and directional adverbs with ACC-marking such as *iti-jikan-o* 'one-hour'-ACC and *yoko-o* 'side'-ACC in Kim's (2001) data, I suggest that their wh-version *nan-jikan-o* 'how many hours'-ACC and *dotino-hookoo-o* 'which direction'-ACC be base generated within the vP along with other wh-arguments.

(21) ACC-receiving wh-phrases in Japanese

- a. duration adverb: nan-jikan-o : how many hours-ACC
- b. direction adverb: dotino-hookoo-o : which direction-ACC

Based on the observations so far, the location of each wh-phrase in these languages can be represented as in (22). Note that the wh-adjunct *how* and *when* are base adjoined to vP, while the core wh-argument *who*, *what*, *where* and other ACC-attachable wh-expressions such as *how many N* and *which N* are located under vP either at subject or object position where structural cases are assigned. Also, I assume that *why* is in spec CP following Ko (2006) and Kuwabara (1998).

(22) The locus of *wh*-phrases in Korean and Japanese

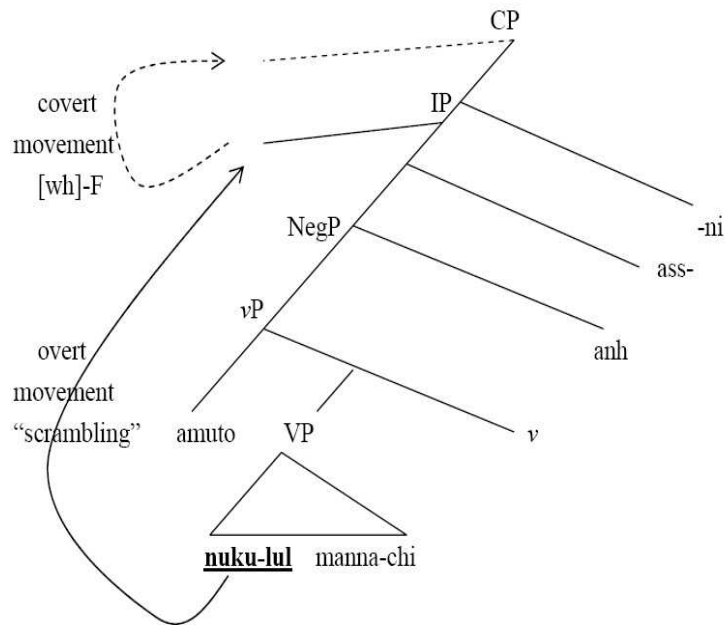
In sum, this proposal about the different locations of *wh*-arguments within *vP* and *wh*-adjuncts in spec *vP* is designed to reflect semantic (core vs. peripheral) properties and more decisively syntactic (ACC-case-marking vs. non-ACC-case marking) properties. The inherently dissimilar locus of *wh*-phrases that I have argued for so far will play a crucial role in predicting the occurrence or non-occurrence of IEs. The concrete derivational process will be discussed in section 4, clarifying how *vP* internal vs. external positions would be related with the sensitivity of *wh*-phrases to IEs.

4 The Proposal: Scrambling Operations in IE data

Given the locus of wh-phrases, I propose that the IE asymmetry is a natural outcome of two distinctive scrambling operations between wh-arguments and wh-adjuncts. Proposed scrambling operations in IE data are given in the following LF structures.

As in the following (23), I claim that the wh-argument (*who*) overtly raises to Spec IP and then covert movement occurs to check the [wh:_]-feature at Spec CP. Since wh-argument occupies an L-related position, IEs are cancelled by this LF-altering scrambling in (24a). However, in the *wh-in-situ* case (24b), only covert movement from inside the VP position to Spec CP would occur and IEs arise.

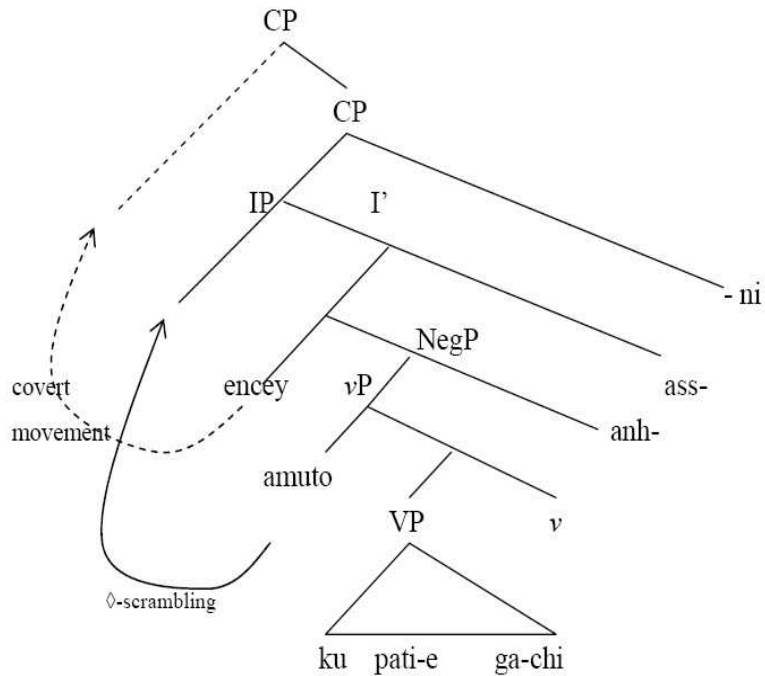
(23) scrambling in a wh-argument question:



- (24) a. Nuku-lul amuto manna-chi anh-ass-ni?
 who-acc anyone meet-CHI not. do-Past-Q
 b. *Amuto nuku-lul manna-chi anh-ass-ni?
 anyone who-acc meet-CHI not. do-Past-Q
 ‘Who did no one see?’

In contrast, the *wh*-adjunct (*when*) is originally outside the *NegP*, and only covert movement to *Spec CP* occurs at LF as seen in (25). Since the *wh*-adjunct is already outside the scope of the negative phrase, IEs do not arise in *in-situ* *wh*-questions like (26b).

(25) scrambling in a *wh*-adjunct question:



- (26) a. **Encey** **amuto** ku pati-e ga-chi anh-ass-ni
 when anyone that party-to go-CHI not.do-Past-Q
 b. (?)**amuto** **encey** ku pati-e ga-chi anh-ass-ni?
 anyone when that party-to go-CHI not. do-Past-Q
 'When did nobody go to that party?'

5 Conclusion

Contra previous uniform approaches for *wh*-phrases, the current paper suggested that there is a clear asymmetry between *in-situ* argument and adjunct

wh-phrases with respect to Intervention Effects (IEs) in Korean and Japanese. Based on the semantic (indefinite vs. interrogative) and the syntactic (categorical -- nominal vs. adverbial), different base locations for wh-arguments (inside ν P) and wh-adjuncts (outside ν P) are suggested in these languages. Finally, I proposed that IE asymmetries be attributed to the inherently different properties of argument and adjunct wh-phrases under scrambling operation.

References

- Beck, Sigrid, and Shin-sook Kim. 1997. *On Wh-Operator Scope in Korean*, Journal of East Asian Linguistics 6:339–384, Kluwer Academic Publishers, Netherlands.
- Beck, Sigrid. 2006. Intervention Effects Follow from Focus Interpretation. *Natural Language Semantics*. 14:1–56.
- Chung, Daeho. 2000. On the Representation and Operation of WH-questions, Seoul International Conference on Language and Computation.
- Hagstrom, Paul. 1998. Phrasal movement in Korean Negation. *Proceedings of SCIL 9*.
- Johnston, Michael. 1994. *The Syntax and Semantics of Adverbial Adjuncts*, Doctoral dissertation, University of California, Santa Cruz.
- Kim, Min-Joo. 2001. *Accusative adverbials in Korean: Delimiting Phrase and Case*. Generals paper. University of Massachusetts-Amherst.
- Ko, Heejeong. (to appear). *Subject Scrambling*. In Japanese Korean Linguistics 13, ed. E. Hudson, S.-A. Jun, and P. Sells. CSLI publication.
- Kuwabara, Kazuki. 1998. Overt Wh-movement and scope-fixing scrambling: A Preliminary study. *Researching and Verifying on Advanced Theory of Human*, ed. K. Inoue. 115–127. Kanda University of International Studies.
- Nikanne, Urpo. 1990. *Zones and Tiers. A Study of Thematic Structure*, Doctoral dissertation University of Helsinki.
- Pesetsky, David. 2000. *Phrasal Movements and Its Kin*. Cambridge, Mass: MIT Press.

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