Asymmetry of Locality and Intervention: What Really Matters[*]

Young-Sik Choi

(Soonchunhyang University)

Choi, Young-Sik. 2006. Asymmetry of Locality and Intervention: What Really Matters. *The Linguistic Association of Korea Journal, 14*(1), 113-136. I will deal with an old, but recurrent topic of asymmetry of locality of wh-words with respect to classical extraction domains and intervention effects. I will show that Huang's (1982) classical analysis of wh-word scope taking cannot offer an empirically adequate account for the observed asymmetry of locality of wh-words, apart from conceptual problems that do not fit into the minimalist scheme of movement (Chomsky 1995). I will also show that two ways of scope taking, that is movement of *way* 'why' vs. unselective binding of indefinite wh-words via the question morpheme at LF, can nicely account for the asymmetry of locality and intervention effects in Korean wh-questions. The present analysis also has a nontrivial implication for the interpretive mechanism of wh-words as wh-interrogatives in Chinese too, which is typologically akin to Korean.

Key words: question, morpheme, binding, locality, intervention

1. Introduction

Various approaches have been made within syntactic theories for the analysis of in situ wh-word scope taking. The one, which is widely assumed, is by Huang (1982), according to which in situ wh-words

take scope via movement at LF. However, a careful examination of in situ wh-words in Korean reveals two ways of scope taking at LF: movement of the adjunct wh-word *way* 'why' vs. unselective binding of other wh-words by the question morpheme (QM, henceforth). The organization of the presentation is as follows: In section 2, I will show that an important asymmetry of locality emerges between *way* 'why' and other wh-words, with a critical review of Huang (1982) and Tsai (1994). I suggest the observed asymmetry of locality is attributed to the different status of wh-words as indefinites and the corresponding different scope taking strategy. Section 3 is the crosslinguistic implication of the present proposal with respect to intervention effect in wh-questions, and section 4 is the conclusion.

2. Island effects

It has been a standard observation that wh-movement is subject to various descriptive constraints which are subsumed under the explanatory umbrella of subjacency (see Chomsky 1986, among others).

(1) a.?*What did John meet a man who fixed?
       'What is the thing x such that John met a man who fixed x?'
    b. *How did John meet a man who fixed the car?
       'What is the means x such that John met a man who fixed the car by x?'
       (Chomsky 1986: 35)

According to Chomsky (1986), the marginality of (1a) involving Complex Noun Phrase Island (Ross 1967, CNPI henceforth) with an argument wh-word has to do with subjacency violation in that at least one barrier is crossed during derivation from its base position into its surface position. The ungrammaticality of (1b) with an adjunct wh-word is attributed to the incurring of an ECP violation on top of the subjacency violation such that at some point of the derivation at least one barrier intervenes disrupting the local dependency between the

adjunct wh-word and its trace. Thus subjacency violation, even involving one barrier by the adjunct wh-word, directly leads to ungrammaticality while the same violation by the argument wh-word induces marginality. With the effect of subjacency violation regarding the adjunct wh-word in mind, consider (2-3).

(2) Ne-nun [**nwu**-ka   ssun   chayk-ul]   ilkess-ni?
    you-TOP   who-NOM   wrote   book-ACC   read-QM
    'Who is the person x such that you read a book x wrote?'

(3) *Ne-nun [John-i **way**   ssun   chayk-ul]   ilkess-ni?
    you-TOP J-NOM   why   wrote   book-ACC   read-QM
    'Who is the reason x such that you read a book John wrote for x?'

Traditionally the contrast in grammaticality in (2-3) involving CNPI was accounted for in terms of argument adjunct asymmetry under the wh-movement hypothesis as in Huang (1982). Huang (1982) claims that ECP but not subjacency is the valid constraint active at LF. According to him, if subjacency is the locality constraint valid at LF, the grammaticality of the sentence in (2) should be on a par with that of (4b) but not that of (4a) in English.

(4) a. Who reads the books that who writes?
    b. *Who do you read the books that writes?

According to him, the contrast in grammaticality in (2-3) rather follows from ECP but not subjacency, which he claims is a constraint only valid at S structure. To be specific, he adopts the disjunctive ECP by Aoun and Sportiche (1981), suggesting that the trace of an argument wh-word and that of an adjunct wh-word should be properly governed by lexical government and by antecedent government, respectively. Huang (1982: 528ff) means by *argument wh-words*, wh-words which can be arguments of a lexical category such as V, P, N, or A, whereas by *adjunct wh-words* he means wh-words that cannot be arguments of a

lexical category. Hence *nwu* 'who' is an argument wh-word whereas *way* 'why' is a *bona fide* adjunct wh-word.[2] Now, in his system the trace of the argument wh-word is lexically governed by the verb in its base-position in (2) at LF, hence ECP is satisfied. Meanwhile, the trace of the adjunct wh-word in (3) cannot be antecedent governed due to the maximal projections intervening between the wh-word in the matrix CP and its trace, hence leading to ungrammaticality. The prediction thus Huang (1982) makes is that an adjunct wh-word cannot occur inside the island.

　The classical ECP analysis in Huang (1982) as based on argument and adjunct dichotomy has a serious empirical problem, however. As further illustrated by Korean examples involving CNPI in (5), *ettehkey* 'how' can also freely appear within an island: Given Huang (1982)'s definition of argument-hood, *ettehkey* 'how' is also a genuine adjunct wh-word, since it cannot be an argument of a lexical category such as V, P, N and A. Thus the prediction in his system is that the examples with *ettehkey* 'how' in (5) should be on a par with (3) with *way* 'why',which is not, however.[3]

　(5) a. Ne-nun　[John-i　**ettehkey**　kulin　　kulim-ul]　　coaha-ni?
　　　　　you-TOP　J-NOM　how　　　painted painting-ACC like-QM
　　　　　'What is the means *x* such that you like pictures John drew by *x*?'
　　b. Ne-nun　　[os-ul　　　　**ettehkey**　ipnun　salam-ul] coaha-ni?
　　　　　you-TOP　clothes-ACC how　　　wear　　man-ACC like-QM
　　　　　'What is the manner *x* such that you like a man who gets dressed in *x*?'

---

　2) *Encey* 'when' can be the argument of a postposition as shown by *encey-kkaci* 'when-to'.

　3) *Ettehkey* 'how' can be construed as typically referring to either manner or means. Chung (1991) observes that under means construal *ettehkey* 'how' can appear within a syntactic island, although he does not discuss its behavior with respect to the island under manner construal.

The paradigm in (2-3) and (5) suggests that the classical ECP analysis as based on argument and adjunct dichotomy cannot be empirically adequate, since the asymmetry of locality with respect to islands is *way* 'why' vs. other wh-words.

Apart from the empirical problem, Huang's (1982) approach has nontrivial conceptual problems too from a minimalist perspective in Chomsky (1995). Given the fundamental assumption in the minimalist program that there is only one derivation in the computation deriving LF, there is no way of stating that at some point subjacency holds whereas at some other it does not, as pointed out by Reinhart (1997). Moreover, given the minimalist notion of movement as a last resort if a wh-word does not move at Spell out, it should not move at LF either, if not forced by the independent principle of the grammar.

Now before analyzing the asymmetry of locality between wh-words in (2) and (5) and *way* 'why' in (3), note that many researchers have already observed that wh-words in Korean type languages can receive various interpretations, depending on the context where they occur (see Choi 1935, Nishigauchi 1990, Cheng 1991, Li 1992, Chung 1996, and Choi 2002 among others). In this context, Choi (2002) claims that wh-words other than *way* 'why' in Korean are indefinites. His claim is based on the fact that the adjunct wh-word *way* 'why' in contrast to other wh-words does not show quantificational variability and scoping out of a syntactic island that are characteristic properties of an indefinite, as briefly cited in (6-7) (see Heim 1982 and Lewis 1975).

(6) a. **Nwu$_i$**-ka o-myen (pro$_i$) kkok wuli-lul pangmwunhanta.
      who-NOM come-if   always us-ACC visit
      'for every x, x an individual, if x comes, x visits us.'
   b. John$_i$-i **ettehkey** wuli cipey   o-myen   (pro$_i$) kkok
      J-NOM how   our house-to come-if   always
      senmwul-ul kacikoonta.
      gift-ACC   bring
      'for every x, x a means, if John comes to our place by x, he brings a gift (by x).'

  c. Nay-ka   **ettehkey**   John-eytayhay   malha-myen
     I-NOM   how   J-about   talk-if
     Mary-nun   kkok   hwalul   naykonhanta.
     M-TOP   always   get angry
     'for every x, x a manner, if I talk about John in x, Mary
     gets angry (with x).'

(7) *John$_i$-i **way** o-myen (pro$_i$) kkok   wuli-lul   pangmwunhanta.
    J-NOM why come-if   always us-ACC visit
    'for every x, x reason, if John comes for x, he visits us (for
    x).'
    (Choi 2002: 32-37)

As shown in (6), the interpretation of wh-words as universal quantifiers
is determined by the adverbial quantifier *kkok* 'always' in the main
clause, which conveys a universal quantificational force. The informal
logical notations also indicate that these wh-words can take scope out
of an island, further suggesting that both argument wh-words and
adjunct wh-word *ettehkey* 'how' are indefinites. Meanwhile, *way* 'why'
cannot simply be construed in an analogous way as shown in (7),
which is simply ungrammatical, suggesting that it is not an indefinite.

   One may thus reasonably believe that the different status of wh-
words as indefinites also affects their respective mode of construal as
wh-interrogatives. One salient property of wh-questions in Korean is
that at the surface, wh-word remains in-situ with the QM marking its
scope, whereas in English the same expression is preposed into
sentence-initial position for scope taking, as illustrated in (8-9) (see Suh
1987 and Cheng 1991 among others). [4]

---

4) It is a standard observation in the literature that the scope of wh-word as
a wh-interrogative as in (8) is marked by the QM (see Joo 1989, Kim 1991,
Cheng 1991, Nishigauchi 1990, and Chung 1996, among many others).

(8) a. Ne-nun John-i   **nwukwu**-lul mannassta-ko   sayngkakha-ni?
       you-TOP J-NOM   who-ACC   met-COMP   think-QM
       'Who do you think John met?'
    b. Ne-nun   John-i   **way**   nusessta-ko   sayngkakha-ni?
       you-TOP J-NOM   why   late-COMP   think-QM
       'Why do you think John came late?'
(9) a. Who do you think John met?
    b. Why do you think John came late?

Furthermore with the rising intonation at the end, (8a) is construed as a yes-no question with the wh-word interpreted as *someone*, whereas the analogous construal is simply impossible in (8b). One may interpret this as indicating that unlike *way* 'why' the interpretation of the indefinite wh-word covaries with the choice of the QM, exhibiting quantificational variability, especially given that QM *ni* in standard Korean is homophonous for both [+Q, +WH] and [+Q, -WH]. Note that standard Korean also has QMs *ci, nya, (e)yo* and *(sum)nikka*. Like *ni, ci* and *nya* are typically used when the speaker is equal or superior to the hearer in social status, whereas *(e)yo* and *(sum)nikka* are used when inferior in social status to the hearer. These QMs are all homophonous for both [+Q, +WH] and [+Q, -WH]. Throughout, I will use *ni* as the representative one.

Essentially following (Choi 2002), I suggest that wh-interrogative reading of the indefinite wh-word in (8a) arises via unselective binding of the indefinite wh-word by the QM with [+Q, +WH] at LF, with the QM as the wh-operator marking the scope of the indefinite wh-word that functions as a variable with no inherent wh-feature and also serves as the restriction of the QM. Hence in (8a) with an indefinite wh-word, the wh-operator and its restriction appear separated at the surface with the QM and the indefinite wh-word together forming operator variable chain without movement in contrast to English wh-questions in (9), where the restriction is pied-pied for PF convergence. Therefore (8a) is informally translated as: [5)]

(10) 'for which *x*, do you think John met *man* (*x*)?'

In an analogous way, I suggest that the existential quantifier reading of the indefinite wh-word in (8a) arises via unselective binding of the indefinite wh-word by the QM with [+ Q, -WH], translated as 'for some *x*, do you think John met *man* (*x*)?', which will not be our concern throughout though.[6) 7)]

Now, when it comes to *way* 'why' in (8b), given that it is not an indefinite and thus has its own inherent wh-feature, I suggest that it should undergo movement into Spec of CP at LF to form operator variable chain for proper interpretation, checking off its wh-feature via spec-head agreement with the QM with [+Q,+WH] a la Choi (2002). *Way* 'why' in (8b) thus does not leave its restriction in situ unlike (8a), hence informally translated as:

(11) 'for which *x*, *x* reason, do you think John came late for *x*?'

---

5) The present proposal for the indefinite wh-word scope taking is essentially in agreement with Baker (1970), according to which wh-words take scope in situ by being bound by an abstract question morpheme, an idea which has recently gained much popularity within the minimalist framework in the form of either unselective binding or absorption as in Pesetsky (1987) and Chomsky (1995).

6) In fact, the present proposal regarding the wh-interrogative reading of an indefinite wh-word is supported by the fact that in Kyengsang dialect spoken in the southern part of Korea its interpretation varies precisely with the choice of a particular question morpheme, which is morphologically distinct for yes-no and wh-question, unlike standard Korean. Thus with the yes-no question morphemes *ka* and *na*, the indefinite wh-word yields existential quantifier reading, whereas with the wh-question morphemes *ko* and *no*, wh-interrogative reading obtains (see Suh 1987: 2ff, among others).

7) An anonymous reviewer wonders how an existential quantifier reading of a wh-word obtains as below.

Kunye-nun   onul   **nwukwu**-lul   mannassta.
she-TOP   today   who-ACC   met
'Today she met someone.'

I do not have a good answer for this at this point. It may be that an existential closure as in Heim (1982) is responsible for the reading.

The proposed scope taking strategy of wh-words in Korean overcomes the conceptual problem of Huang's (1982) LF wh-movement: Wh-words in Korean take scope in situ if not forced otherwise, thus neatly fitting into the minimalist thesis of movement as a last resort as stated in (12).

(12) A shorter derivation is preferred to a longer one, and if the derivation D converges without application of some operation, then that application is disallowed.
      (Chomsky (1995: 200)

Apart from the conceptual advantage, the present proposal for wh-word scope taking can empirically offer a straightforward account for the observed asymmetry of locality effects.[8] For this, consider the examples involving CNPI in (2) and (3), repeated as (13) and (14), respectively.

(13) Ne-nun [**nwu**-ka   ssun   chayk-ul]   ilkess-ni?
      you-TOP who-NOM   wrote   book-ACC   read-QM
      'Who is the person x such that you read a book x wrote?'
(14) *Ne-nun   [John-i   **way**   ssun   chayk-ul]   ilkess-ni?
      you-TOP J-NOM   why   wrote book-ACC   read-QM
      'What is the reason x such that you read a book John wrote for x?'

The LF for (13) will roughly look like the following in (15), with the QM as the wh-operator unselectively binding indefinite wh-word that also serves as the restriction of the wh-operator, functioning as a variable with no inherent wh-feature: [9] [10]

---

8) The eccentric behavior of the wh-word corresponding to *why* in English is wellknown crosslinguistically. Please refer to Bromberger (1992) for the discussion of *why* in English, among others. Vergnaud (personal communication) also notes that French wh-word corresponding to *why* in English behaves differently from the other wh-words when it comes to stylistic inversion.
   9) Throughout I will use head-initial language notation for the LF representations for the reader's convenience.

(15) [QM$_i$ [$_{VP}$ V [$_{NP}$[$_{CP}$ [$_{IP}$ WH-word$_i$]]]]]

As one can see, the interpretation of indefinite wh-word as a wh-interrogative via unselective binding by the QM vacuously satisfies subjacency, assuming that subjacency is a constraint for movement throughout the computation *contra* Huang (1982). Thus (13) is correctly predicted as grammatical in the present system. Also note that by assuming subjacency as a constraint for movement, we can dismiss another conceptual problem of Huang (1982), according to which subjacency only applies at S structure, an idea which is not compatible with the fundamental assumption of the minimalist program for computation as pointed out earlier in this section.

Next, turning to (14) with *way* 'why', given the LF movement of *way* 'why' into operator position of Spec of CP for proper interpretation, its LF will be roughly (16), where its movement, however, crucially leads to violation of subjacency, crossing two barriers CP and NP, leading to ungrammaticality.[11]

(16) [$_{CP}$ *why$_i$*   [$_{C'}$ QM   [$_{NP}$[$_{CP}$ t$_i$]]]]

---

10) Note however that Reinhart (1997) argues that interpreting wh-words in situ by the question morpheme, albeit in harmony with minimalist scheme of movement, poses a nontrivial problem as below.
Who will be offended if we invite which philosopher?
'Q<x, y> ((if we invite y, and y is a philosopher), → x will be offended))
According to her, interpreting wh-word in situ will even admit 'Lucie will be offended if we invite Donald Duck' as a true answer to the above question since the restriction of 'which philosopher' occurs within *if*-clause, that is, the antecedent of the material implication. She thus suggests that introducing existential quantification over choice function (a function of <<e, t>, e>> type) outside of the island to mark the scope of the argument wh-word is the solution for this problem. However, the wrong answer problem can be evaded once wh-questions are taken as presuppositional (see Reinhart 1997: 360-361 for the relevant discussion). Besides, her approach cannot account for the island immunity of the adjunct wh-word *ettehkey* 'how' in (5), which cannot introduce choice function.
11) Throughout by the QM, I mean QM with [+Q,+WH] if otherwise specified.

Before closing the section, to be fair, it should be noted that there has been a growing body of research suggesting that Huang's (1982) classical ECP approach as based on argument and adjunct dichotomy is inadequate in accounting for the behavior of in situ wh-words with respect to islands. Among them, of special interest is Tsai (1994), whose proposal is similar to the present proposal. To be specific, Tsai (1994) claims that argument wh-words in the sense of Huang (1982) and the adjunct *zenmeyang* 'how' under means construal are indefinites, while *weishenme* 'why' is not. Tsai (1994) further goes on to claim that the former are interpreted in situ as wh-interrogatives bound by the null wh-operator in Spec of CP, forming operator variable chain without movement as schematically represented in (17), whereas the latter, not being an indefinite, should undergo movement into Spec of CP at LF, also assuming subjacency as a constraint for movement.

(17) $[_{CP} Op_x [_{C'}$ ... wh_x ...]]

Tsai's (1994) proposal for null wh-operator binding of the indefinite wh-words is based primarily on the fact that these wh-words are immune to wh-island effect in (18) (Chomsky 1962, and Ross 1967).

(18) ni   xiang-zhidao   [**shei**   mai-le   **shenme**]?
     you   want to know   who   buy-ASP   what
     a. 'What is the thing x such that you wonder who bought x?'
     b. 'Who is the person x such that you wonder what x bought?'
        (Huang 1982: 525)

According to Tsai (1994), the lack of wh-island effect in (18) can be attributed to the unselective binding of the indefinite wh-word by the null wh-operator in Spec of matrix CP without involving movement. Tsai's (1994) proposal, when extended to Korean, can also account for the contrast in grammaticality in (13-14): The null wh-operator in Spec of matrix CP binding the indefinite wh-word inside the island voids subjacency, whereas movement of the adjunct wh-word *way* 'why' is

subject to subjacency, leading to ungrammaticality.

    However, Tsai's (1994) proposal raises a nontrivial conceptual question when it comes to Korean. Given that QM serves as the wh-operator for the indefinite wh-word, forming operator variable chain with the indefinite wh-word, introducing the null wh-operator into the computation is unnecessary. If not necessary, it should not be so introduced to begin with. Moreover, Korean indefinite wh-words do not show wh-island effect either, as illustrated in (19).

(19) Ne-nun [**nwu**-ka   **nwukwu**-lul coahanun-ci] alkosip-ni?
     you-TOP who-NOM who-ACC   like-QM   wonder-QM
     a. 'Who is the person x such that you wonder whom x likes?'
     b. 'Who is the person x such that you wonder who likes x?'

Although the reading where both wh-words take embedded scope is the most felicitous, wh-words in the embedded clause in (19) can more or less take matrix scope as well (see Choe 1985 and Choi 2002 among others). If the present proposal for scope taking of indefinite wh-words via unselective binding by the QM is on the right track, the lack of the wh-island effect itself cannot be taken as a convincing argument for the unselective binding of these wh-words by the null wh-operator.

3. Crosslinguistic Implications for Intervention Effects

The present proposal for wh-word scope taking has a nontrivial implication for the intervention effects as in (20).

(20) *Twu salam isang-i   **nwukwu**-lul chotayhayss-ni?
     two man more-NOM who-ACC   invited-QM
     'Who did more than two men invite?'

The nature of the ungrammaticality as in (20) has been typically attributed to the LF movement of the wh-word across the intervening QP as in Hoji (1985) and Beck (1996), assuming wh-movement

hypothesis *a la* Huang (1982). If the intervention effect is indeed due to movement of the wh-word, one however is hard pressed to account for the lack of the effect in (21), especially from the minimalist assumption of movement according to which there is only one derivation in the computation deriving LF.

(21) **Nwukwu**-lul   twu salam isang-i   chotayhayss-ni?
     who-ACC   two man more-NOM   invited-QM
     'Who did more than two men invite?'

Hence there is no way of stating that movement of a wh-word does not trigger intervention effect at Spell out whereas it does at LF.

Moreover, the grammaticality of (22) further indicates that intervention effect is not due to movement of the wh-word across the intervening QP at LF.

(22) Twu salam isang-i   **way**   Tom-ul   chotayhayss-ni?
     two man more-NOM   why   T-ACC   invited-QM
     'Why did more than two men invite Tom?'

Recall that the adjunct wh-word *way* 'why', not being an indefinite, should move into Spec of CP at LF for interpretation, forming operator variable chain. The ungrammaticality of (20) thus has nothing to do with movement of the wh-word across the intervening QP *per se*.

Then why is (20) ungrammatical? Since according to our proposal the interpretation of an indefinite wh-word as a wh-interrogative does not involve movement, I suggest that (20) is ungrammatical because the QM marking the scope of the indefinite wh-word as a wh-interrogative is forced to take scope lower than the intervening QP at LF, thus violating the constraint as suggested in (23).[12]

---

12) I assume LF is the only level for semantic interpretation, following Chomsky (1995).

(23) A wh-interrogative should take scope over a QP at LF.

The constraint is essentially in agreement with the independent proposal in the literature by Engdahl (1986) and Chierchia (1991, 1993), according to which a QP regardless of its type, cannot take scope over a wh-interrogative, with quantification into questions prohibited.[13]

Then our theory predicts that the position of the QM should be certainly lower than the subject QP in (20) at LF. Crosslinguistically, the QM has been assumed as heading CP in Nishigauchi (1990), Cheng (1991), and Chung (1996), among others albeit without discussion. However, Kim (1991) and Choi (2002) recently suggest that the QM in Korean is base-generated in the head of IP. The claim is based on the facts on Korean verbal morphology in (24) and the complementary distribution of the QM with the indicative marker *ta* (IM, henceforth) in (25) that is widely assumed to head IP, determining the clause type as an indicative.

(24) John-i   **nwukwu**-lul   manna-ss-ni?
     J-NOM   who-ACC   meet-PAST-QM
     'Who did John meet?'
(25) *John-i   Mary-lul   manna-ss-ni-ta.
     J-NOM   M-ACC   met-PAST-QM-IND

As shown in (24), Korean verbal morphology including the QM is heavily agglutinating, with more than one morpheme. Given the strict projectionist hypothesis (Pollock 1989, and Chomsky 1993) viewing each morpheme of the verb heading a separate functional projection within IP system, Choi (2002) argues that the particular sequence of the

---

13) I adopted a modified QP of monotone increasing type in (20) to block the intervening factor of nonquantificational 'specific group' interpretation of the intervening QP. Also note that the semantics of *twu salam isang* is different from *more than two men* in English, since *isang* 'more' means 'the same or larger in number or amount'. However, I will translate it as meaning *more than two men*, since however one interprets it, the QP is monotone-increasing, which is the relevant property for the present purpose.

morphemes on the verb in (24) suggests the clausal structure where the past tense morpheme and the QM project TP and IP consecutively, right on top of VP. Moreover, (25) where the QM shows complementary distribution with the indicative marker *ta* further suggests that the QM also heads IP, competing for a single slot of I with IM *ta*, as originally suggested by Kim (1991). It is therefore the case that clause typing morphemes in Korean such as *ni* and *ta*, unlike the complementizer *ko*, which is standardly assumed to head CP, project IP but not CP (see Kim 1991). The claim for QM heading IP can receive further support by the fact that the complementizer *ko* cannot close off a main clause in contrast to the QM and the IM, as illustrated in (26), suggesting that the latter do not belong to the syntactic category of C.

(26) a. *John-i   Mary-lul   coahayss-ko.
        J-NOM   M-ACC   liked-COMP
        *'That John liked Mary.'
     b. John-i   Mary-lul   coahayss-ni?
        J-NOM   M-ACC   liked-QM
        'Did John like Mary?'
     c. John-i   Mary-lul   coahayss-ta.
        J-NOM   M-ACC   liked-QM
        'John liked Mary'

Furthermore, QM cannot be deleted whereas the complemetizer *ko* more or less can, as shown in (27), which can be further taken as anecdotal evidence indicating that QM does not belong to C.

(27) a. John-un Jim-ekey [Mary-ka Tom-ul chotayhayss-*(nya)-ko]
        J-TOP J-DAT   M-NOM T-ACC invited-QM-COMP
        mwulessta.
        asked
        'John asked Jim whether Mary invited Tom.'
     b. John-un Jim-ekey [Mary-ka Tom-ul chotayhayss-nya-?(ko)]
        J-TOP J-DAT   M-NOM T-ACC invited-QM-COMP

mwulessta.

asked

'John asked Jim whether Mary invited Tom.'

Now, back to (20), given the claim for the position of the QM as heading IP, its LF will be (28), following the standard assumption that the subject is sitting in Spec of IP at Spell out, together with the assumption that quantifier raising is triggered to resolve type mismatch, *a la* Heim and Kratzer (1998): [14]

(28) $[_{IP}$ QP$_j$-NOM $[_{I'}$ QM$_i$ $[_{TP}$ $[_{VP}$ t$_j$ V wh-word$_i$-ACC $]]]]$

Given c-command in the sense of Reinhart (1976) as the syntactic notion of scope, the QM in I cannot take scope over the QP in Spec of IP in (28), violating (23).[15] Therefore, (20) is correctly predicted as ungrammatical. Two immediate questions arise with respect to (28). One is what blocks the QM, which is the wh-operator and the unselective binder of the indefinite wh-word, from being raised from I to C in its

---

14) An anonymous reviewer wonders what motivates positing the subject in Spec of IP but not TP, given that its position relative to the QM bears crucial importance to the present proposal. The following suggests that the subject is actually in Spec of IP but not TP:

John-i $[_{VP}$Mary-lul   manna-ki-nun]   hayssta.
J-NOM   M-ACC   meet-KI-NUN   did
'What John did was to meet Mary.'

The example above is an instance of VP movement, followed by the dummy verb do insertion to support the stranded tense, according to Nishiyama and Cho (1998). If the subject is in Spec of TP, VP can move nowhere, given that X'-adjunction (T' in this case) is not allowed in the computation (see Chomsky 1995). Alternatively, if the subject is in Spec of IP at S structure, there is no problem deriving the above structure with VP moving into the Spec of TP and the trace of the subject in Spec of VP properly bound by the subject in Spec of IP, hence not violating Proper Binding Condition (see May 1985).

15) Reinhart (1976: 32) defines c-command as below.
Node A c(constituent)-commands node B if neither A nor B dominates the other and the first branching node which dominates A dominates B.

LF. The other is what blocks reconstruction of the QP into its base position. If either of the two cases is allowed, QM could eventually take scope over the QP, satisfying (23). The first option, however, is not a possibility, since the QM in the head of IP in (28) can already bind the indefinite wh-word for wh-interrogative reading to obtain, hence discharging the wh-feature of the QM. Since nothing requires the movement of the QM, it should not be raised, given economy in the sense of Chomsky (1995). The second option is not possible either, given that A-movement is not subject to reconstruction as claimed by Chomsky (1995) and Lasnik (1999) (cf. May 1985, and Fox 2000). [16] Also as shown in (29) Weak Crossover effect (Postal 1971, Wasow 1972, Chomsky 1976, and Higginbotham 1980, among others) and Binding Condition C (Chomsky 1981 among others) are obviated.

(29) a. ?**Enu**   kyoswu$_i$-lul   ku$_i$-uy   haksayng-i   t$_i$
       which professor-ACC   he-POSS   student-NOM
       chotayhayss-ni?
       invited-QM
       *'Which professor$_i$ did his$_i$ student invite?'
   b. ?[John$_i$-uy **enu** sacin-ul]$_j$ ku$_i$-ka   ceil t$_j$ sileha-ni?
       J-POSS   which picture-ACC he-NOM most   dislike-QM
       *'Which picture of John$_i$ does he$_i$ dislike most?'
       (Choi 2004: 187-189)

The data in (29) indicate that monoclausal scrambling is A-movement and that A-movement is not subject to reconstruction.

   Next, the grammaticality of (21) also follows rather naturally in the

---

16) Chomsky's claim against A-movement reconstruction is based on the example below among others that shows Binding Condition B violation.

   *John$_i$ expected him$_i$ to seem to me [t$_i$ to be intelligent]
   Chomsky (1995: 326)

Under the interpretation as indicated, the example can only be construed as Binding Condition B violation, though under reconstruction the violation should be obviated with *him* interpreted in the base position.

present system. As discussed just above, monoclausal scrambling is
A-movement and A-movement is not subject to reconstruction. Also
given the assumption that monoclausal scrambling is IP-adjoined (see
Kuroda 1988, Saito 1992), then as a last resort, the QM should be
raised into C to bind the wh-word for wh-interrogative reading of the
scrambled indefinite wh-word to obtain, discharging the wh-feature of
the QM. Otherwise the wh-word cannot be so construed to begin with.
As a result, the QM in C takes scope over the subject QP in Spec of
IP, satisfying (23). The grammaticality of (22) also follows given the
LF movement of *way* 'why' into Spec of CP, where it can take scope
over the subject QP in Spec of IP, satisfying (23). Within the present
system. One can also account for the amelioration of intervention effect
in the embedded clause in (30): The QM in the matrix clause can take
scope over the subject QP in the embedded clause in (30), thus
satisfying (23).

(30) (?)Ne-nun [twu salam isang-i **nwukwu**-lul chotayhayssta-ko]
        you-TOP two man more-NOM who-ACC   invited-COMP
        sayngkakha-ni?
        think-QM
        'Who do you think more than two men invited?'

Incidentally, Chinese also exhibits similar pattern of intervention
effects in nonembedded vs. embedded wh-questions as in (31-32). [17] [18]

(31) ?*zhi shao   you liang ge ren   yaoqing-le   **shei**?
        at least   have two   men   invite-ASP   whom
        'Who did at least two men invite?'

---

17) I would like to thank the people who offered their intuitions on the
example in (31). James Huang, Audrey Li, Feng hsi Liu, Bella Feng, Lingyun Ji,
Lian-hee Wee, Liang Chen, among others.

18) It should be noted that most Chinese native speakers whom I consulted
adopted a 'scrambled' wh-question when it comes to making the kind of inquiry
intended as in (31) with a modified subject QP.

(32) (?)?ni renwei [zhi shao you liang ge ren   yaoqing-le **shei**]?
        you think   at least have two   men invite-ASP whom
        'Who do you think at least two men invited?'
        (Choi 2002: 179-183)

Suppose the indefinite wh-word in Chinese is also construed as a wh-interrogative via unselective binding by the QM in the head of IP, like Korean. The speculation that Chinese QM is base-generated in the head of IP, although more research needs to be done for this, is quite compatible with the Chinese clausal architecture, which is essentially a head final language with the exception of V and P and their complements (see Aoun and Li 1993). As one can see in (33), both the QM *ne* with [+Q,+WH] and *ma* with [+Q, -WH] in Chinese appear at the right periphery of the sentence separated from the verb. Thus this state of affairs can be viewed as indicating that these QMs head IP, typing the clause as a wh-question and yes no question, respectively (see Cheng 1991, Lin 1992). [19]

(33) a. ni   xihuan   **shei**   (ne)?
          you   like   whom   QM
          'Whom do you like?'
      b. ta hui lai   (ma)?
          he will come QM
          'Will he come?'

If the Chinese QM also heads IP, the contrast in grammaticality in (31-32) can be straightforwardly accounted for: In (31), the QM in I cannot take scope over the QP in Spec of IP, violating (23), hence ungrammatical. Meanwhile in (32) the QM in I in the matrix clause can take scope over the QP in Spec of IP in the embedded clause. thus satisfying (23).

One question immediately arises with regard to (30) and (32): Why is

---

19) The QM in Chinese is optional in the matrix clause as in (33).

it that (30) and (32) are still deviant, although both satisfy (23)? I
suggest that it is because the QM, the wh-operator and the indefinite
wh-word serving as its restriction are separated by the intervening
(defined in terms of c-command in the sense of Reinhart 1976) QP at
LF as schematically represented in (34). Recall our discussion in section
2 that the indefinite wh-word also serves as the restriction of the QM.

(34) [QM$_i$ ..... [$_{VP}$ V   [$_{CP}$[$_{IP}$ QP-NOM....   V wh-word$_i$-ACC]]]]

The proposal seems plausible, especially in view of the fact that (35) is
perfect. As one can see, the QM and its restriction are not separated by
the intervening QP at the LF in (36) for (35).

(35) Ne-nun   [**nwu**-ka   twu salam isang-ul   chotayhayssta-ko]
     you-TOP   who-NOM   two man more-ACC   invited-COMP
     sayngkakha-ni?
     think-QM
     'Who do you think invited more than two men?'
(36) [QM$_i$ ..... [$_{VP}$ V   [$_{CP}$[$_{IP}$ wh-word$_i$-NOM... V QP-ACC]]]]

Before closing, one may now wonder how the readings in (18ab) and
(19ab) repeated as (37) and (38) can obtain in the present system.

(37) ni   xiang-zhidao   [**shei**   mai-le   **shenme**]?
     you   want to know   who   buy-ASP   what
     a. 'Who is the person x such that you wonder what x bought?'
     b. 'What is the thing x such that you wonder who bought x?'
(38) Ne-nun   [**nwu**-ka   **nwukwu**-lul coahanun-ci] alkosip-ni?
     you-TOP   who-NOM   who-ACC   like-QM   wonder-QM
     a. 'Who is the person x such that you wonder whom x likes?'
     b. 'Who is the person x such that you wonder who likes x?'

The reading in (37a-38a) can obtain with the matrix QM and the

embedded QM binding the subject and object wh-word, respectively. The reading in (37b-38b) can obtain with the embedded QM and the matrix QM binding the subject wh-word and the object wh-word, respectively. Hence with no movement for the construal of indefinite wh-words as wh-interrogatives, no wh-island effects arise. [20]

4. Conclusion

Classical ECP analysis of in situ wh-word scope taking in Huang (1982) is problematic both conceptually and empirically. With a critical review of Tsai (1994), I showed that two ways of wh-words scope taking, that is, movement of the adjunct wh-word *way* 'why' and unselective binding of indefinite wh-words via the question morpheme at LF can nicely account for the observed asymmetry of locality and intervention effects in Korean wh-questions, with a nontrivial implication for the interpretation of indefinite wh-words as wh-interrogatives in Chinese too, which is typologically akin to Korean.

References

Aoun, Joseph, and Audrey Li.   1993. *The Syntax of Scope*. Cambridge, Massachusetts, MIT Press.

Baker, Lee. 1970. Note on the description of English questions: The role of an abstract question morpheme. *Foundations of Language* 6: 197-219.

Beck, Sigrid. 1996. Quantified Structures as Barriers for LF Movement. *Natural Language Semantics* 4, 1-56.

---

20) Note that for wh-interrogative reading of an indefinite subject wh-word to obtain in (37-38), the embedded QM should be raised into C to bind the wh-word, discharging the wh-feature of the QM. Otherwise the wh-word in Spec of IP cannot be so construed to begin with. Also for the Chinese embedded QM one needs posit an abstract one, since it is not morphologically realized.

Bromberger, Sylvain. 1992. Why-Questions. In *On What We Know We Don't Know: Explanation, Theory, Linguistics, and How Questions Shape Them.* The University of Chicago Press.

Cheng, Lisa. 1991. *On the typology of wh-questions.* Doctoral dissertation, MIT.

Chierchia, Gennaro. 1991. Functional WH and Weak Crossover. In *Proceedings of the Tenth West Coast Conference on Formal Linguistics,* Stanford, CSLI.

Chierchia, Gennaro. 1993. Questions with Quantifiers. *Natural Language Semantics* 1: 181-234.

Choe, Jae-Woong. 1985. Pitch-Accent and q/wh Words in Korean. *Harvard Studies in Korean Linguistics I*: 113-123.

Choi, Hyun-Pae. 1935. *Wuli Malpon* (Our Grammar). Seoul, Cengummwunhwasa.

Choi, Young-Sik. 2002. *Asymmetry of Scope Taking in Wh-Questions.* Doctoral dissertation. University of southern California, Los Angeles.

Choi, Young-Sik. 2004. Reconstruction, Weak Crossover, and Binding in Korean Scrambling: Some Theoretical Implications, *The Linguistic Association of Korea Journal* 12, 185-206.

Chomsky, Noam. 1962. The Logical Basis of Linguistic Theory. In *Proceedings of the Ninth International Congress of Linguists,* The Hague, Mouton.

Chomsky, Noam. 1976. Conditions on Rules of Grammar. *Essays on Form and Interpretation.* New York: North-Holland.

Chomsky, Noam. 1986. *Barriers.* Cambridge, Massachusetts, MIT Press

Chomsky, Noam. 1995. *The Minimalist Program.* Cambridge, Massachusetts, MIT Press. Chung, Daeho. 1996. *On the representation and licensing of Q and Q-dependents.* Doctoral dissertation, University of Southern California.

Chung, Taegoo. 1991. On WH-Adjunct Extraction in Korean. *Harvard Studies in Korean Linguistics IV*: 241-248.

Engdahl, Elisabet. 1986. *Constituent Questions.* Dordrecht, Boston, Lancaster and Tokyo, D. Reidel Publishing Company.

Fox, Danny. 2000. *Economy and Semantic Interpretation.* Cambridge,

Mass.: MIT Press.

Joo, Shim Yanghee. 1989. *A Cross-Linguistic Approach to Quantification in Syntax*. Doctoral dissertation, University of Wisconsin-Madison.

Heim, Irene. 1982. *The Semantics of definite and Indefinite Noun Phrases*. Doctoral dissertation, University of Massachusetts, Amherst.

Higginbotham, James. 1980. Pronouns and Bound Variables. *Linguistic Inquiry* 11(4), 679-708.

Huang, C.T. James. 1982. *Logical Relations in Chinese and the theory of Grammar*. Doctoral dissertation, MIT.

Kim, Soo-Won. 1991. *Chain Scope and Quantification Structure*. Doctoral dissertation, Brandeis University.

Kuroda, Shige Yuki. 1988. Whether We Agree or Not: A Comparative Syntax of English and Japanese. *Lingvisticae Investigationes* 12: 1-47.

Lasnik, Howard. 1999. Chains of Arguments. In *Working Minimalism, eds.* Samuel David Epstein and Norbert Hornstein, Cambridge, Massachusetts, MIT Press.

Lewis, David. 1975. Adverbs of Quantification. In *Formal Semantics of Natural language,* ed., Edward Keenan, Cambridge University Press.

Li, Audrey. 1992. Indefinite Wh in Mandarin Chinese. *Journal of East Asian Linguistics* 1:125-155.

Lin, Jo-Wang. 1992. The Syntax of Zenmeyang 'how' and Weishenme 'why' in Chinese. *Journal of East Asian Linguistics* 1: 293-331

May, R. 1985. *Logical Form*. Cambridge, Massachusetts, MIT Press.

Nishigauchi, Taisuke. 1990. *Quantification in the Theory of Grammar*. Dordrecht, Kluwer Academic Publishers.

Nishiyama, Kunio and Eun Cho. 1998. Predicate Cleft Constructions in Japanese and Korean: The Role of Dummy Verbs in TP/VP-Preposing. Proceedings of Japanese Korean Linguistics 7, 463-479, CSLI, Standford.

Pesetsky, David. 1987. wh-in-situ: Movement and Unselective Binding. In *The Representation of (In)definiteness*. eds, E. Reuland and A.

ter Meulen. MIT Press, Cambridge, Massachusetts.

Postal, Paul. 1971. *Cross-over Phenomena.* New York: Holt, Reinhart and Winston.

Reinhart,Tanya. 1976. *The Syntactic Domain of Anaphora.* Doctoral dissertation, MIT.

Reinhart, Tanya. 1997. Quantifier Scope: How Labor Is Divided Between QR and Choice Function. *Linguistics and Philosophy* 20: 335-397.

Ross, John. 1967. *Constraints on variables in Syntax.* Doctoral dissertation, MIT.

Saito, Mamoru. 1992. Long Distance Scrambling in Japanese. *Journal of East Asian Linguistics* 1, 69-118.

Suh, Chung-Mok. 1987. *A Study on the Interrogative Sentences in Korean.* Seoul, Tower Press.

Tsai Wei-tien Dylan. 1994. *On economizing the theory of A-bar dependencies.* Doctoral dissertation, MIT.

Wasow, Thomas. 1972. *Anaphoric Relations in English.* Unpublished doctoral dissertation. MIT. Boston, MA.

Young-Sik Choi
Department of English Language and Literature
Soonchunhyang University
Asan, Chungnam 336-745
Phone: 041-530-1124
Email: youngsic@sch.ac.kr