The VP spell-out domains and scope rigidity*

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This paper examines scope rigidity phenomena observed in Korean. The previous research appeals to parametric differences within UG for explaining cross-linguistic differences. I will review and challenge the previous accounts, on the grounds that they encounter either empirical or conceptual problems. As an alternative, I will propose a new analysis for scope rigidity, based on a recent cyclic linearization account (Fox and Pesetsky 2005). Following Fox and Pesetsky (2005, in prep.), I will assume that there are cross-linguistic differences, with respect to whether vP or VP is the first spell-out domain (eg. VP is the first spell-out domain in Korean, but vP is in English). Assuming Scope Economy in QR proposed by Fox (1995, 2000) and Cecchetto (2004), I argue that we can account for why scope is rigid in Korean. The object quantifier cannot reach a position where it can scope over the subject quantifier, due to the violation of Scope Economy.

1. Scope ambiguity and cross-linguistic differences

When a sentence contains multiple quantifiers, multiple readings may result in a language, like English (1). In other words, (1) could mean either that one student likes every professor (1a), or that for each professor is liked by at least one student (1b) (Sag 1976, Williams 1977).

(1) Some student likes every professor.
   a. There is some x, such that x likes every professor. (∃>∀)
   b. For every professor y, there is some x, such that x likes y. (∀>∃)

Scope ambiguity has been assumed to be a result of Quantifier Raising (QR) (May 1985). In (1), the subject and the object quantifier can take scope over each other and yields two readings. The surface scope results when the subject quantifier moves to SpecTP and the object quantifier is raised and adjoins to vP, as shown in (2a). The inverse

I would like to thank Hee-Don Ahn, Chung-hye Han, Min-Joo Kim, and Hideaki Yamashita for their valuable comments. Special thanks to Paul Hagstrom, who has discussed with me the idea of this paper from the beginning stage and provided me with comments and suggestions.
scope is derived when the subject quantifier is reconstructed to its original position, as shown in (2b) (Johnson and Tomioka 1997).

\[
(2) \quad \begin{align*}
\text{a. } & \left[ TP \text{ Some student}_i [vP \text{ every teacher}_j [vP \text{ t}_i \text{ likes } t_j]] \right] \quad (\exists \forall) \\
\text{b. } & \left[ TP \text{ Some student}_i [vP \text{ every teacher}_j [vP \text{ some student}_i \text{ likes } t_j]] \right] \quad (\forall \exists)
\end{align*}
\]

Reconstruction

However, not all languages permit scope ambiguity. Some languages, such as Korean, Japanese, and Chinese, do not allow inverse scope where multiple quantifiers are involved within a sentence (Kuno 1970, Huang 1982, Hoji 1985). Examples in (3-5) show that in these languages, the subject quantifier unambiguously scopes over the object quantifier.

\[
(3) \quad \text{Etten haksayng-i motun sensayngnim-ul coha-ha-n-ta.}
\text{Some student-NOM every teacher-ACC like-do-PRES-DEC}
\text{‘Some student likes every teacher.’}
\text{(Korean, } \exists \forall \text{ and } *\forall \exists)
\]

\[
(4) \quad \text{Dareka-ga dono hon-mo yonda.}
\text{Someone-NOM every book-also read}
\text{‘Someone read every book.’}
\text{(Japanese, } \exists \forall \text{ and } *\forall \exists)
\]

\[
(5) \quad \text{Youyige xuesheng mai-le meiyiben shu.}
\text{One student buy-ASP every book}
\text{‘A student bought every book.’}
\text{(Chinese, } \exists \forall \text{ and } *\forall \exists; \text{ Huang 1982: 129)}
\]

In this paper, I will address why some languages allow scope ambiguity, but others do not. The structure of this paper is as follows. In section 2, I will review three previous studies, concerning this cross-linguistic difference, and argue that they encounter either conceptual or empirical problems. In section 3, I will propose an alternative account, appealing to Fox and Pesetsky’s (2005) cyclic linearization. In section 4, I will address the possible correlations between scope rigidity and \textit{wh}-in-situ-ness. Section 5 will be the conclusion.

2. Scope Rigidity

In this section, I will review previous accounts that attempt to explain the cross-linguistic differences using different parametric settings within UG (Huang 1982, Aoun and Li 1993, Hornstein 1995, Kasai 2001).

2.1. Aoun and Li (1993)

Aoun and Li (1993) argue that inverse scope is not available in Chinese, on the grounds that Chinese lacks agreement morphology. They assume Larson’s (1988) VP
shell structure where the subject and object are merged in different VP positions in overt syntax. For example, in (6), the subject DP is merged to SpecVP1 and the object DP is merged to the complement position of VP2. Both the subject and object DP are quantifiers, so they may undergo QR at LF. Under Aoun and Li’s assumption, TP is not projected when a language does not have agreement morphology, so the subject and object quantifiers undergo QR adjoining to VP1 and VP2, respectively, in (6b). Therefore, only surface scope results.

(6) a. SS:[VP1 youyige xuesheng [VP2 mai-le meiyiben shu]]
   ‘A student bought every book.’

   b. LF:[VP1 youyige xuesheng1 [VP1 t1 [VP2 meiyiben shu2 [VP2 mai-le t2]]]]

   QR        QR

Aoun and Li propose that inverse scope arises when a variable of the subject quantifier is bound by the object quantifier. They generalize it with the scope principle in (7).

(7) **The Scope Principle**
A quantifier X may have scope over a quantifier Y iff X c-commands a member of the chain containing Y.

(Aoun and Li 2003: 11)

With the scope principle, we can account for why inverse scope is not available in (6b). First of all, surface scope arises since the subject quantifier c-commands the whole chain containing the object quantifier. On the other hand, the variable of the subject quantifier is not bound by the object quantifier in (6b), so inverse scope is unavailable.

However, there are some empirical problems for Aoun and Li’s analysis. Kasai (2001) points out that Turkish does have agreement morphology, so that the subject must move to SpecTP. However, Turkish still shows scope rigidity. In (8), the object cannot take scope over the subject in Turkish. The universal quantifier cannot take wide scope with respect to the numeral quantifier. It remains a mystery why Turkish exhibits scope rigidity under Aoun and Li’s account.

(8) [Üc kisiyi Herkesi aramis.
   ‘Three people called everyone.’

   (Turkish, *every>3, 3>every; Kural 1997:504)

2.2. Hornstein (1995)  

Hornstein (1995) connects scope rigidity to a VP-Internal Subject parameter. Hornstein argues that the subject raises from SpecVP to SpecAGRsP in English, but the subject is base-generated in SpecAGRsP in rigid scope languages. For example, in English (9), the subject raises from SpecVP to SpecAGRsP, and the object raises from VP to SpecAGRoP. Here we derive wide scope, as in (9a). The subject quantifier can take
narrow scope, with respect to the object quantifier in SpecAGRoP when it is reconstructed to the original position in (9b).

\[(9)\] Some student likes every professor.
\[\text{a. } \left[\text{AGR}_{\text{SP}}\right] \text{Some student} \left[\text{TP}_{\text{AGR}_{\text{OP}}}\text{ every teacher} \left[\text{VP} \text{ some student likes t}_j\right]\right] \quad (\exists \triangleright \forall)\]
\[\text{b. } \left[\text{AGR}_{\text{SP}}\right] \text{Some student} \left[\text{TP}_{\text{AGR}_{\text{OP}}}\text{ every teacher} \left[\text{VP} \text{ some student likes t}_j\right]\right] \quad (\forall \triangleright \exists)\]

On the other hand, in Korean (3), repeated here in (10), Hornstein assumes that the subject is base-generated in AGRsP. The object moves to SpecAGRoP. Since the base-generated subject quantifier c-commands the object quantifier, we can derive surface scope (10a). Inverse scope is not available, as shown in (10b), on the grounds that the subject quantifier is nowhere to be reconstructed.

\[(10)\] Ettten haksayng-i motun sensayngnim-ul coa-ha-n-ta. (Korean)
Some student- NOM every teacher-ACC like-do-PRES-DEC.
‘Some student likes every teacher.’
\[\text{a. } \left[\text{AGR}_{\text{SP}}\right] \text{Ettten haksayng-i} \left[\text{TP}_{\text{AGR}_{\text{OP}}}\text{ motun sensayngnim-ul} \left[\text{VP likes t}_j\right]\right] \quad (\exists \triangleright \forall)\]
\[\text{b. } \ast\left[\text{AGR}_{\text{SP}}\right] \text{Ettten haksayng-i} \left[\text{TP}_{\text{AGR}_{\text{OP}}}\text{ motun sensayngnim-ul} \left[\text{VP likes t}_j\right]\right] \quad (\ast\forall \triangleright \exists)\]

The problems for this approach are well-known from the independent grounds. Kennedy (1997) raises questions about Hornstein’s argument since it has difficulty in resolving Antecedent Contained Deletion (ACD) for non-arguments. For example in (11), the DP \(\text{every aircraft accident that the FAA did}\) receives case from the preposition on, so the DP should not need to move to AGRoP, leaving no way to resolve the ACD configuration. Hornstein’s account predicts that only surface scope should be available (i.e. \(\exists \triangleright \forall\)), contrary to fact. Both scopes are available in (11).

\[(11)\] The FBI read a report on \(\text{every aircraft accident that the FAA did}\).
\((\exists \triangleright \forall, \forall \triangleright \exists)\)

2.3. Kasai (2001)

Finally, Kasai (2001) has observed that only head-final languages exhibit Scope Rigidity. Kasai’s analysis is based on Fukui and Takano’s (1998) theory of phrase structure, assuming that the universal word order is SOV. Fukui and Takano assume that (12a) is the base-generated structure, and verb must move to derive SVO order in (12b). This is directly opposite to Kayne’s (1994) analysis where he argues that SOV is derived from SVO.

\[(12)\]
\[\text{a. } \left[\text{vP Subj}\left[\text{v’}\left[\text{VP Obj V }\right]\text{v}\right]\right] \quad \rightarrow \text{SOV}\]
\[\text{b. } \left[\text{vP Subj}\left[\text{v’}V\left[\text{v’}\left[\text{VP Obj V} V\right]\text{v}\right]\right]\right] \quad \rightarrow \text{SVO}\]

Based on Fukui and Takano (1998), Kasai makes two conditions with respect to
scope rigidity in (13).

(13)  

a. A quantifier $\alpha$ must adjoin to the first maximal projection which dominates $\alpha$.

b. A maximal projection of $\alpha$ is not visible to $C_{HL}$ if $\alpha$ undergoes head movement.

Let us consider this with examples. (14a-b) show how both surface and inverse scope are available in English. To derive an SVO order for English (14), the verb needs to undergo movement. Since there is a verb movement, according to the condition (13b), the first maximal projection which dominates the quantifier is $vP$, not $VP$. Therefore, the object quantifier can undergo QR to Spec,$vP$, as illustrated in (14a), and inverse scope is available. Under Kasai’s analysis, the verb movement is crucial because it blocks QR to Spec,$VP$, as in (14b). If there were no verb movement, VP would be the first maximal projection and QR would target Spec$VP$. Then, inverse scope would never be derived since the subject quantifier is base-generated higher.

(14)  Someone loves everyone.

a. $\mathbf{vP}$

\[
\begin{array}{c}
\text{Everyone} \\
\text{QR} \\
\text{t$_{subj}$} \\
\text{V} \\
\text{v}$
\end{array}
\]

\[
\begin{array}{c}
\text{v'} \\
\text{VP} \\
\text{v}$
\end{array}
\]

\[
\begin{array}{c}
\text{Obj} \\
\text{t$_{v}$}
\end{array}
\]

b. $\mathbf{v'}$

\[
\begin{array}{c}
\text{VP} \\
\text{v}
\end{array}
\]

\[
\begin{array}{c}
\text{Everyone} \\
\text{VP} \\
\text{Obj} \\
\text{t$_{v}$}
\end{array}
\]

*QR

In head-final languages, like Korean in (15), Kasai (2001) needs to assume that there is no verb movement. Crucially, by condition (13a), this fact makes VP, not $vP$, to be the target of QR for the object quantifier. Therefore, inverse scope is not possible, as shown in the tree structure of (15).

(15)  Etten haksayng-i motun sensayngnim-ul coha-ha-n-ta.
Some student- NOM every teacher-ACC like-do-PRES-DEC

‘Some student likes every teacher.’

(Korean, *Inverse Scope)

\[1\] There is a controversy about whether the verb moves in Korean. If Kasai (2001) is right, it implies that the verb does not move.
However, here too, there are some problems. As we observed in section 1, Chinese is one of the rigid scope languages, and it is a head-initial language in (16). The same holds for Serbian/Croatian in (17).

(16) Youyige xuesheng mai-le meiyiben shu.
One student buy-ASP every book
‘A student bought every book.’

(Chinese, *Inverse Scope)

(17) Ne(t)ko voli sako-ga.
Someone loves everyone-ACC
‘There is a person x such that x loves everyone.’

(Serbian/Croatian, $\exists \forall$ and $\forall \exists$; Progovac 1994:31)

Kasai argues that there is an intermediate phrase between vP and VP in Chinese, which he calls FP, so the object quantifier can move to Spec of FP. However, it is still not high enough to take inverse scope. Even if this analysis is correct for Chinese, Kasai needs to explain why the other SVO languages, such as English, cannot have FP in their projections. In the next section, I will propose a new analysis to account for scope rigidity.

3. Toward a new analysis for Scope Rigidity

To propose an alternative account for Scope Rigidity, this paper appeals to three relatively well-established assumptions.

Hypothesis #1: Movement, including QR, obeys locality conditions (Rodman 1975, Chomsky 1975).
Hypothesis #2: QR is licensed only if it has a semantic effect (Fox 1995, Cecchetto 2004)
Hypothesis #3 will be elaborated in this paper: There are parametric differences whether VP or vP (or both) are spell-out domains (or phases) cross-linguistically (Fox and Pesetsky 2005, Ko 2004).
3.1. Fox and Pesetsky’s cyclic linearization of syntactic structure

Fox and Pesetsky (2005) propose that linearization applies by spell-out domain and crucially, the linear ordering cannot contradict with the one in the previous spell-out domains. The detail of Fox and Pesetsky’s cyclic linearization is listed in (18).

(18) Cyclic Linearization (Fox and Pesetsky 2005)
   a. Certain syntactic domains (e.g. vP and CP) are spell-out domains, where linearization applies (which is relatively compatible with Chomsky’s Phases).
   b. The linear ordering of syntactic units is affected by Merge and Move within a spell-out domain, but is fixed once and for all at the end of each spell-out.

Let us consider what (18) entails with a linearization of (19). Given the assumption that vP and CP are spellout domains, the first spellout domain to be considered is vP. In (19a), X and Y are merged within vP, and linearization of the vP spellout domain fixes X as preceding Y. In (19b), Z is merged beyond vP. When CP is spelled out, Z is linearized preceding vP, so Z precedes X and Y. If Y moves from anywhere but the left edge of vP, an ordering contradiction results, as shown in (19c). The fact that Y precedes vP in the CP spell-out domain contradicts the ordering statement that X precedes Y in the vP spell-out domain. What if an element inside vP moves out? X moves from the edge of vP to CP domain, as shown in (19d). In the next spellout domain (= CP), the linearization will be ‘X precedes Z and Z precedes vP’. Here this ordering is not contradictory with the spellout of vP since X<Y is preserved in the CP spellout domain as well.

(19)  a. [vP X Y]: X<Y (X precedes Y)
   b. [CP Z [vP X Y]]: Z<vP Æ Z<X
   c. *[CP Y1 Z [vP X t1]]: Y<Z<vP Æ Y<Z<X (Ordering contradicted)
   d. [CP X1 Z [vP t1 Y]]: X<Z<vP Æ X<Z<Y (Ordering preserved)

Fox and Pesetsky demonstrate how their analysis can capture the fact that object shift in Scandinavian is possible only when elements that have preceded the object in vP still precede the object after it has shifted (cf. Holmberg 1999). The verb must move and thus precede the object in CP spell-out domain, as shown in (20a). If the verb does not move, then object shift would be blocked since an ordering contradiction would result in (20b).
(20) Object Shift blocked by (unmoved) verb intervener

\[
\begin{align*}
\text{a. } & \text{[CP Jag kysste henne inte [VP t\_v t\_O]].} \\
& \quad \text{I kissed her not} \\
\text{b. } & \text{*[CP Jag har henne inte [VP kysst t\_O]].} \\
& \quad \text{I have her not kissed}
\end{align*}
\]

\( (V>O) \)

(Fox and Pesetsky 2005: 19)

3.2. Cross-linguistic differences

Fox and Pesetsky argue that there might be cross-linguistic differences in the lower spell-out domains, which is a crucial assumption for this paper. As evidence, they provide that the linearization in Icelandic must be fixed within VP, rather than within vP. The Scandinavian languages freely raise the main verb to C over the subject. Here in (21), the verb moves to the sentence initial position and precedes the subject in the CP spell-out domain. If VP is a spell-out domain in these languages, and not vP, then the ordering between the verb and the subject is not fixed before CP is reached. Thus, no ordering contradiction occurs.

\[
\begin{align*}
\text{[CP Kysst har [TP jag henne t\_AUX inte [VP t\_v t\_O ] (bara hallit henne i handen)]} \\
\quad \text{Kissed have I her not (only held her by the hand)}
\end{align*}
\]

CP: \( V<S \)

VP: \( V \) w.r.t. \( S \) = undecided.

(Fox and Pesetsky 2005: 22)

The subject is not presumably linearized in Scandinavian with respect to the main verb before CP is constructed. If vP were a spell-out domain in Scandinavian, verb-raising would yield an ordering contradiction, as in (22). In vP, the ordering would be SVO, but in the CP spell-out domain, the ordering would be VSO.

\[
\begin{align*}
\text{[CP Kysst har [TP jag henne t\_AUX inte [vP t\_s t\_v t\_O ](bara hallit henne i handen)]} \\
\quad \text{Kissed have I her not (only held her by the hand)}
\end{align*}
\]

vP: \( S<V<O \)

CP: \( V<S<O \) \( \Rightarrow \) Order Contradiction!

Fox and Pesetsky (in preparation) further argue that the size of the vP/VP spell-out domain differs cross-linguistically. In English, subject always precedes the verb. We
assume that vP is a spell-out domain in English. In Swedish, linearization of the lower spell-out domain does not fix the order of adverbs, negation, or the external argument. Thus, the spell-out domain should be VP. Similarly, in Icelandic (23), the verb precedes the subject in the CP spell-out domain.

(23) Hittade han faktiskt pengarna under sängen?
    ‘Did he actually find the money under the bed?’

(Fox and Pesetsky in prep.’s (90))

In French (24), VP should be a spell-out domain, on the grounds that verb can invert around adverb, so the word order between verb and adverb cannot have been fixed.

(24) Pierre parle à peine japonais.
    ‘Pierre speaks barely Japanese.’

(Fox and Pesetsky in prep.’s (73b))

Ko (2004) provides evidence that both vP and VP must be spell-out domains in Korean. In Korean Tasi ‘again’ can be either vP-adverb (repetitive) or VP-adverb (restitutive). Therefore, (25) is ambiguous between the readings (25a) and (25b). Crucially, Ko claims that there is an asymmetry between vP-adverbs and VP-adverbs in their ability to strand an object-oriented numeral quantifier.

    S.- NOM that door-ACC again open-PAST-DEC
    ‘Sally opened that door, and she had done that before’ (repetitive)
    ‘Sally opened that door, and the door had been open before’ (restitutive)

(Ko 2004’s (55))

Let us take the example (26). The context forces the restitutive reading, which means the adverb tasi must adjoin to VP, not little vP. Assuming that the VP adverb can be right-branching or left-branching, the object + NQ can either precedes or follows the VP adverb.

(26) [In a context forcing the restitutive reading, John says:]
    Iceney pro sapo-n-cek-un ep-ci-man,
    before (I) buy-RC-time-TOP be.not-CI-but
    ‘I have never bought an espresso machine before but’,
        I- NOM espresso machine-ACC again 1-CL buy-FUT-promise
        ‘I will buy an espresso machine, (and I have done that before)’
    b. Nay-ka eysupuleyso kikyey-lul han-tay tasi sao-l-kkeyyo
        I- NOM espresso machine-ACC again buy-FUT-promise
        ‘I will buy an espresso machine, (and an espresso machine was bought before)”

(Ko 2004’s (58))
In (26a), the object moves out of VP, stranding its NQ in the base position. The object precedes the VP adverb and object numeral quantifier in the next spell-out domain, that is, in vP. This would contradict the ordering, established in the VP spell-out domain. The VP adverb precedes the object and the numeral quantifier as shown in (27). This indicates that elements base-generated within VP cannot intervene between the object and object-oriented NQ.

(27) *[CP [TP Subj [vP Obj t_{Subj} [vP again t_{Obj} NQ V].] (= 26a)

VP: VP-adverb<Object<NQ<V
vP: Object<VP-adverb<NQ<V (Ordering Contradiction)

If only vP were a spell-out domain, ordering would be free between the VP-adverb and Object + NQ. Thus, (26a) would be predicted to be possible, contrary to fact. The ungrammaticality of (26a) shows that VP should be a Spell-out domain in Korean.

To sum up, the crucial point here is that either vP or VP (or both) can be the lower spell-out domains. To be more specific, vP is the spell-out domain in English, but both vP and VP are spell-out domains in Korean. With these cross-linguistic differences, in section 3.3, I will propose a new analysis of Scope Rigidity in Korean.

3.3. VP Spell-Out Domain and Scope Rigidity in Korean

In this section, I will argue that the fact that VP is the first spell-out domain in Korean, but vP in English, would account for why Korean is a rigid scope language and English is a scope ambiguity language. The scope rigidity in Korean will be attributed to QR, unable to carry an object to a position where it can scope over another quantificational element. As a result, inverse scope is unavailable.

Let us first consider English scope ambiguity in (28). In English, the object quantifier raises to Spec,vP at LF (via QR), since the vP is the lower spell-out domain. Narrow scope for the object quantifier results when the subject moves to SpecTP, so that the subject quantifier c-commands the object quantifier (28a). Wide scope for the object quantifier results when the subject is reconstructed (28b), where the object quantifier c-commands the reconstructed subject quantifier.

(28)  Some boy went to every baseball game.
    a. [TP Some boy_{i} [vP every baseball game_{j} [vP t_{i} went to t_{j}]] (∃>∀)
    b. [TP Some boy_{i} [vP every baseball game_{j} [vP t_{i} went to t_{j}]] (∀>∃)

Reconstruction

By hypothesis, both vP and VP are lower spell-out domains in Korean. Therefore, in Korean, the object quantifier does not directly raise to Spec,vP. It moves first to Spec,VP since VP is the first spell-out domain in (29a). In order for the object to take scope over the subject quantifier, the object must move first to the edge of vP, since vP is a spell-out domain as well and from there to adjoin to TP in (29b). However, the VP-to-vP movement would violate Scope Economy because it does not affect scope
interpretation (Scope Economy, Fox 1995, 2000).

(29) Etten namca ai-ka motun yakwu kyengki-ey kass-ess-ta. (Korean)
Some boy- NOM every baseball game-LOC went-PAST-DEC.
‘Some boy went to every baseball game.’
a. [TP Some boy t] [VP every baseball game] [VP went to t]
   (∃∀)
b. *[TP Every baseball game] [TP some boy] [VP t’] [VP t’] [VP went to t]

*Scope Economy

A similar claim has been made for English. In (30), the object quantifier in the embedded clause cannot reach Spec, CP because QR from vP to CP does not have a semantic effect and is therefore blocked by some form of Scope Economy.

(30) Someone told us [CP t’] that John [vP t talked to every professor].

(∀>Neg and *Neg>∀)

Let us consider (31). In (31), the subject quantifier moves to SpecTP and takes wide scope with respect to the negation an. If reconstruction were possible here, we would predict that the negation scopes over the universal quantifier, contrary to fact.

   Every student- NOM school-LOC go-CI NEG-PAST-DEC

‘Every student didn’t go to school.’

(∀>Neg and *Neg>∀)

Nevins and Anand (2003) argue that purely EPP driven A-movement cannot be reconstructed. Korean is arguably an agreement-less language, making the subject movement to SpecTP purely EPP driven (Miyagawa 2005). Thus, the subject cannot be reconstructed (32). As a consequence, inverse scope is not available in (31). The negation does not take wide scope with respect to the subject quantifier.

   Every student- NOM school-LOC go-CI NEG-PAST-DEC

‘Every student didn’t go to school.’

(*Neg>∀)

I claim the same argument can be applied to the scope rigidity phenomenon in Chinese and Japanese in (33-34). The existence of an extra lower spell-out domain would block QR from VP to vP. Therefore, only the surface scope is possible.
To summarize so far, both vP and VP are Spell-Out Domains in Korean (and possibly also in Chinese and Japanese). Scope Economy is violated when the object quantifier undergoes QR, so inverse scope is prohibited.

3.4. A correlation between Scope Rigidity and Wh-in-situ

It is interesting to notice that the rigid scope languages discussed in this paper are also wh-in-situ languages. In this section, I address this possible correlation between scope rigidity and wh-in-situ. Since we attribute scope rigidity to the lower spell-out domains, it is a natural step to see if the two lower spell-out domains can capture the wh-in-situ as well. Therefore, let us assume that wh-in-situ languages have both vP and VP as the lower spell-out domains.

As the first derivational step in (35), the v head of the embedded clause must agree with the wh-word (Rakowski and Richards 2005). The v head cannot agree with the object wh-word inside VP, because the goal is not visible to its probe, as shown in (35) (Phase Impenetrability Condition, Chomsky 2001).

Therefore, I suppose that the wh-movement to Spec,vP is blocked, and the wh-word must stay in-situ in (36).

On the other hand, in English, the v head can agree with the wh-word since it is in the same spell-out domain in (37).
4. Conclusions

In this paper, I have reviewed and argued against previous literature on Scope Rigidity in Korean, Japanese, and Chinese. As an alternative, I proposed that the lower spell-out domains (vP, VP or both) are parameterized in natural language (Fox and Pesetsky 2005, in prep., Ko 2004) and Scope Rigidity in these East Asian languages can be explained under the assumption that the lower spell-out domains are both vP and VP. I also sketched a possible generalization that rigid scope languages are \textit{wh-in-situ} languages, and this generalization appears to follow the claim that both vP and VP are spell-out domains in those languages.

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