

Parametric Variations in NPI-Licensing and the Role of LF X^0 -Movement

Chizuru Nakao and Miki Obata

University of Maryland and University of Michigan

1. Introduction

The goal of this paper is to elucidate some mechanisms behind NPI-licensing in the recent minimalist framework, especially focusing on cross-linguistic differences between English NPIs and Korean/Japanese NPIs. As is well known, there are at least two apparent discrepancies between them. First, English NPIs allow long-distance licensing, while Korean and Japanese NPIs cannot be separated from Neg across a clause boundary (clausemate condition). Second, Korean and Japanese NPIs can appear at the subject position. Meanwhile, English NPIs such as "any" is never allowed to occur in the subject position. Various attempts have been done to explicate these parametric variations. Lee (1993) suggests that NPIs move to [Spec,NegP] to get licensed and that those parametric variations in NPI-licensing are imputable to a ban on improper movement induced from Condition C violation in accordance with May (1973), assuming that [Spec,NegP] is an A-position in Korean and Japanese and an A'-position in English.

In this paper, we will show that, although this line of analysis might be tenable for other Korean/Japanese NPIs, it cannot be extended to the Japanese NPI "sika". Instead, we suggest that parametric variations can be induced from types of LF movement involved in NPI-licensing: phrasal movement for "any" vs. head movement for "sika". A piece of evidence in favor of the head movement analysis for "sika" lies in the fact that "sika" can be attached to heads such as V^0 , which indicates that the resulting composition is not always a phrase but a head. As a consequence of our analysis, it is implied that there is "syntactic" head movement. That is, head movement is not necessarily PF-movement. (cf. Chomsky, 2001, Boeckx

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and Stjepanovic, 2001). In addition, it is illustrated that either "any" or "sika" needs to undergo movement even under the Agree system proposed in Chomsky (2000), not only under the Spec-head agreement system in Chomsky and Lsanik (1995).

The paper is organized as follows: Section 2 exemplifies different behaviors of NPIs between English and Korean/Japanese and reviews some previous analyses. Section 3 clarifies problems for those previous approaches in the case of the Japanese NPI "sika". Section 4 demonstrates our alternative analysis appealing to types of movement and also considers some theoretical implications. Section 5 concludes our study.

2. Backgrounds: NPIs in English and Korean/Japanese

In this paper, we mainly focus on the two types of data involving NPI-licensing. The first paradigm exemplifies locality effects between Neg and NPI as follows:

- (1) English
 - a. Mary did not eat anything.
 - b. Mary did not believe that John ate anything.
- (2) Korean
 - a. Mary-ka amuto ani manna-essta.
Mary-Nom anybody not met
"Mary did not meet anybody."
 - b. *Mary-ka [John-i amukesto saessta-ko] mit-ci ani hayessta.
Mary-Nom John-Nom anything bought-C believe not did
"Mary did not believe that John bought anything."
- (3) Japanese
 - a. Mary-wa nanimo tabe nakat-ta.
Mary-Top anything eat not-Past
"Mary did not eat anything."
 - b. *Mary-wa [John-ga nonimo tabe-ta to] iwa-nakat-ta.
Mary-Top John-Nom anything ate C say-not-Past
"Mary did not say that John ate anything."

In English, Neg and the NPI "any" can be separated across CP as shown in (1b). Neg in the matrix clause can license "anything" in the embedded clause. In Korean/Japanese, on the other hand, NPIs and Neg have to be in the same clause. Negation in the matrix clause cannot license an NPI in the embedded clause, as seen in (2b) and (3b), so that the sentence becomes unacceptable. That is, Korean/Japanese NPIs require more local relation to

Neg than an English NPI does.

The second paradigm demonstrates availability of NPIs in the subject position.

- (4) English
*Anyone did not meet Mary.
- (5) Korean
Amuto Mary-lul ani mennessta.
Anybody Mary-Acc not meet
"Anyone did not meet Mary."
- (6) Japanese
Dare-mo Mary-o mi-nakat-ta.
Anybody Mary-Acc see-not-Past
"Anyone did not see Mary."

In English, an NPI is not allowed to occur in the subject position as exemplified in (4). In Korean/Japanese, on the other hand, the same configuration is permissible as in (5)-(6).

3. Previous analyses

3.1. Lee (1993)

What kind of mechanisms exists behind these crosslinguistic variations has been one of the central concerns in the study of negation. Among various attempts, Lee's (1993) approach is to explain these differences in NPI-licensing by appealing to a ban on improper movement. (See also Aoyagi and Ishii (1994) and Nishioka (1994) for similar analyses.¹)

1. The approaches suggested in Aoyagi and Ishii (1994) and Nishioka (1994) also account for the parametric variations involved in NPI-licensing based on a ban on improper movement. However, ways to rule out improper movement are different between Lee (1993) and these two works. Lee (1993) adopts May's (1973) type of approach and rules out improper movement because of Condition C violation. On the other hand, Aoyagi and Ishii (1994) and Nishioka (1994) take Fukui's (1993) type of analysis based on the chain uniformity condition. Since our analysis is based on Chomsky's phase-based derivational approach, either May (1973) or Fukui (1993) is hard to maintain in that they requires a global view in the derivation as opposed to Chomsky's (2000 and later) local view. In the following discussion, we simply assume May's binding approach and leave a treatment of improper movement within the phase-based derivation as a pending question. (See Obata and Epstein (2007) for an

Consider the first paradigm concerning the possibility of long distance licensing ((1)-(3)). Given the Spec-Head agreement system proposed in Chomsky and Lasnik (1995), Lee claims that NPIs need to undergo movement to [Spec,NegP] in either English or Korean/Japanese to get licensed. When an NPI is to be licensed by the Neg in a higher clause, she assumes, it bypasses the intermediate [Spec, CP] as an escape hatch. The movement involved on the way to the [Spec,NegP] is illustrated below:

- (7) Mary did not believe that John ate anything.

[Mary did [_{NegP} anything [not believe [_{CP} t₂ that John ate t₁.]]]]

$\begin{array}{c} \wedge \qquad \qquad \qquad \wedge \qquad \qquad \qquad \wedge \\ \text{A}' \qquad \qquad \qquad \text{A}' \qquad \qquad \qquad \text{A} \end{array}$

- (8) *Mary-ka John-i amukesto saessta-ko mit-ci ani hayessta.

[Mary-ka [_{NegP} amukesto[_{CP} t₂[John-i t₁ saessta-ko]]] mit-ci ani]hayessta]

$\begin{array}{c} \wedge \qquad \qquad \qquad \wedge \qquad \qquad \qquad \wedge \\ \text{A} \qquad \qquad \qquad \text{A}' \qquad \qquad \qquad \text{A} \end{array}$

Lee (1993) claims that there is a parameter for the A/A' status of [Spec,NegP]: [Spec,NegP] is an A'-position in English and an A-position in Korean and Japanese. This parameter enables her to deal with parametric variations in NPI-licensing between (7) and (8). In the English case (7), the NPI moves A-to-A'-to-A' under Lee's assumption. In the Korean case (8), A-to-A'-to-A movement takes place. The movement in (7) is permissible in the same way as the wh-movement that starts off from an A-position (= (9a)). On the other hand, the movement is so called improper movement, which is ruled out because of Condition C violation (= (9b)) according to May (1979).

- (9) a. What did you think that John bought _?
([What did you think [t [that John bought t]]]?)
b. *Who seems _ is smart?
([Who t'" seems [t' [t' is smart]]]?)

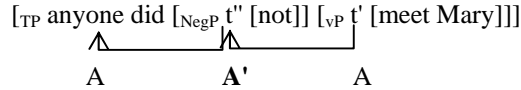
In (9b), t' is in the subject position, which is an A-position. Also, t' is an A'-trace, which is, by hypothesis, an R-expression. On the way to the final landing site, the wh-phrase goes through another A-position: t'" is in the matrix subject position. Since an R-expression must be A-free under Condition C in the binding theory, the configuration in (9b) violates this

alternative analysis of improper movement in the phase-based derivational approach.)

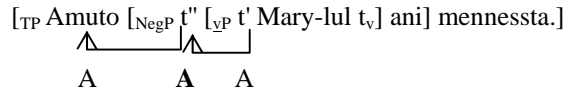
condition in that t'' A-binds t'. The same violation occurs in NPI movement presented in (8). Meanwhile, (9a) is fine because the wh-element never goes back to an A-position once it goes away from the launching site. The same discussion applies to the derivation of the English NPI case in (7). That is, it can be explained that NPIs in Korean/Japanese are not licensed across CP because of Condition C violation under Lee's (1993) analysis.

The same type of discussion can be extended to the account of the paradigm in (4)-(6) related to subject NPIs. The subject is first merged into [Spec,vP], then moves to [Spec,TP] to satisfy the EPP requirement. On the way to [Spec,TP], subject NPIs move through [Spec,NegP] to get licensed by Neg as shown in the following:

(10) *Anyone did not meet Mary.



(11) Amuto Mary-lul ani mennessta.



In (10), "anyone" moves through an A'-position on the way to [Spec,TP]. As a result, the A'-trace t' is A-bound by "anyone" and this configuration violates Condition C in the same way as (9b). Therefore, an English NPI cannot occur in the subject position. The Korean subject NPI in (11) also undergoes movement to [Spec,TP] through [Spec,NegP]. However, [Spec,NegP] is an A-position in Korean, in contrast to an A'-position in English. The movement in (11) is parallel to A-movement and there is no violation of the binding theory. Lee's analysis based on the A/A' distinction can successfully capture the two crosslinguistic variations observed in NPI-licensing.

3.2. Kim (1995)

Kim (1995) also suggests another view for the subject NPI issue by assuming that Korean does not project up NegP, unlike English. Kim argues that Korean Neg is merely adjoined to V in Korean, as shown in (12). (See also Note 2).

(12) [CP [AgrsP [TP [AgrOP [VP subject [V' object [V0 Neg+Verb]]]]]]]

Under this view, Korean NPIs do not undergo movement to [Spec,NegP]; instead, they are licensed in [Spec, AgrP], which is an A-position.

- (13) [_{IP} Mary-ka [_{AgrOP} **amukesto**_I [_{AgrO'} [_{VP} t_{subj} t_I **ani**+man_v]]] -essta]
Mary-Nom anybody not+meet past
 A A

The two crosslinguistic differences between English and Korean NPIs are accounted for in the following way. First, long-distance licensing of Korean NPIs is blocked due to Relativized Minimality (Rizzi 1990). When an NPI in the embedded clause is licensed in the matrix clause, it needs to move to the matrix [Spec, AgrP] as shown in (14).²

- (14) *Mary-ka [_{AgrOP} **amukesto**_I [_{VP} t_{subj}] [_{CP} [_{C'} John-i t_I saessta-ko]]]
Mary-Nom anything John-Nom bought-C
 A *A A
 mit ci **ani**+hayessta].
believe not did

This movement of "amukesto" creates a legitimate A-A chain, but it skips a potential landing site [Spec, VP], causing a Relativized minimality violation. Thus long-distance licensing of Korean NPIs is excluded.

2. Korean has two forms of negation, which Kim (1995) calls "short form" and "long form".

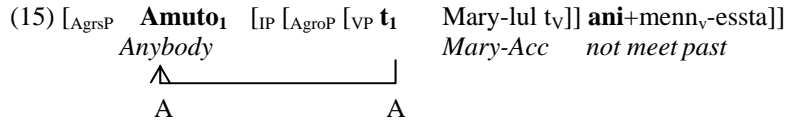
- (i) a. Short form: Chelswu-ka pap-ul am-mek-ess-ta.
 Chelswu-Nom meal-Acc not-eat-past-dec
 "Chelswu did not eat meal."
 b. Long form: Chelswu-ka pap-ul mek-ci an-ass-ta.
 Chelswu-Nom meal-Acc eat not-past-dec
 "Chelswu did not eat meal."

In (14), the long form negation is employed while (13) employs the short form negation. Kim analyzes both forms of negation as a V-adjunct, as shown in (ii).

- (ii) a. ... [_{VP} Chelswu-ka [_{V'} pap-ul [_{V₀} an+mek] ...]
 b. ... [_{VP} [_{V'} [_{VP} Chelswu-ka [_{V'} pap-ul [_V mek]]] [_{V₁} an+ha]]] ...

Either way, Neg does not project NegP in Korean, and the short-form/long-form distinction is not crucial in his analysis.

Second, a subject NPI in Korean is licensed in [Spec,AgrSP] as illustrated in (15).



"Amuto" does not move through [Spec,NegP] but directly goes to [Spec,TP]. This does not cause improper movement, unlike the English example (10). Note that, if Kim's analysis is on the right track, there is no need to postulate parameters for the A/A'-status of [Spec,NegP]. That is, it can be assumed that [Spec,NegP] is universally an A'-position. The asymmetry in the possibility of subject NPIs is attributed to whether there exists [Spec,NegP] and not whether [Spec,NegP] is an A or A'-position.

In this section, we have seen Lee (1993) and Kim (1995) especially focusing on how to derive the two types of parametric variations involved in NPI-licensing. Both analyses attempt to capture them based on a ban on improper movement: Lee proposes the parameter for the A/A'-status of [Spec,NegP] and Kim (1995) suggests that NPIs in Korean are licensed in [Spec,AgrP] positions.

4. Problems

In this section, we show that the previous analyses by Lee (1993) and Kim (1995) are problematic in analyzing the Japanese NPI "sika".³ Before going into further discussion, let us see some basics about "sika". First, "sika" requires co-occurrence of a negation and is interpreted as "not. . . except", namely "only" in English, as in (16). With respect to the two crosslinguistic variations in NPI licensing, "sika" behaves in the same way as other Korean/Japanese NPIs. That is, "sika" cannot be licensed across a clause boundary as in (17), and "sika" can show up in the subject position as

3. Watanabe (2004) claims that items such as *nanimo* 'anything' and *daremo* 'anyone' are Negative Concord Item (NCIs) rather than NPIs. However, *-sika* behaves differently from *nanimo* in some of his diagnostics for NCIs (e.g. independent answer is possible with *nanimo* but not *-sika*, as in (i)). We keep treating *-sika* as an NPI here.

(i) "John-wa nani-o tabe-mashi-ta ka?" "Nanimo." / "*Ringo-sika."
John-Top what-Acc eat-polite-past Q Anything Apples-sika
 "What did John eat?" "Nothing." / "Only apples."

in (18).

- (16) a. Mary-wa ringo-**sika** tabe-**nakat**-ta.
Mary-Top apple-sika eat-not-Past
"Mary ate only apples."
(= *lit.* "Mary didn't eat except for apples")
b. *Mary-wa ringo-**sika** tabe-ta.
Mary-Top apple-sika eat-Past
- (17) a. Mary-wa [John-ga ringo-**sika** tabe-**nakat**-ta to] omowa-ta
Mary-Top John-Nom apple-sika eat-not-Past C think-Past
"Mary thought that John did not eat only apples."
b. *Mary-wa [John-ga ringo-**sika** tabe-ta to] omowa-**nakat**-ta
- (18) Mary-**sika** ringo-o tabe-**nakat**-ta.
Mary-sika apple-Acc eat-not-Past

We make new observations to show that, unlike other Korean and Japanese NPIs, the distribution of "sika" should not be explained in terms of improper movement. The first point concerns NPI movement from an adjoined position, namely an A'-position. As exemplified below, "sika" can be attached to adjuncts (Matsui 2003):

- (19) Mary-wa yukkuri-sika ringo-o tabe-nakat-ta.
Mary-Top slowly-sika apple-Acc eat-not-Past
"Mary ate apples only slowly."

The NPI phrase "yukkuri-sika" ('slowly') is in an A'-position, as it is an adjunct rather than an argument. Given the assumption in the previous analyses that NPIs need to undergo movement to an A-position (i.e. [Spec, NegP] in Lee (1993) and [Spec, AgrP] in Kim (1995)), the NPI phrase in (19) moves from an A'-position to an A-position. Improper movement is originally reported in Chomsky (1973) and it is described that no element is allowed to move from a Comp-position to a non-Comp-position, which can be rephrased as a ban on movement from an A'-position to an A-position.⁴ Therefore, the previous analyses incorrectly rule out (19) because of improper movement from an A'-position (i.e. an adjoined position) to an A-position (i.e. [Spec, NegP]/[Spec, AgrP]).

4. A-A' movement, unlike A-A'-A movement, cannot be excluded by May's (1979) account based on Condition C; the original A-trace is not A-bound in this movement. However, there are no attested instances of legitimate A-A' movement and we will assume here that it is an improper movement, following Chomsky's (1973) generalization.

The second problem is regarding "phrasal" NPI movement to [Spec,NegP]. Based on Lee's analysis, NPIs need to move to [Spec,NegP] to get licensed under the Spec-head relation. Kim's analysis assumes movement of NPIs to [Spec, AgrP]. Both analyses assume that NPIs are uniformly a phrasal element that is licensed in a Spec position. However, a close scrutiny of "sika" tells us that a syntactic object attached by "sika" is not always XP but it can be X^0 depending on a context:

- (20) a. [context: John hates the vegetable juice. Juice is normally what you drink, but...]
 b. John-wa sono juusu-o name-sika si-nakat-ta.
 John-Top the juice-Acc lick-sika do-not-Past
 "John only licked the juice./All John did was to *lick* the juice."
 (21) a. [context: John has a terrible cold. He should take a proper care of himself, but...]
 b. John-wa nodoame-o name-sika si-nakat-ta.
 John-Top cough-drop-Acc lick-sika do-not-Past
 "John only licked cough drops./ All John did was to lick cough drops."

In (20), the scope of "sika" is only the V-head. The sentence means that John only *licked* the juice, as opposed to *drink* the juice. That is, "lick" and "drink" are contrasted, which indicates "sika" is attached only to V^0 in this case. It is still true when John drinks or eats something other than the juice. In (21), on the other hand, the scope of "sika" is the entire VP. The sentence implies that John didn't do any activities other than to lick cough drops, as opposed to see the doctor, etc. In this case, "to lick cough drops" and "to see the doctor", etc., which are VPs, are implicitly contrasted with the "sika" phrase. That is, "sika" is attached to the entire VP, not only to V^0 . These data show that an object attached by "sika" is not limited to XP. Thus, the previous analyses resting only on phrasal movement seems to suffer from a case like (20a).

The last point concerns interpretive ambiguity in the case that a clause includes a single NPI and two negations, which would be problematic if we try to extend Kim's [Spec, AgrP] analysis to "sika":

- (22) Mary-wa ringo-sika tabe-naku-nakat-ta.
 Mary-Top apple-sika eat-not-not Past
 a. [[Mary-Top apple-**sika** eat-**not**] not-past]
 "It is not the case that Mary only ate apples. (= ate something else, too.)"

- b. [Mary-Top apple-**sika** [eat-not] **not**-past]
"Mary did not eat (= avoided eating) only apples. (= ate everything other than apples.)"

The sentence in (22) is ambiguous depending on which negation is associated with "sika": the first Neg in (22a), the second Neg in (22b). Recall that Kim (1995) does not postulate NegP. Under this system, Neg and NPIs are not connected syntactically in that there is no NPI-movement to NegP, in contrast to Lee (1993). Korean/Japanese NPIs are uniformly licensed in the [Spec,AgrP] position. That is, it is unclear how these interpretive ambiguity is configurationally expressed in Kim (1995).⁵

In this section, we have discussed three types of problems for the previous analyses. Summarizing our observations, the following three points need to be taken into account to explain the behavior of "sika": [1] "sika"-movement from an adjoined position (A') to [Spec,NegP] (A) does not cause improper movement, [2] an element attached by "sika" is not necessarily a phrase but it can be a head, and [3] NegP and NPIs need to be syntactically associated to express interpretive ambiguity.

5. The Covert Head-Movement Analysis

In order to integrate the problems mentioned in the previous section, we will show an alternative analysis attributing the distribution of "sika" to covert head movement. Under our analysis, the morpheme "sika" undergoes LF head movement onto Neg, as illustrated in (23).

- (23) ${}_{[IP]}$ Mary-wa ${}_{[NegP]}$ ${}_{[VP]}$ ringo-**t₁** tabe] **nakat-sika₁**] ta]. (= (16a))
Mary-Top apple eat not-sika past
"Mary only ate apples."

We claim that the crosslinguistic differences between the English-type NPIs and the Japanese NPI "sika" are explained in terms of the parameter of

5. Also, Kim (1995) might suffer from explaining why NPIs require negations obligatorily. In the approach appealing to NPI-movement to [Spec,NegP], NPIs have some features which have to be licensed by Neg. Otherwise, the derivation does not converge. That is, this type of approach successfully captures the fact that NPIs can exist only when Neg co-occurs. On the other hand, it is not clear how to ensure that NPIs are obligatorily accompanied with Neg without any syntactic association between Neg and NPIs. This seems to be another problem Kim (1995) confronts.

phrasal movement to [Spec,NegP] vs. head movement onto Neg.

5.1. Commonalities between NPIs and Wh-Questions

Before going into the details of our analysis, let us lay out the theoretical assumptions on NPI-licensing. First, consider feature distributions for NPIs and Neg. As we have already seen, NPIs require Neg in a sentence. A similar dependency is also observed in wh-questions.

(24) English NPIs

- a. Mary believed that John did not eat anything.
- b. *Mary believed that John ate anything.

(25) English wh-questions

- a. Mary wondered what John ate _.
- b. *Mary thought John ate what. / Mary thought what John ate _.

(26) Japanese NPIs

- a. John-wa ringo-sika tabe-nakat-ta.
John-Top apple-sika eat-not-Past
"John ate only apples."
- b. *John-wa ringo-sika tabe-ta.
John-Top apple-sika eat-Past.

(27) Japanese wh-questions

- a. John-wa nani-o tabe-ta no?
John-Top what-Acc eat-Past Q
- b. *John-wa nani-o tabe-ta.
John-Top what-Acc eat-Past

As shown in (25), a wh-phrase needs to co-occur with C marked with [+Q], in a parallel way as "anyone" requires "not" in (24). The same dependency has to be established in Japanese. In (27), a wh-phrase needs to occur with [+Q]C which is realized as a Q-morpheme "no". Again, a Japanese NPI "sika" and Neg need to co-occur in a sentence as in (26). That is, both NPIs and wh-phrases are allowed to appear only in the relation to the specific heads. In this sense, it seems to be reasonable to assume that NPIs and wh-phrases have some sort of uninterpretable features to get valued and deleted. What about the heads? Based on the assumption that uninterpretable features on a functional head triggers Agree discussed in Chomsky (2000), let us assume that either C or Neg has an uninterpretable feature. The following feature distributions are presupposed:⁶

6. Both [+Q]C and Neg can appear in a sentence by themselves as follows.

- (28) wh-question: C_[uQ] / wh-phrase_{[uQ][iWh]}
 (29) NPI-licensing: Neg_[uNeg] / NPI_{[uNeg][iNPI]}

In a nutshell, our assumption is that an NPI and Neg have a feature-valuation relationship, which is analogous to a wh-phrase and C.

5.2. Locality of NPI-Licensing

Based on the above discussions, we demonstrate how to capture different locality conditions between English NPIs and "sika" in terms of phrasal movement vs. head movement. First, consider long-distance NPI-licensing in English. This locality issue is, in fact, another similar point between NPI-licensing and wh-dependencies. In English, long-distance licensing across CP is allowed in both types of dependencies.⁷

- (30) What did you think that John ate _?
 [what did you think [CP t" that John ate t']
 (31) Mary did not believe that John ate anything.
 [Mary did [_{NegP} <anything> not believe [CP t" that John ate t'.]

Under the phase-based derivation, the domain of each phase is transferred to the interfaces. In the following discussion, we assume that only CP is a phase based on the discussion in Simpson and Wu (2002).⁸ Also, we regard NegP as a weak phase such as TP based on Chomsky (2000), which triggers Agree and movement but the transfer operation is not applied. Let us see how the derivations proceed in (30) and (31). The first transferred domain is the embedded TP in both sentences. Both TPs include uninterpretable features which are unable to get valued and deleted, since wh-phrases and NPIs have uninterpretable features as mentioned earlier. If they are

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- (i) Did John eat apples?
 (ii) John didn't eat apples.

If we hypothesize that [+Q]C and Neg have uninterpretable features as illustrated in (28) and (29), it is predicted that the sentences shown above are all ungrammatical. Therefore, we assume that [+Q]C and Neg in (i)-(ii) are different from the ones in (28) and (29) in that the formers only have interpretable features.

7. In the representations, we use traces only for space limitations.
 8. This view is also supported by the data that a floated quantifier from a moving wh-phrase can be stranded only at CP or the launching site, but not at the other positions, in Irish English in McCloskey (2000)

transferred to the interfaces, the derivations crash at the first phase. The EPP features on C attract them to [Spec,CP], then the domain of C is convergent. The derivation goes on to the next CP phase. This phase includes potential probes for "what" and "anything". In (30), the matrix C marked with [+Q] probes and attracts "what" to [Spec,CP]. Similarly, in (31), Neg probes and attracts "anything" to [Spec,NegP]. Since no uninterpretable features exist, the derivation successfully converges. The only difference between (30) and (31) is that the former involves overt movement but the latter involves covert movement. The overt/covert distinction is based on Groat and O'Neil (1996), where the operation of copy-deletion applied at the PF side differentiate them. That is, the two types of movement are not distinguishable in the narrow syntax.⁹ Under these assumptions, both sentences in (30) and (31) are successfully derived.

Further, the following paradigm enforces our view that wh-movement and NPI-licensing share several similarities:

- (32) a. ??What did you wonder where John ate apples _?
 b. *Mary didn't know where John ate anything.

(32a) is the sentence which involves extraction out of a wh-island and the sentence is degraded. (32b) is an indirect question. In this configuration, there is no NPI reading of "anything". The possible reading is "Mary didn't know where John ate something". Under the NPI reading, (32b) is unacceptable. Remember that in the derivations in (30) and (31), both NPI and wh-phrase land at [Spec,CP] to escape from the transferred domain. Then, the probes in the next clause agree and attract them. On the other hand, the escape hatches in (32) are already occupied by other elements. That is, it can be thought that the domain of the embedded C is transferred including uninterpretable features because of unavailability of escape hatches. As a result, the derivations for (32) crash and the sentences become ungrammatical. Our phase-based derivation can successfully capture the commonalities observed in locality of NPI-licensing and wh-questions.

Next, let us see the cases of "sika". As we already know, Japanese NPIs do not allow long-distance licensing. On the other hand, Japanese wh-

9. In Chomsky (2001), the overt/covert movement distinction is made in relation to the timing of Spell-Out. That is, movement before Spell-Out is overt movement while movement after Spell-Out is covert movement. As pointed out in Epstein and Seely (2002), this distinction is hard to maintain under the PIC in that no element can be extracted once Spell-Out applies. In other words, movement after Spell-Out is not allowed to happen under the PIC. Therefore, we adopt Groat and O'Neil's type of overt/covert distinctions.

questions can establish the dependency across CP.

- (33) a. *Mary-wa [John-ga ringo-**sika** tabe-ta to] omowa-**nakat**-ta
Mary-Top John-Nom apple-sika eat-Past C think-not-Past
"Mary didn't think that John ate any apple."
b. Mary-wa [John-ga **nani**-o tabe-ta to] omot-tei-ta **no**?
Mary-Top John-Nom what-Acc eat-Past C thinking-Past Q

Unlike in English, a wh-phrase and NPI do not share locality. Recall that "sika" can be attached to a head such as V⁰ in a certain context. That is, the entire object V⁰-sika is not a phrase but still a head. On the other hand, Japanese wh-phrases are XP like the ones in English. This discrepancy is captured in our analysis, under which "sika" is licensed by head-movement. (33a) is derived by covert head movement onto Neg (See (23)), while (33b) involves covert phrasal movement of a wh-phrase to [Spec,CP].¹⁰ (33a) is excluded because C in the embedded clause is already occupied with a declarative Comp marker "to" and a sika-head cannot land at the edge position. As a result, "sika" with an uninterpretable feature is stranded within the embedded TP and transferred to the interface.¹¹ The derivation crashes.¹² On the other hand, [Spec,CP] in (33b) is vacant. That is, a wh-phrase can use [Spec,CP] as an escaping hatch, so the transferred domain does not include any uninterpretable feature. Then, the matrix C probes the wh-phrase and the derivation successfully converges. Thus the contrast

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10. We assume that a wh-phrase in Japanese undergoes covert phrasal movement to [Spec,CP] in accordance with Lasnik and Saito (1992). Another plausible view is Watanabe's (1992) null operator movement analysis. The crucial point in our paper is that Japanese wh-questions involve "phrasal" movement regardless of a wh-phrase itself or a null operator. In this paper, we adopt Lasnik and Saito's view only for ease of the discussion.
11. On the way to C, "sika" moves across other heads such as a tense morpheme. We follow Roberts (1994) and Takahashi (2002), and assume that the Head Movement Constraint does not always hold.
12. One might say that it is not clear why a morpheme on C blocks "sika" to land at C but why a negative morpheme "nai" does not prevent "sika" to move to Neg. Notice that these two cases are fundamentally different. In the latter case, "sika" movement is a consequence of Agree with Neg. That is, both the probe and the goal share features, then they are associated by attraction. It can be thought that this association can be motivated by semantic interpretation. That is, this association is necessary for getting NPI-reading. On the other hand, the former case does not involve the Agree relation between an attractor and attractee. Also, there is no semantic relation between "sika" and "to". We assume that such an unmotivated head-adjunction is not allowed.

between (33a) and (33b) is attributable to the parameter of head movement vs. phrasal movement. The same discussion applies to the contrast between (31) for "sika" and (33a) for an English NPI "any". That is, the possibility of long-distance NPI-licensing is imputable to the types of movement, namely phrasal movement vs. head movement.

Importantly, our analysis appealing to covert head movement brings us a theoretical implication. As long as our analysis is on the right track, the clausemate condition observed in "sika" gives a piece of evidence to believe that there is syntactic head movement, in contrast to the view that head movement is PF-movement discussed in Chomsky (2001) and Boeckx and Stjepanovic (2001). Also, under our analysis, there is no need to stipulate a parameter for the A/A'-status of [Spec,NegP] and we can say that [Spec,NegP] is universally an A'-position. This consequence is compatible with Chomsky and Lasnik's (1995) L-relatedness. Since [Spec,NegP] is neither a potential theta-position nor a Case-position, it is regarded as an A'-position under the concept of L-relatedness.

5.3. NPIs in the Subject Positions

The same analysis can be extended to the subject NPI issue: an English NPI is not allowed to appear in the subject position while a Japanese NPI "sika" can occur in the subject position.¹³

(34) *Anyone did not meet Mary.

[_{TP} anyone did [_{NegP} t' [not]] [_{vP} t' [meet Mary]]]
 A A' A

(35) Mary-sika ringo-o tabe-nakat-ta.

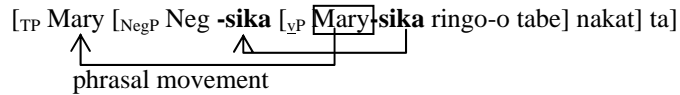
Mary-sika apple-Acc eat-not-Past

13. Aoyagi and Ishii (1994) and Kato (2000) argue that the NPIs such as "nanimo" ('anything') and "daremo" ('anyone') are actually adjuncts, based on the fact that they can co-occur with a 'real' argument, as shown in (i). The same type of examples are possible with "sika" as in (ii).

(i) Gakusei-ga daremo kuruma-o kaw-anakat-ta.
 Students-Nom anyone car-Acc buy-not-Past
 "Any students didn't buy a car."

(ii) Gakusei-ga John-sika kuruma-o kaw-anakat-ta.
 Students-Nom John-sika car-Acc buy-not-Past
 "Among the students, only John bought a car."

If these apparent subject NPIs are actually adjuncts, we do not need to posit the movement of "Mary" to [Spec,TP] in (35).



With respect to the English case in (34), we keep Lee's analysis based on a ban on improper movement. In (35), on the other hand, two different types of movement are involved. First, Neg probes "sika" based on feature identity. Then, "sika" undergoes head movement to Neg. Next, T probes and attracts "Mary". Notice that the intervening NegP does not prevent T probes "Mary" because there is no shared feature between T and NegP and the defective intervention constraint does not work for this case. As a result, both "Mary" and "sika" can be successfully licensed and the derivation converges. Our system can appropriately capture the contrast observed in subject NPIs.

6. Summary and Conclusion

We have demonstrated our alternative analysis for NPI-licensing by looking at a Japanese NPI "sika". Our main claim is that cross-linguistic variations between English NPIs and the Japanese NPI "sika" can be explained by different types of NPI-movement: phrasal movement in English vs. head movement in Japanese.

Turning back to the three problems we need to overcome discussed in Section 3, they are not problematic under our analysis.

- [1] "Sika"-movement from an adjoined position (A') to [Spec,NegP] (A) does not cause improper movement.
- [2] An element attached by "sika" is not necessarily a phrase but a head.
- [3] NegP and NPIs need to be syntactically associated to express interpretive ambiguities.

As for [1], our system no longer invokes phrasal movement of NPI to [Spec,NegP]. Under current view, "sika" is detached from an adjoined element and undergoes head movement to Neg. Given that improper movement occurs only in the case of phrasal movement, [1] is no longer problematic.¹⁴ Regarding [2], we suggest the head movement analysis of

14. Even if improper movement happens also to head-movement, our analysis seems to be still maintained. As mentioned in the last section, [Spec,NegP] is regarded as an A'-position given L-relatedness. Although it is not clear how to decide the A/A'-status of heads, if a head has the same A/A'-status as the spec position, Neg-head should be an A'-position. That is, "sika" moves from an

"sika". That is, the categorical status of a host object is not a matter of concern. Again, [2] is not a problem for our system. With respect to [3], we have assumed NegP as a weak phase like TP. Also, NPIs and Neg are syntactically connected by movement. That is, our analysis can express interpretive ambiguity.

Finally, our analysis implies that there is syntactic head movement, in contrast to the view that head movement is PF-movement in Chomsky (2001). This is one of the important consequences obtained from our system. Also, if the current view is on the right track, NPIs need to move to NegP in the same way as wh-movement to CP even under the probe-goal system, not only in the Spec-Head agreement system.

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Department of Linguistics
1401 Marie Mount Hall
University of Maryland
College Park, MD 20742-7505
cnakao@umd.edu

Department of Linguistics
University of Michigan
440 Lorch Hall
611 Tappan Street
Ann Arbor, MI 48109-1220
mobata@umich.edu