1-28-2013

On PP Left-branch Extraction in Japanese

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Abstract

This paper provides an analysis of hitherto unnoticed data concerning left-branch extraction of PPs (PP LBE) in Japanese. While (leftward) LBE of nominals (NP LBE) is impossible in Japanese (see Kato 2007 and Nomura and Hirotsu 2005, among others), PP LBE is in fact allowed. The proposed analysis crucially relies on a specific definition of phases and Watanabe's (2010) suggestion that the so-called genitive marker –*no* in fact has a dual status. It is also suggested that PP LBE is an instance of overt Wh-movement (cf. Takahashi 1993, 1994).

On PP Left-branch Extraction in Japanese

Masahiko Takahashi and Kenshi Funakoshi[*]

1 Introduction

This paper provides an analysis of a hitherto unnoticed contrast concerning left-branch extraction (LBE) in Japanese and considers its theoretical implications. (Leftward) LBE in Japanese has been assumed to be impossible in the literature (see Kato 2007, Kikuchi 1987, Nomura and Hirotsu 2005, and Snyder et al. 1995, among others), which is shown by the following examples:

(1) a. Taroo-ga   [dare-no   tegami]-o   sute-ta-no?
        Taro-NOM   who-GEN   letter-ACC   discard-PST-Q
        'lit. Taro discarded whose letter?'
    b.*Dare$_i$-no   Taroo-ga   [t_i tegami]-o   sute-ta-no?
        who-GEN   Taro-NOM   letter-ACC   discard-PST-Q
        'lit. Whose$_i$, Taro discarded [a letter t_i]?'

In (1a) the object contains a nominal *dare* 'who', which gets genitive Case (cf. Kitagawa and Ross 1982). (1b) shows that the genitive nominal cannot be moved to the sentence-initial position.[1] Left-branch extraction of genitive nominals (henceforth nominal LBE) is thus impossible. What has been unnoticed, however, is the fact that a PP within a nominal can undergo left-branch extraction. The following examples illustrate this point:

(2) a. Taroo-ga   [dare-kara-no   tegami]-o   sute-ta-no?
        Taro-NOM   who-from-GEN   letter]-ACC   discard-PST-Q
        lit. 'Taro discarded a letter from who?'
    b. Dare-kara$_i$-no   Taroo-ga   [t_i tegami]-o   sute-ta-no?
        who-from-GEN   Taro-NOM   letter-ACC   discard-PST-Q
        lit. 'From who$_i$, Taro discarded [a letter t_i]?'

The object in (2a) contains a PP *dare-kara* 'from who', which gets genitive Case (cf. Kitagawa and Ross 1982). Significantly, the genitive PP can be moved out of the object, which is shown by the grammaticality of (2b). Left-branch extraction of genitive PPs (henceforth PP LBE) is thus allowed.

The contrast between nominal LBE and PP LBE raises the following questions, which we will address in the following sections. First, we have to account for why PP LBE is allowed while nominal LBE is disallowed. We will argue that the contrast receives a principled account by an interaction of anti-locality (see Bošković 2005, 2010a, 2012a,b) and a particular definition of phases, where phasehood is determined by Case (see Bošković 2012b, Epstein et al. 2012, Miyagawa 2011, and M. Takahashi 2011, among others). Second, we have to account for the nature of the movement involved in PP LBE. We will argue that PP LBE is an instance of overt wh-movement. (cf. Takahashi 1993, 1994).

This paper is organized in the following way. In section 2 we discuss properties of nominal

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[1] Some speakers found (1b) acceptable when the subject *Taroo-ga* 'Taro-Nom' is replaced by noun phrases marked with a topic marker like *Taroo-wa* 'Taro-Top'. We assume that in this case, LBE does not occur, where the topic phrase is parenthetically inserted between the genitive nominal and the host noun or alternatively, the topic phrase undergoes what Tonoike (1980) calls Downgrading, which makes the topic phrase a 'free floating element'. See also Saito 1985 for Downgrading.

LBE and PP LBE in detail and provide evidence that PP LBE involves movement. In section 3 we provide an analysis of the contrast between nominal LBE and PP LBE, which relies on an interaction of phasehood of host nominals and anti-locality. We will argue that host nominals constitute phases when nominal LBE takes place while host nominals are not phases when PP LBE takes place. In section 4 we deduce the 'phasal' difference between PP LBE and nominal LBE, assuming (i) that phases are defined by Case and (ii) that the genitive marker -*no* has a dual status (Watanabe 2010). In section 5 we discuss further properties of PP LBE and argue that PP LBE is an instance of overt wh-movement. Section 6 is the conclusion.

2 PP LBE in Japanese Involves Movement

It has been observed in the literature that (adjectival) LBE is possible in some languages that lack overt definite articles (e.g., Latin and Serbo-Croatian) (see Uriagereka 1988; see also Bošković 2005, 2008 and Corver 1992).

(3) *Whose$_i$ did you see [t_i father]?   (Bošković 2005:2)

(4) fijeg$_i$ si   vidio   [t_i oca]?   (Serbo-Croatian)
     whose   are   seen   father
     'Whose father did you see?'   (Bošković 2005:2)

In (3) *whose* is extracted out of the object. This shows that LBE is impossible in English, which has the definite article *the*. In (4) the possessor *fijeg* 'whose' is extracted out of the object.[2] The grammaticality of this example shows that LBE is allowed in SC, which lacks definite articles.

In a similar vein, adjunct extraction is also possible in some languages that lack overt definite articles (see Bošković 2005 and Stjepanović 1998; cf. Chomsky 1986, Culicover and Rochemont 1992).

(5) a. Peter   met   [girls   from   this   city]
     b. *From   which   city$_i$ did   Peter   meet   [girls t_i]?   (Bošković 2005:9)

(6) Iz   kojeg grada$_i$ je   Petar   sreo [djevojke t_i]   (Serbo-Croatian)
     from which city   is   Peter   met   girls   (Stjepanović 1998)

While the adjunct *from which city* cannot be extracted in English (cf. (5)), such extraction is possible in SC (cf. (6)).

Turning back to Japanese LBE, we saw above that PP LBE is allowed while nominal LBE is disallowed:[3]

(7) a. Taroo-ga   [dare-no   tegami]-o   sute-ta-no?
         Taro-NOM   who-GEN   letter-ACC   discard-PST-Q
         'lit. Taro discarded whose letter?'
     b. *Dare$_i$-no   Taroo-ga   [t_i tegami]-o   sute-ta-no?   (Nominal LBE)
         who-GEN   Taro-NOM   letter-ACC   discard-PST-Q
         'lit. Whose$_i$, Taro discarded [a letter t_i]?'

(8) a. Taroo-ga   [dare-kara-no   tegami]-o   sute-ta-no?
         Taro-NOM   who-from-GEN   letter]-ACC   discard-PST-Q
         'lit. Taro discarded a letter from who?'
     b. Dare-kara$_i$-no   Taroo-ga   [t_i tegami]-o   sute-ta-no?   (PP LBE)
         who-from-GEN   Taro-NOM   letter-ACC   discard-PST-Q
         'lit. From who$_i$, Taro discarded [a letter t_i]?'

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[2] Possessors in SC are treated as adjectives by Bošković (2005). See also Bošković (2010b).

[3] We consulted thirteen speakers (all linguists). Seven of them found the contrast between nominal LBE and PP LBE in the direction reported in the text. One of them found both nominal LBE and PP LBE acceptable and four of them found both nominal LBE and PP LBE equally unacceptable. The remaining one speaker found nominal LBE better than PP LBE. We focus on the grammar of the speakers who found the contrast indicated in the text.

As Japanese has no definite articles, it is not surprising that Japanese allows (at least some instances of) LBE.

We now present two pieces of evidence that PP LBE involves movement. First, as we saw in (8), the moved PP bears the genitive marker *-no*. Given that PPs usually get *-no* when they are within a nominal projection (cf. Kitagawa and Ross 1982), it seems reasonable to assume that there is a trace/copy of the PP in the object in (8b).[4] Second, PP LBE is island-sensitive. Given that island-sensitivity is a hallmark of movement (Ross 1967), this shows that PP LBE must involve movement. Consider first the following examples, which show that PP LBE can take place across a clausal boundary:

(9) a. Hanako-ga   [_{CP} Taroo-ga [dare-kara-no   tegami]-o   sute-ta]-to
       Hanako-NOM   Taro-NOM   who-from-GEN   letter-ACC   discard-PST-that
       omottei-ru-no?
       think-PRS-Q
       'lit. Hanako thinks that Taro discarded [a letter from who]?'

    b. Dare-kara$_i$-no   Hanako-ga   [_{CP} Taroo-ga [t_i tegami]-o   sute-ta]-to
       who-from-GEN   Hanako-NOM   Taro-NOM   letter-ACC   discard-PST-that
       omottei-ru-no?
       think-PRS-Q
       'lit. From who$_i$ Hanako thinks that Taro discarded [a letter t_i]?'

In (9a) the genitive PP *dare-kara-no* 'who-from-Gen' is contained in the object in the embedded clause. The PP is in the sentence-initial position in (9b), which indicates that the dependency in question can be established across a clausal boundary. Significantly, the dependency cannot be established across a relative clause island:

(10) a. Hanako-ga   [[_{RC}[dare-kara-no   tegami]-o   sute-ta]   hito]-o
        Hanako-NOM   who-from-GEN   letter-ACC   discard-PST   person-ACC
        sagasitei-ru-no?
        be.looking.for-PRS-Q
        'lit. Hanako is looking for a person that discarded a letter from who?'

     b.*Dare-kara$_i$-no Hanako-ga   [[_{RC}[t_i tegami]-o   sute-ta]   hito]-o
        who-from-GEN Hanako-NOM   letter-ACC discard-PST person-ACC
        sagasitei-ru-no?
        be.looking.for-PRS-Q
        'lit. From who$_i$ Hanako is looking for a person who discarded [a letter t_i]?

In (10a) the PP *dare-kara-no* 'who-from-Gen' is contained in the object, which is in turn contained in the relative clause island. (10b) shows that PP LBE cannot take place out of this relative clause. Given that island-sensitivity is a hallmark of movement, the ungrammaticality of (10b) shows that PP LBE involves movement.

To summarize, we have seen that while nominal LBE is impossible, PP LBE is possible and that PP LBE involves movement. In the next section, we will discuss the contrast between nominal LBE and PP LBE and derive the difference from an interaction of anti-locality and phases.
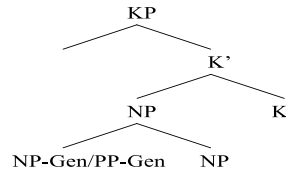
3 Analysis: Phases and Anti-locality

In this section we provide an analysis of the difference between nominal LBE and PP LBE. We propose that the contrast between nominal LBE and PP LBE receives an account by an interaction of locality of movement and phasehood (see Bošković 2005, 2010a, 2012a, 2012b). We assume (i) that K(ase)P (i.e., projection of a Case-particle) is projected above NP in Japanese (cf. Tateishi 1989, Tonoike 1991) and (ii) that nominals and PPs are adjoined to host NPs (cf. Bošković 2010b,

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[4] See Section 4 for discussion.

Cheng 2011). The above assumptions give us the following structure:

(11)

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                              KP
                             /  \
                                 K'
                                /  \
                              NP    K
                             /  \
                  NP-Gen/PP-Gen   NP
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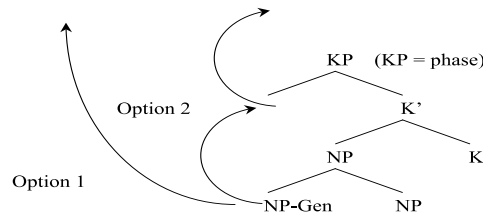
Here the highest nominal projection is KP. Furthermore, genitive elements within nominals are all NP adjuncts.[5]

We are now ready to discuss the contrast between nominal LBE and PP PBE. We propose that while KPs with nominals are phases, KPs with genitive PPs are not phases (see below for a deduction of this assumption). This proposal in tandem with the assumptions made above accounts for the difference between nominal LBE and PP LBE. Consider the following derivation of nominal LBE:

(12)

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                                    KP    (KP = phase)
                      Option 2     /  \
                                       K'
                                      /  \
                                    NP    K
                      Option 1    /  \
                          NP-Gen      NP
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As shown in (12), there are two potential options to consider here: direct movement of the genitive nominal out of the KP (option 1) and successive cyclic movement of the genitive nominal through the KP edge (option 2). Given that KP is a phase in (12), the first option is ruled out by the phase impenetrability condition (henceforth PIC) (see Chomsky 2000, 2001, 2004, 2008), which requires a moving element to stop by every phase edge. The definition of the PIC is given below:

(13) In phase α with head H, the domain of H is not accessible to operations outside α, only H
      and its edge are accessible to such operations.   (Chomsky 2000:108)

(13) states that upon completion of a phase, an element that is to move out of the phase must move to the edge of the phase. As KP is a phase in (12), the genitive nominal has to move to the KP edge. The first option in (12) is thus ruled out. Turning now back to the second option, which does obey the PIC (the genitive nominal moves to the KP edge), we argue that this option is ruled out by anti-locality. In particular, the nominal cannot move to the KP edge in (12) because the genitive nominal adjoined to the NP is "too close" to the KP edge. We assume a version of anti-locality adopted by Bošković (2005):[6]

(14) Each chain link must be at least of length 1, where a chain link from A to B is of length n if
      there are n XPs that dominate B but not A.   (Bošković 2005:16)

(14) dictates that movement must cross at least one full phrase. The genitive nominal is NP-adjoined in (12), thus movement to the KP edge does not cross a one full phrase, which violates anti-locality.

The derivation of PP LBE, where KP does not project a phase, is given below:

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[5] See Section 4 for discussion of the genitive marker.

[6] For anti-locality, see Abels 2003, Bošković 1994, 1997, Grohmann 2003, Ishii 1999, and Saito and Murasugi 1999, among many others.

(15)
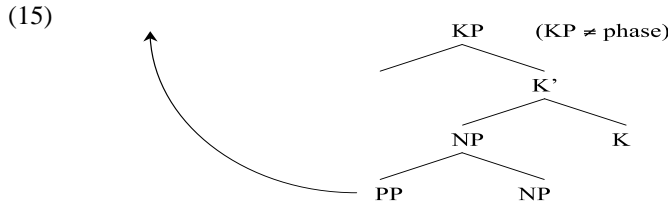
As the KP does not project a phase, the genitive PP in (15) can be extracted without violating the PIC.

To summarize, we have provided an account of the contrast between nominal LBE and PP LBE. We argued that while KP projects a phase when genitive nominals are extracted, KP does not project a phase when genitive PPs are extracted. In the next section, we explain why there is such a difference between nominal LBE and PP LBE, employing a particular definition of phases.

4 Case, Phases and the Dual Status of -no

In this section, we provide a deduction of the crucial assumption that we relied on in explaining the difference between nominal LBE and PP LBE in the last section. That is, we explain why KPs with nominal possessors are phases while KPs with genitive PPs are not.

Our explanation is based on two independently motivated assumptions. The first one is about the genitive marker in Japanese. We assume, following Watanabe 2010, that the genitive marker -no in Japanese has a dual status: -no is structural Case when it is attached to a nominal while it is a morphological linking element when it is attached to a PP. Thus, -no in (16) is structural Case assigned by K while -no in (17) is a linking element.[7, 8]

(16) [$_{KP}$Hanako-no   taido]
            Hanako-GEN   attitude
        'Hanako's attitude'
(17) [$_{KP}$Hanako-to-no   intabyuu]
            Hanako-with-GEN   interview
        'interview with Hanako'

We assume that -no is attached to a PP by the Mod-Insertion rule in (18), which is a revised version of the Mod-Insertion rule originally proposed by Kitagawa and Ross (1982) and modified by Saito et al. (2008).

(18) [$_{NP}$ ... XP(−tense) N$^{\alpha}$] $\rightarrow$ [$_{NP}$ ... XP(−tense) Mod N$^{\alpha}$], where Mod = -no

(Saito et al. 2008:250)

According to this rule, in (17), -no is attached to the PP *Hanako-to* 'to Hanako'.[9] In order to make

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[7] See Tsujioka 2011 and Watanabe 2010 for empirical evidence for this assumption.

[8] That -no is a Case marker in (16) means that -no is a head of the possessor under the phrase structure that we adopt in this paper. Thus, the possessor *Hanako-no* itself is a KP in (16).

[9] The Mod-Insertion rule attaches -no to nominals as well as PPs within a nominal projection because both nominals and PPs are tenseless XPs. If this is so, however, (16) should be like the following:

(i)   *[$_{KP}$ Hanako-no-no   taido]
            Hanako-GEN-GEN   attitude
        'Hanako's attitude'

In (i), one of -no's is a Case marker and the other is the linking element that is inserted by the Mod-Insertion rule. We assume that (i) is unacceptable because at the morphological component, one of -no's is deleted by Okutsu's (1974) *no-no* reduction (see also Murasugi 1991). A rule of *no-no* reduction is proposed to account

the Mod-Insertion rule compatible with the present analysis of PP LBE, however, we need to add a complication. We have to assume that the Mod-Insertion rule applies to a chain rather than an individual link in a chain. To see this, let us consider the following example:

(19) [PP Dare-kara]-no   Hanako-ga   [KP tPP tegami]-o sute-ta-no?
           who-from-GEN   Hanako-NOM   letter-ACC discard-PST-Q
      'lit. From who$_i$ Hanako discarded [a letter t_i]?'

In (19), *-no* is attached to the LBEed PP *dare-kara* 'who-from'. If the insertion rule were applied to an individual link, the *-no* attachment to the PP should be impossible because the PP is not within a nominal projection. If the Mod-Insertion rule applies to a chain, on the other hand, we can consider that *-no* can be attached to the PP in (18) since the tail of the chain of the PP (i.e., the copy/trace within the object KP) is within a nominal projection.

The second assumption that we adopt is the hypothesis that Case-valuation determines phases, which is advocated by Bošković (2012b), Epstein et al. (2012), Miyagawa (2011), and M. Takahashi (2011). According to this hypothesis, a phrase XP is a phase if and only if its head X assigns Case. For example, a transitive *v*P is a phase because *v* assigns accusative Case while an unaccusative *v* is not because it does not assign Case.

Given these assumptions, let us return to LBE. In nominal LBE, *-no* that is attached to a nominal possessor is Case assigned by K. This means that the KP is a phase since its head assigns genitive Case to the possessor. Therefore, we derive the assumption that KPs with nominal possessors are phases.

On the other hand, in PP LBE, *-no* is attached to a PP, hence a linking element not structural Case. This means that K in this case is not a Case assigner. Thus, it follows that KPs with a genitive PPs are not phases.[10]

To summarize, we have deduced the assumption that KPs with genitive nominals are phases

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for the unacceptability of examples in which the pronoun *no* follows the case marker *-no*, as illustrated in (ii).

(ii) Boku-wa Taro-no hon-wa   sukida   kedo,   Hanako-no (*no)-wa   kiraida.
      I-TOP   Taro-GEN book-TOP like   but   Hanako-GEN it-TOP   dislike.
      'lit. I like Taro's book but dislike Hanako's it.'

This sentence is unacceptable since *no-no* reduction obligatorily deletes the pronoun *no* when it follows the genitive marker *-no*. Thus, the independently motivated rule can account for the unacceptability of (i).

[10] The proposed analysis makes the following prediction: PP LBE is impossible when its host KP contains a genitive nominal as well as a genitive PP. This is because a nominal possessor makes its host KP be a phase. This prediction seems to be borne out, as (i) shows.

(i) *[PP Dare-kara]$_i$-no Hanako-ga   [KP Taroo-no t_i tegami]-o   sute-ta-no?
          who-from-GEN Hanako-NOM   Taro-GEN   letter-GEN   discard-PST-Q
     'lit. From who$_i$ Hanako discarded [Taro's letter t_i]?'

However, the fact is more complicated since PP LBE seems to be impossible even if the genitive nominal in (i) is replaced by a genitive PP, as (ii) indicates.

(ii) *[PP Dare-kara]$_i$-no Hanako-ga   [KP Taroo-e-no t_i tegami]-o sute-ta-no?
           who-from-GEN Hanako-NOM   Taro-to-GEN   letter-GEN discard-PST-Q
      'lit. From who$_i$ Hanako discarded [a letter t_i to Taro]?'

The unacceptability of (ii) is not expected under our analysis (although it is not inconsistent with the analysis), for both genitive elements in (ii) are PPs. Some independent factors might make this LBE out of the double-fenitive NP impossible although we do not have a clear idea of what they are. The presence of an extra genitive element might be a crucial factor since as (iii) shows, PP LBE is possible when the extra element is an adjective.

(iii) [PP Dare-kara]$_i$-no Hanako-ga   [KP nagai t_i tegami]-o   sute-ta-no?
            who-from-GEN   Hanako-NOM   long   letter-GEN   discard-PST-Q
       'lit. From who$_i$ Hanako discarded [a long letter t_i]?'

while KPs with genitive PPs are not from the independently motivated assumptions: (i) the genitive marker in Japanese has a dual status and (ii) phases are defined by Case. If this is correct, we can reduce the difference between genitive PPs and genitive nominals in the possibility of LBE to the difference between them in the status of the genitive marker.[11]

5 PP LBE as Overt Wh-Movement

In the previous sections, we have established that LBE is a possible movement operation in Japanese if what is extracted is a PP. The next question that we would like to address is what kind of movement PP LBE is. We argue that PP LBE is overt wh-movement. This might sound peculiar because Japanese is considered a typical instance of wh in-situ languages. However, this is consistent with D. Takahashi's (1993, 1994) view that Japanese has overt wh-movement in a certain circumstance.

First, we would like to show that PP LBE exhibits an A'-property with respect to the weak crossover effect. A'-movement induces the weak crossover effect while A-movement does not (see Mahajan 1990). Thus, sentences like (20a) are unacceptable under the bound variable construal of *his* since movement of its antecedent *who* is A'-movement. This is the weak crossover effect. On the other hand, (20b) is acceptable because the antecedent moves across the bound pronoun via A-movement before it undergoes A'-movement. This indicates that A-movement does not exhibit the weak crossover effect.

(20) a.*Who$_i$ does his$_i$ mother love t_i?
      b. Who$_i$ t_i seems to his$_i$ mother t_i to be intelligent?

With respect to this diagnostic, PP LBE patterns as A'-movement: it exhibits the weak crossover effect. In (21a), the pronoun *soko* 'it' is contained in the subject and its antecedent *dono-kaisya-kara* 'which-company-from' is a genitive PP, which is contained in the object. The sentence is unacceptable under the bound variable reading since the pronoun is not c-commanded by the antecedent. Crucially, even if LBE applies to the antecedent PP, moving it to the sentence-initial position, the sentence does not improve, as (21b) shows. The acceptability of (21c) indicates that the unacceptability of (21b) is associated with the bound variable reading, for in (21c), the pronoun *soko* 'it' is replaced by the referential expression *Toyota*.

(21) a.*Kinoo   *soko*$_i$-no   syain-ga   [**dono-kaisya$_i$-kara-no**   syootaizyoo]-o
         yesterday it-GEN   employee-NOM   which-company-from-GEN invitation-ACC
         uketot-ta-no?
         receive-PST-Q
         'lit. Its$_i$ employees received [invitations from which company$_i$] yesterday?'
      b. ***Dono-kaisya$_i$-kara-no**   kinoo   *soko*$_i$-no syain-ga   [t_i syootaizyoo]-o
         which-company-from-GEN yesterday it-GEN   employee-NOM   invitation-ACC
         uketot-ta-no?
         recieve-PST-Q
         'lit. From which company$_i$, its$_i$ employees received [invitations t_i] yesterday?'
      c. **Dono-kaisya$_i$-kara-no**   kinoo   Toyota-no   syain-ga   [t_i syootaizyoo]-o
         which-company-from-GEN yesterday Toyota-GEN employee-NOM   invitation-ACC
         uketot-ta-no?
         receive-PST-Q
         'lit. From which company$_i$, Toyota's employees received [invitations t_i] yesterday?'

One might say that in (21b), the postposition *kara* 'from' prevents the antecedent from binding the pronoun. The acceptability of (22b), however, indicates that *kara* 'from' does not block binding. Sentences in (22a) and (22b) are different from sentences in (21a) and (21b) in that in the latter, the antecedent PP is a matrix element. As (22b) shows, if the antecedent PP is moved

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[11] Bošković (2010a, 2012b) also discusses a close connection between LBE and a status of a case marker.

(via scrambling) to the sentence-initial position, the bound variable construal of the pronoun becomes possible. Thus, we cannot attribute the unavailability of the bound variable reading in (21b) to the presence of *kara* 'from'.[12]

(22) a. *Kinoo   *soko*$_i$-no syain-ga   **dono-kaisya$_i$-kara**   [syootaizyoo]-o
          yesterday   it-GEN   employee-NOM   which-company-from   invitation-ACC
          uketot-ta-no?
          recieve-PST-Q
          'lit. Its$_i$ employees received [invitations] from which company$_i$ yesterday?'
      b. **Dono-kaisya$_i$-kara**   kinoo   *soko*$_i$-no syain-ga t_i [syootaizyoo]-o
          which-company-from   yesterday   it-GEN   employee-NOM   invitation-ACC
          uketot-ta-no?
          receive-PST-Q
          'lit. From which company$_i$, its$_i$ employees received [invitations] t_i yesterday?'

Furthermore, the presence of the genitive marker *-no* has nothing to do with the unacceptability of (21b). This is so because as (23) shows, genitive marked PPs can bind a variable pronoun if LBE does not apply to them.

(23) Kimi-wa [**dono-kaisya$_i$-kara-no**   *soko*$_i$-no syain-e-no   syootaizyoo]-o
        you-TOP   which-company-from-GEN   it-GEN   employee-to-GEN   invitation-ACC
        mi-ta-no?
        see-PST-Q
        'lit. You saw [an invitation from which company$_i$ to its$_i$ employees]?'

Therefore, the unavailability of the bound variable reading in (21b) should be attributed to LBE itself, indicating that PP LBE is A'-movement.

Furthermore, as the contrast between (24a) and (24b) shows, PP LBE yields unacceptability if the PP that undergoes LBE is a non-wh-phrase. That is, PP LBE can only apply to a wh-phrase.

(24) a. ?? **Hanako-kara$_i$-no**   Taroo-ga   [t_i tegami]-o   sute-ta-no?
            Hanako-from-GEN   Taro-NOM   letter-ACC   discard-PST-Q
            'lit. From Hanako$_i$, Taro discarded [a letter t_i]?'
      b. **Dare-kara$_i$-no**   Taroo-ga   [t_i tegami]-o   sute-ta-no?
            who-from-GEN   Taro-NOM   letter-ACC   discard-PST-Q
            'lit. From who$_i$ Taro discarded [a letter t_i]?'

Thus, the data indicate that PP LBE in Japanese is A'-movement and can apply only to wh-phrases. A reasonable conclusion that we can draw from this is that PP LBE is wh-movement.

6 Conclusion

In this paper, we have shown that in Japanese, genitive PPs can undergo LBE while genitive nominals cannot and argued that this fact can be explained by the PIC and anti-locality if we assume that KPs with genitive nominals are phases while KPs with genitive PPs are not. This difference between PPs and nominals can be deduced from the independently motivated assumptions about the genitive maker *-no* in Japanese and phasehood: the *-no* that is attached to nominals is a structural Case while the *-no* that is attached to PPs is a morphological linking element; Case-valuation determines phasehood. Furthermore, we have discussed the status of LBE in Japanese and concluded that LBE in Japanese is overt wh-movement. A remaining question is why LBE is possible only when it is performed via wh-movement in Japanese. We leave this question for future research.

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[12] Pesetsky (1995:287) also observes that *kara* 'from' does not block binding.

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