The Cartography of RCs in Korean & Japanese:
A Comparative-syntactic Approach[*]

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ABSTRACT

This paper shows that the difference in the structure of relative clauses (RCs) in Korean and Japanese determines the availability of *say*-omission/contraction in these two languages. Specifically, in addition to providing a novel observation about *say*-omission/contraction in Korean and Japanese, we argue that this phenomenon is attributed to the presence of a CP layer in RCs in Korean (Yoon 1990, Han 1992 among many others), but to the lack thereof in Japanese (Saito 1985; Murasugi 1991; Taguchi 2008; Miyagawa 2011; among many others). We argue that RC-internal *say*-omission/contraction in Korean is an instance of TP-ellipsis. We adopt the theory of ellipsis in Bošković (2014), where deletion can target phases or the complements of phasal heads. Thus, the subject, the object, and the complement clause of *say* within the RCs of Korean are moved out of and survive an elison of TP (i.e., the complement of the phasal head C) because of the presence of the CP-domain providing a landing site, whereas in Japanese such an option is not available.

Keywords: relative clause, *say*-omission, TP ellipsis, extraction out of ellipsis, phasal head

1. Overview

This paper investigates TP-ellipsis within relative clauses (RCs) in Korean and Japanese. We show that these two languages differ with respect to the extractability out of TP ellipsis within RCs, and this phenomenon is attributed to the size difference in RCs: Korean RCs project a CP, whereas Japanese RCs do not. The current argument of this paper where the size of RCs determines the extractability of TP ellipsis within them is in keeping with the theory of ellipsis expounded in Bošković (2014), where deletion is phase-constrained and the phasehood is determined

contextually (i.e., Categorial or size difference can make a distinction in determining phasehood).

This paper is organized as follows. Section 2 introduces the data in the context of *say*-omission/contraction. Section 3 provides an analysis of the phenomenon. Section 4 concludes this paper.

2. *say*-omission/contraction

2.1. Asymmetry in *say*-omission/contraction between Korean and Japanese

This section introduces the data showing *say*-omission/contraction in RCs of Korean and Japanese. To begin with, imperatives are allowed in RCs in Korean, as illustrated in (1a) (cf. Kaufmann 2015). The sentence that contains *say*-omission/contraction is given in (1b)[1].

(1) a. John-i [C-ka Mary-eykey sa-la-ko malha-n] chayk-ul sa-ss-ta
   John-nom C-NOM Mary-DAT buy-IMP-C say-REL book-ACC buy-PST-DEC
   'John bought the book that C told Mary to buy.'
  b. John-i [C-ka Mary-eykey sa-la-n]   chayk-ul sa-ss-ta
   John-NOM C-NOM Mary-DAT buy-IMP-REL book-ACC buy-PST-DEC
   'John bought the book that C told Mary to buy.'

While Japanese RCs also allow imperatives within them as in (2a), the counterpart of Korean *say*-omission/contraction within them (i.e., (1b)) is unacceptable as in (2b)[2].

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1) A reviewer points out that the absence of the subordinator *-ko* in (1b) has to be accounted for. However, the absence of *-ko* in (1b) is not directly relevant to the issue of this paper, as even in (1a), the morpheme *-ko* can also be absent:

 i. John-i [C-ka Mary-eykey sa-la(-ko)] malha-n] chayk-ul sa-ss-ta
  John-nom C-NOM Mary-DAT buy-IMP-C say-REL book-ACC buy-PST-DEC
  'John bought the book that C told Mary to buy.'

In this paper, we in fact argue that the sentence in (1b) is derived out of *say*-omission/contraction from the structure in (i), and the syntactic context for *say*-omission/contraction is simply not satisfied in the structure of (1b) when the subordinator *-ko* is present.

2) A reviewer points out that the ungrammaticality of (2b) needs to be reconsidered with the morpheme *-r(u)* added. Hiroaki Saito (perl. comm.) points out that Japanese does not have a relative clause marker and *r(u)* is the present tense form. This form is not compatible with the imperative mood marker *-e* for morphological reasons.

(2) a. John-ga/wa   [C-ga Mary-ni ka-e-to   i-u]   hon-o   ka-tta
John-NOM/TOP C-NOM Mary-DAT buy-IMP-C say-PRES book-ACC buy-PST
'John bought the book that C told Mary to buy.'

b. *John-ga   [C-ga   Mary-ni   ka-e]   hon-o   ka-tta
John-NOM C-NOM   Mary-DAT buy-IMP book-ACC   buy-PST
'John bought the book that C told Mary to buy.'

It is to be noted that Japanese does not have the relativizing morpheme or relativizer like Korean *-n*. Given the apparent similarity of RCs in Korean and Japanese, it is rather interesting to note that only Korean allows *say*-omission/contraction in RCs. In the next section, we will first investigate how *say*-omission/contraction in RCs like in (1b) of Korean is derived.

2.2. Korean *say*-omission/contraction

We argue that Korean (1b) is derived via TP-ellipsis within RCs. The following schematic representation epitomizes the overall derivation, where there is a TP containing the null verb *mal-* 'say' within the RC, which is elided under TP-ellipsis:

(3) a. ... [CP $\boxed{C\text{-}ka_1}$ [CP $\boxed{M\text{-}eykey_2}$ [CP [CP t_1 t_2 sa-la]$_3$ [CP $\cancel{[TP\ t_3]}$ C]]]]] ⋯

b. The derivation of *say*-omission/contraction in Korean
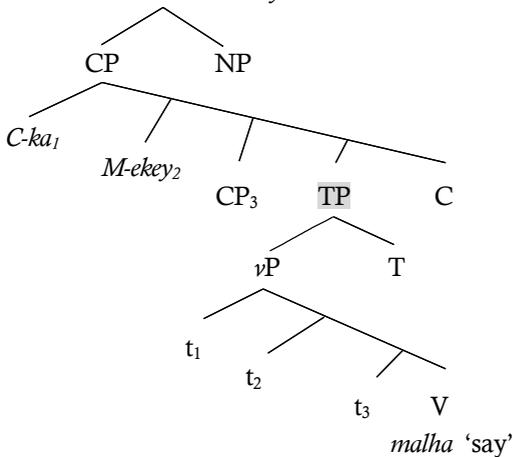
In (1b), the embedded subject, the embedded indirect object, and the direct object complement clause of the verb *say* (of the relative clause) are moved via scrambling out of the RC before TP-ellipsis applies, and thus they survive.

Note that in Korean it is possible to scramble multiple elements to the multiple specifiers of C. For example, *way* 'why', which is assumed to be base-generated in the CP (cf. Ko 2004), is preceded by some syntactic elements. This entails that these elements are located in the multiple specifiers of C[3], as in (4).

(4) $\overline{\text{C-ka}_1}$ $\overline{\text{M-eykey}_2}$ $\overline{\text{chayk-ul}_3}$ [$_{CP}$ way t_1 t_2 t_3 sala(-ko) malhassni?]
   C-NOM M-DAT book-ACC   why   bought-C say.Q
   'What is the reason x such that C told Mary to buy the book for x?'

Given that multiple scrambling into the specifiers of CP is allowed, we also assume that the derivation in (3) involves such multiple scrambling to the CP specifiers.

The fact that ellipsis in (1b/3) targets TP can be confirmed with the examples in (5) and (6), which show that the low adverb *quickly* cannot survive *say*-omission/ contraction[4], when we henceforth term as *say*-ellipsis[5], whereas high adverb *evidently*

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3) A reviewer raises a question whether *way* 'why' in the specifier of CP constitutes an island. However, scrambling of non-*wh* arguments in Korean is not sensitive to the *wh*-island condition, as shown below.

(i). *Chayk$_1$*-ul   C-ka   *way*   M-i t_1 *satnunci*   *mwulessta.*
    book-ACC   C-NOM   why   M-NOM   bought-Q   questioned
    'C questioned why Mary bought a book.'

Thus (i) shows that the derivation illustrated in (3) is in fact allowed in Korean.
In addition, as generally assumed, movement into one of the multiple specifiers is not blocked by the intervening element in the lower specifier in the same multiple specifier domain.

4) Miyara (1982) and Saito (1985) note that the long-distance scrambling of adjuncts in Japanese is not allowed. The same applies to Korean.

(i) *iyu-to   upsi$_1$ Mary-ka   [John-i t_1 ku   ilon-ul   mitnuntako] malhassta.
   reason-even without   Mary-NOM   John-NOM   that   reason-ACC   believe   said
   'Mary thinks that John believes in that theory without any reason.'

In addition to this, low-adverbs cannot precede high-adverbs. This restriction also follows, given the impossibility of adjunct scrambling.

(ii) *??ppali*   *way*   Mary-ka   pap-ul   mekessni?
    quickly   *why*   Mary-NOM   rice-ACC   ate.Q
    intended: what is the reason x such that Mary ate the rice quickly?'

(i) and (ii) together show that it is impossible for low adverbs to move to the specifier of C or to the position higher than it is generated. Given that low adverbs cannot move to the [Spec, CP] position, it can't survive TP-ellipsis.

5) A reviewer suggests an alternative analysis based on the literal theorization of *say*-contraction, which is derived in a linear way from *sala-ko ha-n* to *sala-n* via the dropping of the complementizer *–ko* plus the omission of the verb *ha*. The proposed analysis based on *say*-ellipsis in the text is different from the conception of *say*-contraction, in that it is structure-sensitive. In addition, it can account for the difference between Korean and Japanese in regard to *say*-ellipsis within relatives.

can survive it[6]. Assuming that *quickly* is VP-adjoined, while *evidently* is CP-adjoined, we can account for these examples under the TP-ellipsis analysis.

(5) *M-i   C-ka   *ppali*ᵢ   J-eykey [t₁ sa-la-n]   chayk-ul   mence   sassta.
    M-NOM C-NOM quickly J-DAT buy-IMP-REL book-ACC earlier   bought.
    'M bought the book that M told J to buy earlier.'

(6) M-i   C-ka   *pwunmyenghi* J-eykey [sa-la-n]   chayk-ul   mence   sassta.
    M-NOM C-NOM evidently   J-DAT buy-IMP-REL book-ACC earlier bought.
    'M bought the book that M evidently told J to buy earlier.'

We have so far argued that the sentence in (1b/3) is derived via TP-ellipsis, accompanied by the multiple scrambling of the subject, indirect object and CP-complement of *say*. We now turn to verb particles that are attached on the verb 'buy': *sa-la-n*, concentrating on the morpheme *-n*, glossed as relativizer. We here assume that in Korean *-n* is inserted post-syntactically via the operation of Mod Insertion (cf. An 2014 for the arguments against the past-tense view of the morpheme ¬*n*). An (2014) suggests the following rule for the insertion of the relativizer:

(7) *Insertion of suffix*
    K→   −*n*   / [NP $\varnothing_{past/perfect/realis}$ ___   N]
         −*l*   / [NP $\varnothing_{future/imperfect/irrealis}$ ___ N]
         −*uy* /   elsewhere   An (2014)

Note that if the prenominal element contains the tense or mood features, the ¬*n* (or ¬*l*) morpheme has to be inserted instead of ¬*uy*. Thus, (1b/3) should involve ¬*n* insertion since the relative clause contains [past][perfect] and [realis]. Crucially, the morpheme *-n* only attaches to the preceding verbal element, as shown in (8); otherwise, the resulting form is filtered out. This imposes a particular restriction on the word order between the surviving elements in (3): the scrambled CP is necessarily

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6) A reviewer finds the following sentence to be grammatical:

(i) John-i   [C-ka   *kangceylo/iyuepsi*   Mary-eykey sa-la-n]   chayk-ul   satta.
    John-NOM C-NOM forcefully/without-reason Mary-DAT   buy-IMP-REL book-ACC bought.
    'John bought the book that C forcefully/without-reason told Mary to buy.'

The two adverbs in (i) cannot yield the interpretation that is associated with the embedded verb *sa-* 'buy', which in fact supports the argument in the text that the low adverb(s) cannot survive from TP-ellipsis.

the right-most element. This is indeed the case.

(8) a. *Chelswu-ka-n   b. *Chelswu-lul-n   c. *Chelswu-n
     Chelswu.NOM-REL   Chelswu-ACC-REL   Chelswu-REL

(9) a. ... $[_{CP}$ *C-ka$_1$* $]$ $[_{CP}$ M-eykey$_2$ $]$ $[_{CP}$ $[_{CP}$ t_1 t_2 sa-la$]_3$ $[_{CP}$ $[_{TP}$ $t_3]$ C]-**n**]]]] ···

    b. ... *$[_{CP}$ $[_{CP}$ t_1 t_2 sa-la$]_3$ $[_{CP}$ M-eykey$_2$ $]$ $[_{CP}$ *C-ka$_1$* $]$ $[_{CP}$ $[_{TP}$ $t_3]$ C]-**n**]]]] ···

    c. ... *$[_{CP}$ $[_{CP}$ t_1 t_2 sa-la$]_3$ $[_{CP}$ *C-ka$_1$* $]$ $[_{CP}$ M-eykey$_2$ $]$ $[_{CP}$ $[_{TP}$ $t_3]$ C]-**n**]]]] ···

(9) confirms that the lowest SpecCP has to be filled with a verbal element due to the Mod Insertion rule in (7).

Given that Japanese also allows multiple scrambling as in (4) of Korean, the unacceptability of Japanese (2) still remains to be an issue that needs an explanation. To account for this, we will first point out that Japanese is different in the size of RCs from Korean.

2.3. Categorial status of RCs

In the previous section, we have suggested that the sentence in (1b) of Korean is derived from TP-ellipsis, which is in turn followed by the Mod Insertion rule. However, it is rather interesting why Japanese does not not allow the similar operation despite of their surface similarity.

In this section, we argue that the asymmetry comes from a difference in the size of RCs in Korean and Japanese. Namely, Korean RCs involve a larger structure than Japanese RCs. Specifically, relatives are TPs in Japanese while they are CPs in Korean (see also Saito 1985, Murasugi 1991, Taguchi 2008, cf. Miyagawa 2011)[7].

Independently from the observation above, there is an asymmetry regarding long-distance relativization between Japanese and Korean. In English, the adjunct *reason* can undergo long-distance relativization; it can be interpretively associated with the most embedded clause (10).

(10) The reason$_i$ [(why) Mary thinks [that John left e$_i$]]

Korean patterns with English in this respect. In Korean (11a), *iyu* 'reason' can be interpreted in the most embedded clause. However, Murasugi (1991) notes that this is not the case in Japanese; 'true adjuncts' (reason and manner) cannot undergo

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7) The label does not affect the discussion here. What is important is that Korean RCs have a larger categorial projection than those in Japanese.

long-distance relativization, as in (11b).[8]

(11) a.[C-ka   [M-i   yak-ul e_i meke-ss-ta-ko]   sayngkakha-n] iyu$_i$
      C-NOM M-NOM medicine-ACC eat-PST-DEC-C think-REL   reason
      'The reason x such that C thinks that M took medicine for x'   [KOR]
  b.*[C-ga   [M-ga   kusuri-o e_i non-da-to]   omo-ttei-ru]   riyuu$_i$
      C-NOM   M-NOM medicine-ACC eat-PST-DEC-C think-PROG-PRES reason
      Intended: 'The reason x such that C thinks that Mary took medicine for x' [JPN]

Based on (11b) along with other evidence, Murasugi (1991) concludes that Japanese relatives are TPs unlike their English counterparts. Given that (11a) is acceptable in Korean, the sentences in (11) then show that Korean patterns with English. In other words, Korean relatives are CPs like English. Assuming that this is the case, it brings us closer to the formal account of the *say*-ellipsis asymmetry in relatives between Korean and Japanese.

3. Extraction out of ellipsis and the size issue

We have shown that there is a categorial difference in RCs between Korean and Japanese. This categorial difference makes certain predictions about extractability from ellipsis sites, particularly in light of the contextual approach to phasehood, proposed in Bošković (2013, 2014) in a phase-based theory of ellipsis (Bošković 2014).

3.1. Theoretical assumption 1: Ellipsis is phase-constrained

Bošković (2014) suggests that only full phases and phasal complements can undergo ellipsis, which means that ellipsis is affected by phasehood. Importantly, the two different possibilities for ellipsis have consequences on the extraction out of ellipsis sites (cf. Bošković 2014). We argue that these two types of ellipsis, full-phase ellipsis and phase-complement ellipsis, may in fact represent two radically different strategies for deriving ellipsis.

Whether ellipsis should be derived via PF-deletion or LF-copying has been a topic

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8) In Japanese, (11b) can be grammatical under the interpretation where *riyuu* 'reason' modifies 'think'. However, this derivation is irrelevant to the purpose of this paper since it is just the case of simple relativization.

of substantial debate in the literature. The fact that one strategy can account for some relevant phenomena better than the other strategy, but neither has been proved to account for the whole range of elliptical phenomena, may suggest than we need a hybrid system, with both PF-deletion and LF-copying available, but each applying to different constructions (for the similar argument, see e.g. Abe 1996; Matsuo 1998; Dadan 2016; Sakamoto 2016). This is exactly what we argue for here to capture the observed difference in RC-internal *say*-ellipsis between Korean and Japanese (see also Dadan 2016 and Sakamoto 2016 for the arguments to these effects).

We assume that if ellipsis targets the complement of a phase, it is derived via PF-deletion. The extraction out of an ellipsis site should be allowed in such a context, as the ellipsis site contains full syntactic structure, and that the phasal edge provides an appropriate escape-hatch for the moving remnant. This is not the case with the full-phase ellipsis, which involves LF-copying. In this instance the overt extraction out of an ellipsis site is disallowed, as the relevant structure is available only at the LF side of the derivation (see also Sakamoto 2016).

Compare in this respect English sluicing in (12), where the complement of a phasal head is elided (via PF-deletion), with Korean and Japanese argument ellipsis in (13a-b), where the full CP phase is elided (via LF-copying). Only the latter disallows overt movement or scrambling out of it (see Bošković 2014).

(12) They arrested someone but I don't know [$_{CP}$ who$_i$ [C [$_{TP}$ ~~they arrested t$_i$~~]]]

(13) a. *ku chaykul cheli-nun [yenghuy-ka t sasstako] malhayss-ko,
  that book Cheli-TOP Yenghuy-Nom bought that said-and
   ku chay-kul toil-to [$_{CP}$ ~~t~~] malhayssta.
   that book-Acc Toli-also said
  'Cheli said that Yenghuy bought that book, and Toli also said that she bought that book.'

 b. *Sono hon-o$_i$ Taroo-wa [$_{CP}$ Hanako-ga t$_i$ katta to] itta si,
  that book-ACC Taroo-TOP Hanako-NOM bought that said and
   sono hon-o$_j$ Ziroo-mo [$_{CP}$ ~~t~~] itta.
   that   book-ACC Ziroo-also said
  'Taroo said that Hanako bought that book, and Ziroo also said that she bought that book.'

Therefore, the extractability out of ellipsis sites can be explained by the two different strategies of deriving the ellipsis processes at hand, which in turn depend

on whether ellipsis targets the complement of the phasal headm or the full phase. In the former case, the overt syntactic movement out of the ellipsis site is allowed, as the ellipsis site of the complement of the phase contains full syntactic structure. The latter, i.e. the full-phase ellipsis, disallows any overt syntactic movement out of it, as the structure in the ellipsis site is provided only in LF.

The two targets for ellipsis: phases and phasal complements naturally follow from the phase theory, which further imposes a constraint on ellipses, such that ellipsis is banned for example from targeting the complement of the complement of a phasal head (see Bošković 2014).

It is then essential to have a clear way of determining which head counts as a phase. This is the topic of the following sub-section, where we lay out our second background assumption: the contextual definition of phases.

3.2. Theoretical assumption 2: Phases are determined contextually

Bošković (2014) offers a version of the contextual approach to phasehood, where the highest projection in the extended projection of a lexical head (N, V, A, or P) functions as a phase. The idea that phasal heads should be defined contextually and not rigidly (as e.g. in Chomsky 2000, 2001), is not new, however. A number of authors offered various contextually-based solutions to the issue of determining phases (see. Bobaljik and Wurmbrand 2005; Bošković 2005; den Dikken 2007; or Takahashi 2010). Bošković's (2014) approach to phases is also contextual and can account for a great deal of cross-linguistic variation, without assuming parametric variation in what counts as a phase, because the profile of syntactic structure projected by major lexical categories can differ both within a single language, where one construction lacks a certain functional projection but the other does not, and across languages, where e.g. a certain functional projection is absent in one language, but present in the other.

To see how this approach applies to ellipsis, consider, e.g. the following example of English VP ellipsis (14):

(14) Betsy must have been being hassled by the police, and Peter
    (a) *must too
    (b) must have too
    (c) must have been too.
    (d) *must have been being too.   (Sag 1976)

(15) [TP must [AUXP have [AspectP1 en [VPf1 be [AspectP2 ing [VPf2 be [VP...

Assuming that what counts as a phasal head must be the highest projection in the (extended) domain of a lexical head, we can say that in the relevant part of the sentence (14), it is AspectP$_1$, as shown in the schematic representation (15), as it is the highest projection in the domain of VP. If it is the case that only phases and phasal complements can be elided, then VP ellipsis in (14) can target only the phase, AspectP$_1$, or its complement, VPf$_1$. This is exactly what is happening in grammatical instance (14b), where ellipsis targets the phase, and (14c), where ellipsis targets its complement (VPf$_1$) (note that *be* raises to *en*). The other instances in (14a) and (14d) are ruled out. This is what the theory we follow here predicts: ellipsis cannot target anything else but the phase or its immediate complement, but (14a) and (14d) is not what is predicted (see also Bošković 2014 for the evidence that extraction is allowed only out of the phasal complement ellipsis).

Given the above two theoretical assumptions adopted here, we expect that TP-ellipsis within Korean and Japanese RCs should interact with different extractability possibilities, since the size of the RC, and at the same time the target of *say*-ellipsis, are different in these two languages.

3.3. *Say*-ellipsis

Based on the theoretical assumptions given in Section 3.1 and 3.2, we are now able to provide a more principled analysis for the data in (1) and (2), repeated here as (16) and (17) respectively.

(16) a. John-i   [C-ka Mary-eykey sa-la-ko   malha-n] chayk-ul   sa-ss-ta
       John$_{NOM}$ C$_{-NOM}$ Mary$_{-DAT}$ buy-IMP-C say-REL   book-ACC buy-PST-DEC
    b. John-i   [NP [CP C-ka$_1$ Mary-**eykey**$_2$ sa-la$_3$ [TP[vP t$_1$ t$_2$ t$_3$ ~~malha~~]] -n]
       John-NOM   C-NOM   Mary-DAT   buy-IMP-REL
         chayk]-ul   sa-ss-ta.
         book-ACC   buy-PST-DEC
       'John bought a book that C told Mary to buy.'   [KOR]
(17) a. John-ga/wa   [C-ga   Mary-ni   ka-e   to iu] hon-o   ka-tta
       John-NOM/TOP C-NOM Mary-DAT buy-IMP C say book-ACC buy-PST
    b.*John-ga/wa   [NP [TP C-ga   Mary-ni ka-e]   hon]-o   ka-tta
       John-NOM/TOP   C-NOM Mary-DAT buy-IMP book-ACC   buy-PST
       'John bought a book that C told Mary to buy.'   [JPN]

Assuming that Korean RCs are CPs, the TP-ellipsis in question is derived by eliding the phasal complements. Following Bošković (2014), the scrambled elements that are located in specifiers of C thus can survive from the ellipsis, as illustrated in (18). However, Japanese RCs are TPs. Thus this involves the ellipsis of the full phase (i.e., via LF-copying) where the extraction out of it is not allowed whatsoever.

(18) [CP *C-ka* [CP *Mary-eykey* [CP sa-la [phase C ~~TP~~]]]

3.4. Extraction out of pronominal *so*

We will offer an additional argument for the difference in the size of RCs between Korean and Japanese. The difference in the category of relatives between the two languages can also capture why they differ regarding *so-replacement*.

Let us first consider the Korean relevant examples in (19). The antecedent sentence can be followed either by (19a) or (19b). In (19a) the RC modifying the head noun *chayk* 'book' can be replaced by 'so' *kule*. In addition, in (19b) *so-replacement* can apply to the TP after the embedded indirect object *Moa-eykey* moves out of it.

(19) Antecedent:
    John-i [NP [CP[TP Bill-eykey Suzuka-ka   cwu-n]] chayk]-ul   ilk-ess-ta.
    John-NOM   Bill-DAT Suzuka-NOM give-REL book-ACC   read-PST-DEC
    'John read the book that Suzuka gave to Bill.'
    a. Mary-nun [NP [CP   kule-n]   chayk]-ul   ilkci-anh-ass-ta.
       Mary-TOP   so-REL   book-ACC   read-NEG-PST-DEC
       'Mary did not read such book.'
    b. Mary-nun [NP [CP Moa-eykey [CP [kule-n] chayk]-ul   ilk-ess-ta.
       Mary-TOP   Moa-DAT   so-REL book-ACC read-PST-DEC
       'Mary read the book that Suzuka gave to Moa.'   [KOR]

In Japanese, however, the embedded indirect object cannot be extracted out of the TP to be substituted for by *so-replacement,* as shown in (20b).

(20) Antecedent:
    John-ga [NP [TP Bill-ni   Suzuka-ga   age-ta]   hon]-o   yon-da.
    John-NOM   Bill-DAT Suzuka-NOM give-PST book-ACC   read-PST
    'John read the book that Suzuka gave to Bill.'

a. Mary-wa [NP [TP sonna] hon]-o yoma-naka-tta.
   Mary-TOP   so-NA book-ACC read-NEG-PST
   'Mary did not read such book.'
b.*Mary-wa [NP [TP Moa-ni sonna hon]-o yon-da.
   Mary-TOP   Moa-DAT so-NA book-ACC read-PST
   'Mary read the book that Suzuka gave to Moa.'   [JPN]

Under the current assumption that the two languages involve different strategies of deriving ellipsis here, the contrast between (19) and (20) is not surprising. In Korean (=(19b)), the process of *so-replacement* involves TP-ellipsis[9], where the ellipsis targets the complement of the phasal head, and there is an escape-hatch for the embedded indirect object, given that Korean RCs have a CP layer, as shown in (21).

(21) [CP Moa-eykey [kule-n [~~TP~~—]]]

Even though Japanese *so-replacement* (=20)) involves TP-ellipsis, as well, the lack of the corresponding CP layer in the RC structure makes the extraction out of TP impossible in this language, unlike in Korean[10].

(22) [TP ~~Moa-ni~~ [vP—]]

Furthermore, note also that the presence of internal structure in *so-replacement* is confirmed by the availability of sloppy interpretation in this construction. In conjunction with the antecedent sentence in (23a) and (24a), both the strict and the sloppy interpretations are available to (23b) and (24b); 'Mary did not meet a boy

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9) We assume that *so*-replacement is also derived via the general operation of ellipsis. The obvious difference between (*so*-)replacement and ellipsis lies in PF pronunciation. The former is pronounced with elements like *so*, but the latter is pronounced silently.

10) Bošković (2014) shows that extraction out of phasal ellipsis is not allowed, based on the sentences like (i).

   (i) *kong*-ul₁   C-to [~~CP   Mary-ka   t₁   chatta-ko~~]   sayngkakhatta.
       Ball-ACC   C-also   Mary-NOM   kick-C   thought
       'C also thought that Mary kicked a ball.'

   The sentence in (i) involves argument ellipsis of the CP, where the whole phase CP gets elided. While scrambling out of embedded clause is allowed in Korean, it is disallowed under argument ellipsis. Assuming that the same kind of scrambling/extraction applies to TP-ellipsis in Japanese where the TP counts as a phase in the RCs, we note that the derivation as in (21) is disallowed for the same reason as in (i).

who likes John' and 'Mary did not meet a boy who likes Mary'. Therefore, *so-replacement* can be argued to have internal structure and involve ellipsis at the same time.

(23) a. John-i   cakicasin-ul   coahanu-n   sonyen-ul   mann-ass-ta.
        John-NOM   self-ACC   like-REL   boy-ACC   meet-PST-DEC
        'John met a boy who likes himself.'
    b. Mary-nun   kule-n   sonyen-ul   manna-cianh-ass-ta.
        Mary-TOP   so-REL   boy-ACC   meet-NEG-PST-DEC
        'Mary did not meet such a boy.'   [KOR]

(24) a. John-ga   zibunzisin-o   sukina   syoonen-ni   atta.
        John-NOM   self-ACC   like-NA   boy-DAT   met
        'John met a boy who likes himself.'
    b. Mary-wa   sonna   syoonen-ni(-wa)   awa-naka-tta
        Mary-TOP   so-NA   boy-DAT(-TOP)   meet-NEG-PST
        'Mary did not meet such a boy.'   [JPN]

3.5. Extension : On Genitive-marked subjects

It is well known that Japanese relatives allow genitive-marked subjects within RCs, as illustrated in (25) (see Saito 1983; Watanabe 1996; Miyagawa 2011 among many others). However, their counterparts in Korean do not, as shown in (26).

(25) [TP watasi-no   ka-tta]   uma-wa   ii
        I-GEN   buy-PAST   horse-TOP   good
        'The horse I bought is good.'

(26) *[na-uy   sa-n]   mal-i   coh-ta.
        I-GEN   buy-REL   horse-NOM   Good-DEC
        'The horse I bought is good.'

This paper assumes the account of (26) in Ochi (2001) and Miyagawa (2008), where the RC-external D-head assigns Genitive Case to the RC-embedded subject[11].

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11) The upshot of the D-licensing approach to the Genitive-marked subject is to capture the fact that the Genitive Case in Japanese occurs in the context of D.

(i) [DP Hanako-*no*   gakkai-de-*no*   Taroo-*no*   hihan]
     Hanako-GEN   conference-at-GEN   Taroo-GEN   criticism
     'Hanako's criticism of Taro at the conference.'

The schematic derivation of (25) is shown in (27) [12].

(27) [D ⋯ [RelP *watasi*-**no** ⋯]]

The current argument that the size of RCs in Korean and Japanese is different makes a particular prediction with respect to (25) and (26). To begin with, the RCs in Japanese are TPs and the subject is located in the SpecTP. Under the contextual approach to phasehood, TPs in Japanese count as phases and thus the SpecTP is the edge of the TP-phase.

(28) [D ⋯ [TPphase *watasi*-**no**edge ⋯]]

Following Ochi (2001), the Genitive Case is assigned via Agree between the D-head and the element in SpecTP. Since the subject in question is located at the edge of TP-phase, the derivation in (28) is legitimate.

However, the larger projection of RCs in Korean blocks the operation as in (28). As argued in the previous section, Korean RCs are CPs. Then the subject in the SpecTP in Korean is then inaccessible to the external D-head, given Phase Impenetrability Condition (Chomsky 2000 et seq.) in (30).

(29) [D ⋯ [CPphase [TP*na*-**uy** ⋯]]
       *

(30) Phase Impenetrability Condition
     In phase α with head H, the domain of H is not accessible to the operations outside α; only H and its edge are accessible to such operations

Thus the difference in the size of RCs between Japanese and Korean also affects the availability of Genitive-marked subjects within RCs. In Japanese, RCs are TPs, and as a result the subject in SpecTP can agree with the external D-head. However,

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12) The potential issue for this analysis is wether the subject in question may undergo scrambling to the SpecCP, which is the edge of CP-phase and agree with the external D head. However, such a derivation is independently ruled out by the condition: *Scrambling cannot feed agreement,* suggested in Boeckx and Niinuma 2004.

In Korean, RCs are CPs and the RC-embedded subject is not accessible to the external D-head.

4. Conclusion

This paper has shown that the asymmetry regarding the extractability out of TP-ellipsis in Korean and Japanese relatives is due to their difference in terms of the size of RCs. Korean relatives are CPs, and hence TP ellipsis here involves phasal complement ellipsis, which allows extraction out of the TP to the CP domain. On the other hand, Japanese relatives are TPs, and thus ellipsis here involves full phasal ellipsis, which disallows extraction out of the TP[13] since there is no escape hatch. It has also been argued that the difference in the size of RCs between the two languages determines RC-internal *so*-replacement and Genitive marking of RC subjects. In contrast to Japanese, Korean allows *so*-replacement of the RC-internal TP where a remnant moves out of. To boot, unlike Korean, Japanese allows the external D-head to enter into Agree with the [Spec,TP] subject within RCs. All in all, these empirical phenomena have been shown to fall out from the categorial difference in RCs between Korean and Japanese.

References

Abe, Jun. (1996). Ellipsis: deletion, copying or both? In *Keio Studies in Theoretical Linguistics* I, ed. by Nishiyama, Y. and Otsu, Y., 49-87. Keio University: ICLS.

An, Dukho. (2014). Genitive Case in Korean and its implications for noun phrase structure. *Journal of East Asian Linguistics* 23, 361-392.

Bobaljik, J., and S. Wurmbrand. (2005). The domain of agreement. *Natural Language and Linguistic Theory* 23, 809-865.

Boeckx, C., and Fumikazu N. (2004). Conditions on agreement in Japanese. *Natural Language and Linguistic Theory* 22: 453-480.

Bošković, Željko. (2005). On the locality of left branch extraction and the structure of NP. *Studia Linguistica* 59, 1-45.

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13) The current analysis may also account for the asymmetry in the availability of genitive subjects: Korean does not allow the genitive subject due to the existence of the CP-layer, whereas Japanese does, as this projection is missing in the relevant construction. Due to the limitation of the space, however, we will leave this topic for the further research.

Bošković, Željko. (2013). Phases beyond clauses. In Schürcks eds., *The Nominal Structure in Slavic and Beyond*, 75-128. Berlin: Walter de Gruyter.

Bošković, Željko. (2014). Now I'm a phase, now I'm not a phase: On the variability of phases with extraction and ellipsis. *Linguistic Inquiry* 45, 27-89.

Bošković, Željko. (2016). Getting really edgy: on the edge of the edge. *Linguistic Inquiry* 47: 1-33.

Chomsky, Noam. (2000). Minimalist inquiries: The framework. In Roger Martin, David Michaels and Juan Uriagereka eds., *Step by step: Essays on Minimalist Syntax in Honor of Howard Lasnik* 89-155. Cambridge, MA: MIT Press.

Dadan, Marcin. (2016). PO omission in sluicing: Teasing apart PF-deletion and LF-copying. *NELS* 46, Concordia University, Montréal.

Dikken, Marcel den. (2007). Phase extension: Contours of a theory of the role of head movement in phasal extraction. *Theoretical Linguistics* 33, 1-41.

Hankamer, Jorge, and Ivan Sag. (1976). Deep and surface anaphora. *Linguistic Inquiry* 7, 349-428.

Harada, S.-I. (1971). Ga-no conversion and ideolectal variations in Japanese. *Gengo Kenkyu* 60, 25-38.

Hiraiwa, K. (2005). *Dimensions of Symmetry in Syntax: Agreement and Clausal Architecture*. Ph.D. dissertation. MIT.

Kaufmann, M. (2015). Embedded imperatives across languages. Talk presented at UMass.

Kitagawa, Chisato, and Claudia Ross. (1982). Prenominal modification in Chinese and Japanese. *Linguistic Analysis* 9, 19-53.

Maki, H. and A. Uchibori. (2008). Ga/no conversion. In *Handbook of Japanese Linguistics*, ed. by Miyagawa, S., and Saito, M., 192-216. Oxford: Oxford University Press.

Matsuo, Ayumi. (1998). *A comparative study of tense and ellipsis*. Doctoral dissertation, University of Connecticut.

Miyagawa, Shigeru. (2011). Genitive subjects in Altaic and Specification of Phase. Genitive subjects in Altaic and specification of phase. *Lingua* 121, 1265-1282.

Miyara, Shinsyo. (1982). Reordering in Japanese. *Linguistic Analysis* 9, 307-340.

Murasugi, Keiko. (1991). *Noun phrases in Japanese and English: A study in syntax, learnability and acquisition*. Ph.D. dissertation, University of Connecticut.

Ochi, M., (2001). Move F and *ga/no* conversion in Japanese. *Journal of East Asian Linguistics* 10: 247-286.

Sag, Ivan. (1976). *Deletion and Logical Form*. Ph.D. dissertation, MIT.

Saito, Mamoru. (1983). Case and government in Japanese. In *Proceedings of the Second West Coast Conference on Formal Linguistics, 247-259*. Stanford: CSLI

Saito, Mamoru. (1985). *Some asymmetries in Japanese and their theoretical implications*. Ph.D. dissertation, MIT.

Saito, Mamoru. (2007). Notes on East Asian argument ellipsis. *Language Research* 43, 203-227.

Sakamoto, Yuta. (2016). Overtly empty but covertly complex: An argument for the LF-copy

analysis. *NELS* 46, Concordia University. Montréal.

Shinohara, Michie. (2006). On some differences between the major deletion phenomena and Japanese argument ellipsis. Unpublished manuscript, Nanzan University.

Taguchi, Shigeki. (2008). Against the null complementizer analysis of Japanese relative clauses. In Tomohiro Fuji and Tomoko Kawamura, eds., *Nanzan Linguistics,* Special Issue 3 185-198.

Taguchi, Shigeki. (2015). *Syntactic operations on heads and their theoretical implications*. Ph.D. dissertation, University of Connecticut, Storrs.

Takahashi, Masahiko. (2010). Case, phases, and nominative/accusative conversion in Japanese. *Journal of East Asian Linguistics* 19, 319-355.

Watanabe, A. (1996). Nominative-genitive conversion and agreement in Japanese: A crosslinguistic perspective. *Journal of East Asian Linguistics* 5, 373-410.

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