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Abstract

This paper examines three different constructions in Japanese (relative clauses, cleft constructions, and right dislocation). It is shown that these constructions do not display subjacency when the head phrase lacks a Case-marker, but show full subjacency effects when the head is Case-marked. After listing empirical data, we show that even those sentences that do not display subjacency effects derive through movement. We then point out that these constructions display properties of topicalised sentences, and are derived from topicalised sentences.

1. Introduction

Relative clauses (RCs) and cleft constructions (CCs) have been explored extensively across languages within the generative tradition. The general consensus is that both involve operator movement, and hence, they are sensitive to island constraints (Chomsky 1977, 1981, among many others). However, Japanese RCs and CCs do not exhibit island effects, as shown in (1) and (2).[1]

(1) a. [Taroo-ga [sinsi-ga e_i kiteiru-to] itta] <u>fuku$_i$</u>
       Taroo-Nom gentleman-Nom wear-C said suit
       'The suit that Taro said that the gentleman wore'

  b. [[e_i e_j kiteiru] fuku$_j$-ga yogoreteiru] <u>sinsi$_i$</u> (Kuno (1973)
         wear suit-Nom is-dirty gentleman
    'The gentleman whose suit is dirty'

(2) a. [Taroo-ga [sinsi-ga e_i kiteiru-to] itta]-no-wa
       Taroo-Nom gentleman-Nom wear-C said-Nm-Top
    <u>ano-fuku$_i$</u>-datta
    that suit was
    'It was the suit that Taro said that the gentleman wore.'

  b. [[e_i e_j kiteiru] fuku$_j$-ga yogoreteiru]-no-wa
        wear suit-Nom is-dirty -Nm-Top
    <u>ano-sinsi$_i$</u>-datta.
    that gentleman-was
    'It was the gentleman whose suit is dirty'

The sentences in (1a) and (2a) show that the (underlined) head NP of the RC and the focus of the CC can be associated with a position, e_i, inside the complement clauses, showing that the head and its thematic position is potentially unbounded. Furthermore, the head of these constructions can be associated to a position in a complex NP, as shown in (1b) and (2b). One might therefore argue that Japanese RCs and CCs do not involve any movement at all. Along this line, one possible account of these constructions is to assume resumptive pronoun strategies, and maintain that subjacency is not at work since they are not derived through

movement. This paper demonstrates that despite apparent lack of island sensitivity, unbounded dependencies in RCs and CCs involve movement. In addition to these two constructions, we also claim that right-dislocation constructions (RDCs), exemplified in (3), are derived in the same manner.

(3) a.   [Taroo-ga [sinsi-ga e_i kiteiru-to]   itta]-yo
          Taroo-Nom   gentleman-Nom   wear-C   said
          ano-fuku$_i$
          that suit
          'Taro said that the gentleman wore it, the suit.'

b.   [[e_i e_j kiteiru]   fuku$_j$-ga   yogoreteiru]-yo   ano-sinsi$_i$
          wear   suit-Nom   is-dirty   that gentleman
          'His suit is dirty, that gentleman'

(3) shows that RDCs manifest the same property: the relation between the dislocated item and its thematic position can be unbounded (3a), and even free from the complex NP constraint (3b). To our knowledge, this property of RDCs has not been reported in the literature. Since the head of RCs, the focus phrase in CCs, and the right-dislocated phrase behave in the same way, for the purpose of exposition, we will refer to these items as heads.[2]

     This paper is organised as follows. Section 2 shows that in contrast to the case discussed above, the three constructions in question exhibit subjacency effects when the head is Case-marked. Section 3 presents empirical support for our claim based on the facts of reconstruction effects that even in the absence of subjacency, the three constructions involve movement. Section 4 provides further evidence for the dichotomy of case-marked NPs and bare NPs by looking at interactions of two operator-variable relations. Section 5 discusses theoretical implications of our analysis. Section 6 is a summary.

2. Complex NP Constraint

Japanese complex NPs constitute an island for scrambling (Saito 1985 and many others), as shown below:

(4) a.   Taroo-ga [$_{NP}$ [$_{TP}$ Hanako-ga e_j ano ronbun-o   ageta] hito$_j$]-o
          Taro-Nom   Hanako-Nom that paper-Acc gave   person-Acc
          Sagasiteita.
          was-looking-for
          'Taro was looking for the person who Hanako gave that paper.'

b.   *Ano ronbun-o$_i$ Taroo-ga [$_{NP}$ [$_{TP}$ Hanako-ga e_j t_i ageta] hito$_j$]-o
          that paper-Acc Taro-Nom   Hanako-Nom   gave   person-Acc
          sagasiteita.
          was-looking-for
          '(lit.) That paper$_i$ Taro was looking for the person$_j$ who Hanako gave (it$_i$) (to him$_j$).'

The object of the embedded clause in (4a), ano ronbun-o 'that paper-Acc,' is scrambled out of the RC to the top of the matrix sentence in the ungrammatical (4b). Bearing in mind the fact that a complex NP constitutes an island, let us examine the three constructions in question.

First, consider the following RDCs which contain a complex NP and its underlined head (or dislocated NP) is associated with the object e_i inside of the complex NP. When the dislocated NP is marked by an accusative case, o, the sentence is ruled out as in (5a); however, when the dislocated NP lacks its Case-marker in (5b), the sentence improves substantially:

(5) a.   *Taroo-ga [$_{NP}$ [$_{TP}$ Hanako-ga e_j e_i ageta] hito$_j$]-o
          Taro-Nom   Hanako-Nom   gave   person-Acc
          sagasiteita-yo,   <u>ano ronbun-o$_i$</u>.
          was-looking-for-FP that paper-Acc
          '(lit.) That paper$_i$ Taro was looking for the person$_j$ who Hanako gave (it$_i$) (to him$_j$).'

b.   ?Taroo-ga [$_{NP}$ [$_{TP}$ Hanako-ga e_j e_i ageta] hito$_j$]-o
          Taro-Nom   Hanako-Nom   gave   person-Acc
          sagasiteita-yo,   <u>ano ronbun$_i$</u>.
          was-looking-for-FP that paper
          '(lit.) That paper$_i$ Taro was looking for the person$_j$ who Hanako gave (it$_i$) (to him$_j$).'

CCs in Japanese manifest the same dichotomy.

(6) a.   *Taroo-ga [$_{NP}$ [$_{TP}$ Hanako-ga e_i ageta] hito]-o
          Taro-Nom   Hanako-Nom gave person-Acc
          sagasiteita-no-wa   <u>ano-ronbun-o</u>-da.
          was-looking-for-Nm-Top   that paper-Acc-Cop
          '(lit.) It was that paper$_i$ that Taro was looking for the person$_j$ who Hanako gave (it$_i$) (to him$_j$).'

b.   Taroo-ga [$_{NP}$ [$_{TP}$ Hanako-ga e_i ageta] hito]-o
          Taro-Nom   Hanako-Nom gave person-Acc
          sagasiteita-no-wa   <u>ano-ronbun</u>-da.
          was-looking-for-Nm-Top   that paper-Cop
          '(lit.) It was that paper that Taro was looking for the person$_j$ who Hanako gave (it$_i$) (to him$_j$).'

In both sentences in (6), the object NP within the complex NP is clefted. They are different in that the head (or focused/clefted NP) is marked by o in (6a) whereas it is a bare NP in (6b). The former obeys subjacency but the latter does not. This observation is by no means novel; Hoji (1990) observes that the same dichotomy is present for CCs in Japanese.[3]

     As we have already seen in the previous section, relativising an element within a complex NP does not yield ungrammaticality. Let us consider the following sentences. The sentence (1b) is repeated here as (7a):

(7) a.   [$_{NP}$ [$_{TP}$ [$_{NP}$ [$_{TP}$ e_i e_j kiteiru] fuku$_j$]-ga   yogoreteiru] sinsi]
                         wear   suit-Nom is-dirty   gentleman
          'The gentleman whose suit is dirty'

b.   [$_{NP}$ [$_{TP}$ [$_{NP}$ [$_{TP}$ e_i e_j daunroodo-sita] hito$_j$]-ga   sindesimau] ronbun$_i$]
                        download   person-Nom die   paper
          '(lit.) The paper$_i$ which the person who downloaded (it$_i$) will die'

In (7a), the subject, e_i, of the most deeply embedded RC is associated with the higher head, *sinsi*, and in (7b), the object, e_j, of the most deeply embedded RC (7b) is linked to the higher head, *ronbun*. Unlike RDCs and CCs, however, the head of the relative clause does not occur with a Case-marker. The head of the RCs can be associated with the element inside the complex NP, and hence, Japanese RCs are insensitive to constraints on movement, just like RDCs and CCs with a bare NP head.

The generalisation we can draw is that when a Case-marker is not attached to the head, subjacency effects disappear, but with a Case-marker on the head, the sentences display full subjacency effects. One possible interpretation of this fact, assuming that subjacency is a derivational constraint, is that without Case-marker, these three constructions, RCs, CCs, and RDCs, are not derived *via* movement. However, the next section demonstrates that this is not the case.

3. Reconstruction Effects

Section 2 has shown that when a case is not overtly marked on the head, the sentences do not observe subjacency. One possible interpretation of this fact is that no movement takes place in these constructions. However, reconstruction phenomena in these constructions show that this is not true. *Zibun*, 'self', is a long-distance anaphor in Japanese. Its antecedent must be a subject but not necessary the one within the same clause, as shown in (8a):

(8) a. Taroo$_i$-ga [$_{CP}$ Hanako$_j$-ga Ziroo-kara zibun$_{i/j}$-no ronbun-o moratta to] itta.
Taro-Nom   Hanako-Nom Ziro-from self-Gen paper-Acc received C said
'Taro said that Hanako received self's paper from Ziro.'

b. Zibun$_{i/j}$-no ronbun-o$_k$ Taroo$_i$-ga [$_{CP}$ Hanako$_j$-ga Ziroo-kara t$_k$ moratta to] itta.
self-Gen paper-Acc Taro-Nom   Hanako-Nom Ziro-from received C said
'(lit.) Self's paper$_k$, Taro said that Hanako received (it$_k$) from Ziro.'

(8a) has a complement clause, which contains the long-distance anaphor, *zibun*. *Zibun* can be bound either by the matrix subject, *Taroo*, or the embedded subject, *Hanako*. This ambiguity is preserved even if the embedded object phrase containing *zibun* scrambles to the top of the sentence, as in (8b). The fact that the scrambled *zibun* behaves with respect to the binding theory as if it has not scrambled shows that scrambling is an instance of movement.[4]

Let us first examine how RDCs behave with respect to reconstruction.

(9) a. Taroo$_i$-ga [$_{CP}$ Hanako$_j$-ga Ziroo-kara e$_k$ moratta to]
Taro-Nom   Hanako-Nom Ziro-from   received C
itta-yo, [zibun$_{i/j}$-no ronbun-o]$_k$.
said-FP self-Gen   paper-Acc
'(lit.) Self's paper$_k$, Taro said that Hanako received (it$_k$) from Ziro.'

b. Taroo$_i$-ga [$_{CP}$ Hanako$_j$-ga Ziroo-kara e$_k$ moratta to]
Taro-Nom   Hanako-Nom Ziro-from   received C
itta-yo, [zibun$_{i/?*j}$-no ronbun]$_k$.
said-FP self-Gen   paper
'(lit.) Self's paper$_k$, Taro said that Hanako received (it$_k$) from Ziro.'

In (9a), the Case-marked object in the complement clause containing *zibun* is dislocated rightward. *Zibun* can be bound by either the matrix subject, *Taroo*, or the embedded subject,

Hanako, just like the sentences in (8). Interestingly enough, the same interpretation is hard to obtain for the dislocated bare NP in (9b); *zibun* in this example can be bound by the matrix subject, *Taroo*, but not by the embedded subject, *Hanako*. The same observation holds true for the following RDC with a bare NP head containing a complex NP.

(10)   Taroo$_i$-ga [$_{NP}$ [$_{TP}$ Hanako$_j$-ga e$_k$ e$_l$ ageta] hito$_k$]-o   sagasiteita-yo,
Taro-Nom   Hanako-Nom   gave person-Acc was-looking-for-FP
[zibun-no ronbun$_{i/?*j}$]$_l$.
self-Gen paper
'(lit.) Self's paper$_k$, Taro was looking for the person$_l$ who Hanako gave (it$_k$) (to him$_l$).'

The right-dislocated head, *zibun-no ronbun*, lacks its Case-marker in (10). In this example, the embedded subject *Hanako* cannot bind *zibun*, just like (9b). These observations lead us to the conclusion that when the dislocated element has a Case-marker, it reconstructs fully to its thematic position, whereas when it is a bare NP, it does not reconstruct to the base position but to some intermediate position: the edge of the complement clause. This shows that even when the head is not Case-marked, the head (or an operator for the head) has moved from a position lower than its surface position, if not from the thematic position.

CCs pattern exactly the same. The sentences in (11) have a clefted complement object, *zibun-no ronbun*, containing *zibun*.

(11) a. Taroo$_i$-ga [$_{CP}$ Hanako$_j$-ga Ziroo-kara e$_k$ moratta to]
Taro-Nom   Hanako-Nom Ziro-from   received C
itta-no-wa   [zibun$_{i/j}$-no ronbun-o]$_k$-datta.
said-Nm-Top self-Gen   paper-Acc-Cop
'It was self's paper that Taro said that Hanako received.'

b. Taroo$_i$-ga [$_{CP}$ Hanako$_j$-ga Ziroo-kara e$_k$ moratta to]
Taro-Nom   Hanako-Nom Ziro-from   received C
itta-no-wa   [zibun$_{i/?*j}$-no ronbun]$_k$-datta.
said-Nm-Top self-Gen   paper-Cop
'It was self's paper that Taro said that Hanako received.'

When the focus NP containing *zibun* has a Case-marker, as in (11a), *zibun* can be bound by either the higher subject *Taroo* or the lower subject *Hanako*, but the clefted bare focus NP in (11b) is unambiguous, and can only be bound by the matrix subject, *Taroo*. This is parallel to what we have observed in (9)-(10); bare NPs only partially reconstruct.

We turn to RCs. When *zibun* is contained in the head NP relativised out of an embedded RC, reconstruction to the thematic position is not possible, as in (12);

(12)   *[$_{NP}$ [$_{TP}$ [$_{NP}$ [$_{TP}$ e$_i$ e$_j$ daunroodo-sita] hito$_i$]-ga   sindesimau]
download   person-Nom die
[zibun$_i$-no ronbun]$_j$]
self-Gen paper
'(lit.) [Self's paper]$_j$ which anyone who download it$_j$ will die'

If the head NP, *zibun-no ronbun* 'self's paper', were to reconstruct to its theta position within the RC, the sentence in (12) would be grammatical. The ungrammaticality of this conforms to the facts we saw in the previous section; Japanese RC heads do not reconstruct to the thematic position.

In (13) below, the head of the RC is associated with the object in the complement clause. *Zibun* can only refer to the higher subject, *Taro*.

(13)   [$_{NP}$ [$_{TP}$ Taroo$_i$-ga [$_{CP}$ Hanako$_j$-ga e$_k$ Ziroo-kara moratta to] itta]
                Taro-Nom   Hanako-Nom Ziro-from received C said
                [zibun$_{i/?*j}$-no ronbun]$_k$]
                self-Gen   paper
                '(lit.) Self's paper$_k$ that Taro said that Hanako received (it$_k$) from Ziro'

The observation here is equivalent to the *zibun* interpretations in the long-distance RDC and CC in (10) and (11b). When the head or dislocated NP is not marked by a Case-marker, reconstruction is only possible half-way through, but not fully to the thematic position.

Based on this observation, we propose that when bare NPs are dislocated, movement does not take place from the thematic position but from some intermediate position. For our purpose, we assume that this intermediate position is the edge of the embedded CP. This can nicely explain the example sentences we have seen; the anaphors (*zibun*) in (9b), (10), (11b) and (13) can only be bound by the matrix subject since movement takes place from the position adjoined to the complement CP. In this position, *zibun* can be bound only by its matrix subject but not by the embedded subject, *Hanako*. The ungrammaticality of (12) also gets a straightforward explanation. Since the relative clause head originates in the subject position, there is no possible antecedent which can bind *zibun* in the position adjoined to the TP. Based on these facts of reconstruction effects, we claim that these constructions involving bare NPs are derived in part by 'short' movement from the position adjoined to the embedded CP.

Our proposal can be summarised as follows. (14a) is the structure when the head is not Case-marked, while (14b) is the structure when the head has a Case-marker.

(14) a.   Op$_i$ [...[$_{CP}$ t$_i$ [$_{CP}$...pro$_i$...]]...] HEAD NP$_i$
     b.   Op$_i$ [...[$_{CP}$ t$_i$ [$_{CP}$...t$_i$...]]...] HEAD NP$_i$-case

We assume that the structure in (14a) contains *pro* in the thematic position of the head/dislocated NP but the null operator, base generated in position adjoined to the complement CP and co-indexed with *pro*, moves to the higher position to be licensed with the head/dislocated NP. (14b), on the other hand, involves movement from the thematic position of the head/dislocated NP. The structures in (14) can account for the distinct grammaticality between bare NP and case-marked NP dislocation. (14a) manifests a mixed chain similar to those in Selayarese (Finer 1997) and Irish (McCloskey 2002). In the next section, we will further justify our proposals in (14).

4. Two Operator-Variable Relations

Given the schematic structures in (14), we expect to find some interaction with other operator-variable relations (the structure with a bare NP head and the one with a case-marked NP head) but slightly in a different way. Here, we adopt Linear Crossing Constraint (LCC; Tanaka 1997), according to which two operator-variable relations may not have crossing dependencies. Let us first consider the basic sentences involving two operator-variable relations. (15a) is the sentence with canonical word order in Japanese, and (15b) is its scrambled counterpart. The NP marked by *sika* 'only' is a negative polarity item (NPI), which forms an A'-dependency with its negative head. As shown in (15b), the two dependencies are nested, and the sentence (15a) is grammatical.

(15) a.   Dare-ga ano ronbun-sika yoma-nai-no?
          who-Nom that paper-only read-Neg-Q
          'Who read only that paper?'

     b.   [$_{CP}$[$_{NegP}$[$_{VP}$[dare-ga ano ronbun-sika] yoma-nai] no]

On the contrary, the sentence in (16a) is the scrambling counterpart of (15a). As illustrated in (16b), the two A'-association cross, and the sentence is ruled out.

(16) a.   ?*[Ano ronbun-sika]$_i$ dare-ga t$_i$ yoma-nai-no?
         that paper-only   who-Nom read-Neg-Q
         '(lit.) Only that paper$_i$, who read (it$_i$)?'

     b.   ?*[$_{CP}$[$_{NegP}$[$_{VP}$[[ano ronbun-sika]$_i$ dare-ga t$_i$] yoma-nai] no]

Let us now apply the LCC to constructions in question. Consider the following RDC. We would expect that if a head NP with a Case-marker forms an operator-variable relation with its thematic position, the NPI and the Neg head in the matrix clause cause ungrammaticality. This is, however, contrary to the fact. The grammaticality of (17a) shows that the dependency between the dislocated phrase, *ano-ronbun*, and its thematic gap position is not that of an operator variable structure; if it was, (17a) would be ruled out, since it violates the LCC as shown in (17b).

(17) a.   Taroo-sika [$_{CP}$ Hanako-ga e$_i$ yonda to] omotte-inai-yo, ano ronbun-o.
         Taro-only   Hanako-Nom read C think-Neg-FP that paper-Acc
         '(lit.) That paper$_i$, only Taro thinks that Hanako read (it$_i$).'

     b.   Taroo-sika [$_{CP}$ Hanako-ga e$_i$ yonda to] omotte-inai-yo, ano ronbun-o

This is, we argue, not a problem. Tanaka (2001) shows that RDCs with a dislocated case-marked NP do not involve operator movement but scrambling. If this analysis is correct, the representation of (17a) should be the one in (18) rather than (17b):

(18)   Taroo-sika [$_{CP}$ Hanako-ga t$_i$ yonda to] omotte-inai-yo,
         Taro-only   Hanako-Nom read C think-Neg-FP
         ano ronbun-o ~~Taroo-sika [$_{CP}$ Hanako-ga t$_i$ yonda to] omotte-inai-yo~~
         that paper-Acc Taro-only Hanako-Nom read C think-Neg-FP
         '(lit.) Only Taroo thinks that Hanako read it$_i$, the paper$_i$ ~~only Taroo thinks that Hanako read it.~~'

Tanaka (2001), following Kuno (1973), argues that there exist two identical sentences in a single RDC. The second sentence involves scrambling and deletion, which leaves the dislocated NP behind. (18) illustrates the representation after deletion; the dislocated NP, *ano ronbun-o*, is scrambled from within the second sentence. The rest of the sentence after scrambling delete under identity with the first sentence. This analysis explains why (17a) is

not ruled out, because the structure does not contain two A' association lines, and so the LCC is irrelevant, as shown in (19).

(19)   Taroo-sika [$_{CP}$ Hanako-ga e$_i$ yonda to] omotte-inai-yo, ano ronbun-o

Let us consider the RDCs in which a bare NP is dislocated. (20a) is not grammatical when the dislocated NP is not marked by a Case-marker:

(20) a.   ??Taroo-sika [$_{CP}$ Hanako-ga pro$_i$ yonda to] omotte-inai-yo, ano ronbun.
           Taro-only   Hanako-Nom   read   C   think-Neg-FP   that paper
           '(lit.) That paper$_i$, only Taro thinks that Hanako read (it$_i$).'

b.   Taroo-sika [$_{CP}$ t$_i$ [$_{CP}$ Hanako-ga pro$_i$ yonda to]] omotte-inai-yo, ano ronbun

The contrast between (17a) and (20a) conforms to our current proposal; a dislocated bare NP is created by movement from the position adjoined to the complement CP. As (20b) illustrates, two operator association lines cross, and therefore, the ungrammaticality of the sentence can be accounted for. The facts in (19) and (20) tell us that the RDC with a dislocated bare NP does not share the same type of structure of the RDC with a dislocated case-marked NP. The former involves operator movement just like RCs and CCs, whereas the latter does not involve any operator movement but scrambling.

If our analysis is on the right track, we expect that the RDC becomes grammatical when the complement CP in (20) scrambles to the initial position of the sentence. This expectation is actually borne out, as shown in the following sentence:

(21) a.   [$_{CP}$ t$_i$ [$_{CP}$ Hanako-ga pro$_i$ yonda to]]$_j$ Taroo-sika t$_j$ omotte-inai-yo,
           Hanako-Nom   read   C   Taro-only   think-Neg-FP
           ano ronbun.
           that paper

b.   [$_{CP}$ t$_i$ [$_{CP}$ Hanako-ga pro$_i$ yonda to]]$_j$ Taroo-sika t$_j$ omotte-inai-yo, ano ronbun

Compared to (20), (21) is substantially more grammatical. As the structure (21b) shows, the two association lines are nested, which explains the grammaticality of the sentence.

Let us examine further examples of right-dislocation of a bare NP. Unlike (17) and (20), the contrast disappears between the dislocated bare NP and case-marked NP when the NPI and its head both occur within the complement clause, as shown in (22) and (23).

(22)   Taroo-ga [$_{CP}$ t$_i$ [$_{CP}$ Hanako-ga   Ziroo-ni-sika pro$_i$ age-anak-atta to]]
       Taro-Nom   Hanako-Nom Ziro-Dat-only   give-Neg-Past C
       omotteiru yo, ano ronbun-o.
       think   FP   that paper-Acc
       '(lit.) That paper$_i$, Taro thinks that Hanako gave (it$_i$) only to Ziro.'

(23) a.   Taroo-ga [$_{CP}$ t$_i$ [$_{CP}$ Hanako-ga   Ziroo-ni-sika pro$_i$ age-anak-atta to]]
       Taro-Nom   Hanako-Nom Ziro-Dat-only   give-Neg-Past C
       omotteiru yo, ano ronbun.
       think   FP   that paper
       '(lit.) That paper$_i$, Taro thinks that Hanako gave (it$_i$) only to Ziro.'

b.   ... [$_{CP}$ t$_i$ [$_{CP}$ Hanako-ga Ziroo-ni-sika pro$_i$ age-anak-atta to]] omotteiru yo, ano ronbun

The RDC containing a dislocated NP with a Case-marker does not involve any operator movement, and thus the LCC is not relevant in (22). The RDC containing a dislocated NP without any Case-marker in (23a) does involve two operator relations. However, the sentence does not violate the LCC as depicted in (23b). Note that this sentence shows that the operator movement takes place from the position adjoined to the complement CP and not from the thematic position inside the CP. If it were from the thematic position, the sentence would be ungrammatical as the two dependency lines cross.

At this point, one might raise a question of whether the adjoined position from which the dislocated head originates is the left edge or the right edge. The following examples show that it must be the left edge. (24) is a RD with a Case-marker on the head, *ano-ronbun-o*. The *sika*-phrase is scrambled out of the complement clause to the initial position of the sentence. Since dislocation of Case-marked NPs counts as scrambling, only one operator dependency is present. This sentence is grammatical as expected.

(24)   Ziroo-ni-sika$_j$ Taroo-ga [$_{CP}$ t$_i$ [$_{CP}$ Hanako-ga t$_j$ pro$_i$ age-nanak-atta to]]
       Ziro-Dat-only Taro-Nom   Hanako-Nom   give-Neg-Past C
       omotteiru yo, ano ronbun-o.
       think-FP   that paper-Acc
       '(lit.) That paper$_i$, only to Ziro$_j$, Taro thinks that Hanako gave (it$_i$) (to him$_j$).'

(25a) has a dislocated phrase that is not Case-marked. (25a) is ungrammatical. This is also expected under our analysis. In (25b), the representation for (25a), the two dependency lines cross. Note that if the dislocated NP moves from the right edge of the complement CP, we would expect grammaticality in this sentence as the two dependency lines would not even overlap.

(25) a.   ??Ziroo-ni-sika$_j$ Taroo-ga [$_{CP}$ t$_i$ [$_{CP}$ Hanako-ga t$_j$ pro$_i$ age-anak-atta to]]
       Ziro-Dat-only Taro-Nom   Hanako-Nom   give-Neg-Past C
       omotteiru yo, ano ronbun.
       think   FP   that paper

b.   ??Ziroo-ni-sika$_j$ ... [$_{CP}$ t$_i$ [$_{CP}$ ...t$_j$ pro$_i$ age-anak-atta to]] omotteiru yo, ano ronbun

Thus, (25) is a crucial piece of evidence for one of the aspects of our analysis in (14a): the dislocated bare NP is base-generated at the left edge of the complement CP.

Next, let us examine CCs containing an NPI. As Hoji (1990) and many others argue, CCs with a case-marked head involve some kind of operator movement, and therefore, unlike case-marked RDCs, we would expect LCC effects. If (14a) is correct, even CCs with a bare head may exhibit the same effects for relevant cases. Let us consider the following CCs:

(26) a.   *Taroo-sika [CPHanako-ga t_i yon-da   to] omotte-inai-no-wa
           Taro-only   Hanako-Nom read-Past C   think-not-Nm-Top
           [ano ronbun-o]-datta.
           that paper-Acc Cop
           'It was that paper that only Taro thinks that Hanako read.'

   b.   *Op_i Taroo-sika [CPHanako-ga t_i yon-da to] omotte-inai-no_i-wa [ano ronbun-o]_i-datta.

The CC in (26a) is ruled out by the LCC because the two dependency lines cross as illustrated in (26b). Here, the null operator moves from the thematic position within the complement clause to the highest spec of CP. The operator is co-indexed with the nominaliser head, *no*, which in turn licenses the focus NP by predication.

Interestingly, even when the focus position is occupied by a bare NP, grammaticality remains the same. This is not expected if the CCs with a bare NP focus do not involve any operator movement. Let us look at (27):

(27) a.   *Taroo-sika [CPHanako-ga t_i yon-da   to] omotte-inai-no-wa
           Taro-only   Hanako-Nom read-Past C   think-not-Nm-Top
           [ano ronbun]-datta.
           that paper-Cop
           'It was that paper that only Taro thinks that Hanako read.'

   b.   *Op_i Taroo-sika [CPt_i [CPHanako-ga pro_i yon-da to]] omotte-inai-no_i-wa [ano ronbun]_i-datta.

The sentence in (27a) is ruled out just like (26a). Our explanation is that the two dependencies are crossed, as shown in (27b), violating the LCC. In fact, these two sentences would improve substantially when the complement clause is scrambled to the top of the sentence, as in (28a):

(28) a.   [CPHanako-ga t_i yon-da   to] Taroo-sika omotte-inai-no-wa
           Taro-only   Hanako-Nom read-Past C   think-not-Nm-Top
           [ano ronbun(-o)]-datta.
           that paper-(-Acc)Cop
           'It was that paper that only Taro thinks that Hanako read.'

   b.   Op_i [CPHanako-ga t_i yon-da to] Taroo-sika omotte-inai-no_i-wa [ano ronbun-o]_i-datta.

   c.   Op_i[CPt_i[CPHanako-ga pro_i yon-da to]]Taroo-sika omotte-inai-no_i-wa [ano ronbun]_i

           -datta.

Regardless of the Case-marker on the focus NP, (28a) is grammatical. This is expected, since in neither of the two structures in (28b-c) do the dependencies overlap.

So far, the facts we have seen do not distinguish between the CCs with a bare focus NP and those with a case-marked focus NP as far as the LCC is concerned. The difference shows up in the two examples in (29). In these examples, the *sika*-phrase and the negation are

in the complement clauses. These examples are minimally different from each other. (29a), but not (29b), has a Case-marker on the head.

(29) a.   *Taroo-ga [CP Hanako-ga   Ziroo-ni-sika t_i age-nak-atta to]
           Taro-Nom   Hanako-Nom Ziro-to-only   give-not-Past C
           omotteiru-no-wa [ano ronbun-o]-datta.
           think-Nm-Top   that paper-Acc Cop
           'It was that paper that Taro thinks that Hanako gave only to Ziro.'

   b.   ?Taroo-ga [CP Hanako-ga   Ziroo-ni-sika pro_i age-nak-atta to]
           Taro-Nom   Hanako-Nom Ziro-to-only   give-not-Past C
           omotteiru-no-wa [ano ronbun]-datta.
           think-Nm-Top   that paper-Cop
           'It was that paper that Taro thinks that Hanako gave only to Ziro.'

(29a) is less grammatical than (29b). The CC with a Case-marked focus NP is degraded but the CC with a bare focus NP is not. This difference can be captured in terms of the LCC, as shown in (30). (30a) is the structure of (29a), and (30b) is the structure of (29b).

(30) a.   *Op_i Taroo-ga [CPHanako-ga Ziroo-ni-sika t_i age-nakatta to] omotteiru-no_i-wa

           [ano ronbun-o]_i-datta.

   b.   ?Op_iTaroo-ga [CPt_i [CPHanako-ga Ziroo-ni-sika pro_i age-nakatta to]] omotteiru-

           no_i-wa [ano ronbun]_i-datta.

The LCC straightforwardly captures the contrast in (29), and gives additional support to our analysis in (14).

Finally, let us consider how RCs interacts with operator constructions under the LCC. (31a) is grammatical, but (31b) is not.

(31) a.   [TPTaroo-ga [CP[NP[TP e_i e_j daunroodo-sita] hito_i]-ga   sinu to]
           Taro-Nom   downloaded   person-Nom die C
           omotteiru] ronbun_j
           think   paper
           'The paper that Taro thinks that the person who downloaded (it) will die'

   b.   *[TPTaroo-sika [CP[NP[TP e_i e_j daunroodo-sita] hito_i]-ga   sinu to]
           Taro-only   downloaded   person-Nom die C
           omotte-inai] ronbun_j
           think-not   paper
           'The paper that only Taro thinks that the person who downloaded (it) will die.'

Our analysis explains the facts in (31); as in (32) below, the two A'-association lines in (31b) are crossed and hence, (31b) violate of the linear crossing constraint.

(32)   *Op$_j$ [Taroo-sika [$_{CP}$ t$_j$ [$_{CP}$ [$_{NP}$ e$_i$ e$_j$ daunroodo-sita hito$_i$]-ga sinu to]] omotte-inai] ronbun$_j$

The fact that (31b) is ungrammatical shows that RCs without a Case-marker on the head involve A'-dependencies. We have proposed that the designated operator is generated in position left-adjoined to the complement CP, and undergoes movement. The two dependency lines cross, and therefore, the sentence is ungrammatical.

Interestingly enough, if the complement CP in (31b) scrambles to the top of the RC, the sentence improves considerably. This is shown in (33a), which is represented as (33b). The operator movement starts at the edge of the scrambled complement clause, the NPI and its head in the higher clause do not interfere with the relative operator movement.

(33) a.   [$_{CP}$[$_{NP}$[$_{TP}$ e$_i$ e$_j$ daunroodo-sita] hito$_i$]-ga   sinu to] Taroo-sika t$_k$
                             downloaded   person-Nom die C   Taro-only
         omotte-inai ronbun$_j$
         think-not   paper

   b.   Op$_i$ [$_{CP}$ t$_j$ [$_{CP}$[$_{NP}$[$_{TP}$ e$_i$ e$_j$ daunroodo-sita] hito$_i$]-ga sinu to]]

         Taroo-sika t$_k$ omotte-inai ronbun$_j$

To summarise, this section has demonstrated how RDCs, CCs, and RCs interact with other operator constructions under the LCC, showing that the RDCs, CCs and RCs with a bare NP head pattern in the same way. Even though these constructions are insensitive to usual syntactic islands, they still involve A'-dependencies from the position adjoined to the complement CP. In other words, their long-distance dependencies are not "long-distance," but composed of two mixed chains: one with *pro* and the operator (binding) and the other with operator moved and its base-generated position (movement).

5. Theoretical Implications

The preceding sections provided ample evidence for our analysis in (14), repeated as (34).

(34) a.   Op$_i$ [...[$_{CP}$ t$_i$ [$_{CP}$...pro$_i$...]]...] HEAD/Dislocated NP$_i$
   b.   Op$_i$ [...[$_{CP}$ t$_i$ [$_{CP}$...t$_i$...]]...]   HEAD/Dislocated NP$_i$-case

The structure in (34b) manifests a usual kind of successive cyclic movement whereas (34a) contains two different syntactic relations: one between *pro* and the operator base-generated in the position adjoined to the clause by binding, and the other between the adjoined position and the position where the operator moves to. Such mixed A'-chains similar to (34a) have already been discussed in other languages, such as Modern Greek (Iatridou 1991), Selayarese (Finer 1997), and Irish (McCloskey 2001, 2002). Therefore, the facts we have seen in the paper are not limited to the Japanese language.

What has not been examined so far, however, is why in the first place such mixed chains are necessary for the constructions with a bare NP head. More specifically, the question we would like to address is (35).

(35) Why is the operator generated in and undertaking movement from the position
     adjoined to the complement CP in (34a)?

Before answering (35), let us examine the basic property of the null operator in (34a). Japanese has so-called topic constructions, which are assumed to have base-generated topic phrase in sentence-initial position.[5] Saito (1985) argues that topic phrases are licensed by a so-called "aboutness relation". The topic phrase serves as the topic about the rest of the sentence. In particular, a topic does not need to bind a gap, as illustrated below:

(36)   [$_{IP}$ Hana$_i$-wa [$_{IP}$ sakura-ga   ii]]
         flowers-Top cherry blossom-Nom good
         'As for flowers, cherry blossoms are good.'

Since such sentences do not have a gap corresponding to the topic, they do not have non-topicalisation counterparts. Such gapless relative clauses share properties in common with RCs, CCs, and RDCs without Case-marker, in that i) the topic phrase has no Case-marker, ii) the topic phrase cannot be a PP (Kuno 1973). Gapless relative clauses can appear in an apparent long-distance relation, as shown below.

(37)   Hana$_i$-wa   Taroo-ga [t$_i$ sakura-ga   ii]   to it-ta.
         Flowers-Top   Taro-Nom   cherry blossoms good C   say-Past
         'As for flowers, Taroo said that cherry blossoms are good.'

It is, then, reasonable to conclude that RCs, CCs, and RDCs are derived from such a topicalisation constructions. The RDC counterpart of (37) is correctly expected to be grammatical.

(38)   Taroo-ga [t$_i$ sakura-ga   ii]   to it-ta yo,   hana$_i$-wa.
         Taro-Nom   cherry blossoms good C say-Past   flowers-Top
         'As for flowers, Taroo said that cherry blossoms are good.'

However, RCs and CCs counterparts are not grammatical.

(39)   *Taroo-ga [t$_i$ sakura-ga   ii]   to it-ta   hana$_i$
         Taro-Nom   cherry blossoms good C say-Past   flowers
         'The flowers that Taroo said that cherry blossoms are good.'

(40)   *Taroo-ga [t$_i$ sakura-ga   ii]   to it-ta-no-wa,   hana$_i$-da.
         Taro-Nom   cherry blossoms good C say-Past-Nm-Top flowers-Cop
         'It was flowers that Taroo said that cherry blossoms are good.'

However, a functional explanation is available to rule out these cases. Kuno (1973) observes that examples similar to (39-41) are ungrammatical, but they improve substantially in a particular context. (41) is a topicalised sentence. (42) shows that relativising the topic phrase in (41) gives rise to an ungrammatical output, but (43) shows that (42) improves substantially in a more specific context.

(41)   Sakana-wa   tai-ga   ii
         Fish-Top   snapper-nom good
         'As for fish, snappers are good.

(42)   *[tai-ga   ii   ]   sakana
          snapper-nom good   fish
          'Fish that snappers are good.

(43)   ?[tai-ga   ii   ]   sakana-wa furansugo-de   poisson-toiu
            snapper-nom good   fish-Top   French-in   posisson-called
            'Fish that snappers are good are called poisson in French.'

Kuno's account of (42) is that nominals that get a generic interpretation, such as flowers or fish, cannot easily be characterised by specific species. (39), the long-distance case, also improves in a more specific context.

(44)   ?Taroo-ga [t_i sakura-ga   ii]   to it-ta   hana$_i$-wa
        Taro-Nom   cherry blossoms good C   say-Past   flowers
        furansugo-de fleur-toiu
        French-in   fleur-called
        'The flowers that Taroo said that cherry blossoms are good are called fleur in French.'

Based on this observation, we conclude that the ungrammaticality of (39)-(40) does not constitute a problem for our hypothesis that RCs, CCs, and RDCs without Case-markers on the head are derived from topicalised sentences, whose topic is base-generated in the clause initial position, and is licensed by aboutness relation. Gapless relative clauses such as (36) or (41) show that topic phrases are base-generated in their clause-initial surface position. Under this set of assumptions, (45), a case of long-distance RC, is assumed to be derived from (46).

(45)   Taroo-ga [t_i [Hanako-ga   Ziroo-kara pro$_i$ moratta to]] itta ronbun$_i$
        Taro-Nom   Hanako-Nom Ziro-from   received C   said paper
        'The paper that Taroo said that Hanako received from Ziroo.'

(46)   Taroo-ga [ronbun-wa [Hanako-ga   Ziroo-kara pro$_i$ moratta to]] itta
        Taro-Nom paper-Top Hanako-Nom Ziro-from   received C   said
        'Taroo said that the paper, Hanako received from Ziroo.'

We have seen in the above sections that it is not possible for a head to reconstruct into the thematic position, occupied by pro$_i$ in (45)-(46). The remaining question, then, is why this option is not available in the constructions in question. More specifically, the question is why it is not possible to generate the head in the thematic position and move it to its surface position. We would like to suggest that the answer to this question is available in the visibility condition in Aoun (1979), which states that a chain is visible for theta-marking if it contains a Case position. Being without Case-marker, the head cannot be licensed by virtue of forming a chain with the thematic position. The only option available for the non-Case-marked head is to be licensed through aboutness relation, as shown by (46).

6. Conclusion

This paper has examined 'long-distance' CCs, RCs and RDCs in Japanese, demonstrating that these constructions exhibit syntactic properties of a mixed chain when the head NP is not Case-marked. This includes binding relation in the lower dependency and movement in the higher dependency. Similar phenomena have already been observed in other languages, the cases in Japanese add to the list of languages that allow such mixed chains. We have proposed that the null operator in the constructions in question has a property of topic, which behaves

differently from the usual type of *wh*-operator. The null topic operator is generated by Merge in the position adjoined to the embedded clause, licensed through the aboutness condition.

Notes

1 Examples are glossed as follows; Acc=accusative, C=complementiser, Cop=Copula, Dat=dative, FP=sentence-final particle, Gen=genitive, Neg=negative, Nm=nominaliser, Nom=nominative, Q=question marker, and Top=topic marker. Throughout this paper, we use the conventional X'-theory, but this choice is largely for exposition purposes.

2. The above sentences show the absence of island effects in three different constructions. Note that none of the constructions in (1)-(3) is the head marked with a Case-particle. It is possible to put a Case-particle on the head (see, for example, (6) below). Hoji (1985, 1990) examine the lack of subjacency in CCs in detail, and conclude that CCs, if the head is Case-marked or PPs, are constrained by subjacency. We argue that the asymmetry between bare NPs and case-marked NPs/PPs holds also in RCs and RDCs. Our analysis contrasts with Hoji (1990) in that we assume that regardless of the types of the heads (i.e., whether it is a bare NP or a case-marked NP/PP), these constructions involve movement. More specifically, we claim that the long-distance dependencies between the bare NP head and its thematic position involve mixed chains: resumptive binding and movement although the movement is too 'short' to induce island sensitivity.

3. Hoji (1990) also shows that the focus PP behaves in the same way as the case-marked NP:

(i)   *Taroo-ga [$_{NP}$ [$_{TP}$ Hanako-ga e$_i$ moratta] ronbun]$_i$-o sagasiteita-no-wa
     Taro-Nom   Hanako-Nom received paper-Acc was-looking-for-Nm-Top
     Ziroo-kara-da.
     Ziro-from-Cop
     '(lit.) It was from Ziro that Taro was looking for the paper that Hanako received.'

In the present paper, we examine the instances of case-marked NPs and bare NPs as a priority matter, but will come back to the case of PP later.

4. This paper does not need to take any particular analysis of reconstruction. We use 'reconstruction' as a descriptive term and do not necessarily imply the adoption of literal reconstruction (Chomsky 1976).

5. What we call a topic phrase is the NP or PP marked by *wa* 'Top', which can be interpreted either contrastively or thematically. We are concerned with thematic topics only in the present paper.

References

Aoun, Josef. (1979). *On government, Case-marking, and clitic placement*. Ms. Cambridge, MIT.

Chomsky, Noam. (1976). Conditions on rules of grammar. *Linguistic Analysis* 2:308-351.

Chomsky, Noam. (1977). On wh-movement. In Peter Culicover, Thomas Wasaw and Akmajian Adrian ed., *Formal syntax*, New York: Academic press.

Chomsky, Noam. (1981). *Lectures on government and binding*. Dordrecht: Foris Publications.

Finer, Daniel. (1997). Contrasting A'-Dependencies in Selayarese. *Natural language and linguistic theory* 23:3-44.

Hoji, Hajime. (1985). *Logical Form Constraints and Configurational Structures in Japanese*, University of Washington: Ph.D. Dissertation.

Hoji, Hajime. (1990). *Theories of Anaphora and Aspects of Japanese Syntax*. Ms. University of Southern California.

Iatridou, Sabine. (1991). *Clitics and Island Effects*. Ms. MIT, Cambridge, Mass.

Kuno, Susumu. (1973). *The Structure of the Japanese Language*. Cambridge, Mass.: MIT Press.

McCloskey, James. (2001). The Morphosyntax of Wh-extraction in Irish. *Journal of Linguistics* 37:67-100.

McCloskey, James. (2002). Resumption, Successive Cyclicity, and the Locality of Operations. In Samuel David and T. Daniel Seely Epstein ed., *Derivation and Explanation in the Minimalist Program*. Oxford, Blackwell.

Saito, Mamoru. (1985). *Some Asymmetries in Japanese and their Theoretical Implications*, MIT: Ph.D. Dissertation.

Tanaka, Hidekazu. (1997). Invisible Movement in *Sika-nai* and the Linear Crossing Constraint. *Journal of East Asian Linguistics* 6:143-188.

Tanaka, Hidekazu. (2001). Right-dislocation as Scrambling. *Journal of Linguistics* 37:551-579.

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