GA-NO CONVERSION AND OVERT OBJECT SHIFT IN JAPANESE

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1.   Introduction

This paper pursues the idea that Japanese has obligatory overt object shift. By this I mean that the direct object in Japanese always shifts to the outer specifier of *v*P. Thus, a structure like the one in (1b) is assigned to the sentence (1a).

(1) a.   Taro-ga   hon-o   yonda.
           Taro-NOM book-ACC read

     'Taro read a book.'

     b.   [$_{TP}$ Taro$_i$-NOM [$_{vP}$ book$_j$-ACC t_i [$_{VP}$ t_j V]]]

The idea that Japanese employs overt object shift is by no means new. Japanese has scrambling, which can be (and has been) classified into several types based on how far the movement in question takes place. And it has been observed that "short scrambling" (see Tada (1993) and Nemoto (1993) among others) holds resemblance to object shift in Germanic languages. My proposal is different from most of the previous proposals in that overt object shift is obligatory. Also, there are authors like Watanabe (1996) who explicitly reject the existence of overt object shift in Japanese. I will take up this issue at the end of the paper.

This short paper cannot deal with many important issues related to this hypothesis, including the question of what forces overt object shift in this language. It may as well be that Japanese *v* (or direct object) has whatever properties that trigger overt movement (i.e., strong feature, EPP-feature etc.), or one could entertain Kayne's (1994) antisymmetric view of word order in natural languages and suppose that a surface SOV order is derived from the underlying SVO order via movement of the object across a verb. Also, I will be silent about the surface position of a verb. It may stay in VP or it may move out of VP in overt syntax. I think the choice among them will not affect the thrust of my argument. I will also limit the discussion to transitives, setting aside ditransitives (see Ura (1996) and Takano (1998)).

2.   Ga-No Conversion

In the sections to come, I shall demonstrate how the overt object shift hypothesis helps us to explain a restriction observed in a case alternation phenomenon in Japanese. As originally discussed by Harada (1971), Japanese allows nominative-genitive alternation in the

prenominal clause (2), which is known as Ga-No Conversion (GNC) (see Bedell (1972), Shibatani (1975), Nakai (1980), Saito (1983), Miyagawa (1993), Watanabe (1996), Hiraiwa (2000), and Ochi (2001), to name a few).

(2) a. Taro-ga   naita riyuu
        Taro-NOM cried reason

        'the reason that Taro cried'

    b. Taro-no   naita riyuu
        Taro-GEN cried reason

        'the reason that Taro cried'

Following works of Harada, Watanabe (1996) highlights one intriguing property of this construction. Object cannot be present when the subject is genitive, as shown in (3b).

(3) a. Taro-ga   hon-o   katta mise
        Taro-NOM book-ACC   bought store

        'the store where Taro bought a book'

    b. *Taro-no   hon-o   katta   mise
        Taro-GEN book-ACC   bought store

        'the store where Taro bought a book'

This transitivity restriction on GNC is known to be lifted when the object is phonologically empty, as shown below:

(4) a. Taro-ga   [*e*] katta   hon
        Taro-NOM   bought book

        'the book that Taro bought'

    b. Taro-no   [*e*] katta   hon
        Taro-GEN   bought book

        'the book that Taro bought'

As Watanabe (1996) points out, the saving effect observed in (4b) should not be framed in terms of an adjacency requirement imposed on genitive subject and a predicate of the prenominal clause, since preposing of a direct object does not lead to improvement, as shown in (5b).

(5) a. *Taro-no   hon-o   katta   mise
        Taro-GEN book-ACC bought store

        'the store where Taro bought a book'

b.   *Hon-o   Taro-no   katta   mise
     book-ACC Taro-GEN bought store

3.   Previous Analyses on GNC

There have been several approaches to GNC in the literature. One dominant analysis of GNC capitalizes on the fact that GNC occurs in clauses inside a nominal. For instance, analyses in Bedell (1972) and Saito (1983) are crucially based on the generalization that in Japanese, an element immediately dominated by a projection of a nominal bears -*no*.

(6) a.   Taro*(-no) hon
          Taro-GEN book

          'Taro's book'

     b.   Tokyo-kara*(-no) densha
          Tokyo-from-GEN train

          'a train from Tokyo'

These authors attempt to assimilate GNC to the generalization in (6) by arguing that the subject of a sentential modifier of a nominal, when marked with -*no,* is in fact located in a position immediately dominated by a projection of a nominal, such as the spec of NP.

(7) [$_{NP}$ Taro$_i$-no [t_i naita]   riyuu]
         Taro-GEN   cried   reason

Miyagawa (1993) offers the most comprehensive analysis along this line. Adopting the DP hypothesis, he proposes that genitive Case is licensed by D. His claim is motivated by scope facts. Let us consider (8) (taken from Ochi (2001)). Of importance is the fact that (8b) has an additional reading absent in (8a).

(8) a.   [[[Rubii-ka shinju]-ga   yasuku-naru] kanousei]-ga   50% izyoo da.
            ruby-or   pearl-NOM cheap-become probability-NOM 50% over is

          i.   'The probability that rubies or pearls become cheap is over 50%.'
          ii. *'The probability that rubies become cheap or the probability that pearls
               become cheap is over 50%.'

     b.   [[[Rubii-ka shinju]-no yasuku-naru]   kanousei]-ga   50% izyoo da.
            ruby-or   pearl-GEN cheap-become probability-NOM 50% over is

          i.   'The probability that rubies or pearls become cheap is over 50%.'
          ii. 'The probability that rubies become cheap or the probability that pearls
               become cheap is over 50%.'

For Miyagawa (1993), (8a) is unambiguous because the nominative subject is licensed by T within the prenominal clause, which is why it always falls within the scope of the head noun. (8b), with the genitive subject, exhibits scope ambiguity because the genitive subject moves into the spec of DP and, therefore, it is located higher than the head noun.[1] Developing Miyagawa's analysis further, Ochi (2001) argues that the behavior of the genitive phrase is not uniform: it sometimes moves to the spec of DP in overt syntax and it is sometimes licensed in-situ (i.e., licensed via feature movement or AGREE).

Watanabe (1996) presents an alternative hypothesis. For him, genitive Case in GNC has nothing to do with a nominal head such as D. Taking the transitivity restriction as the central issue, Watanabe claims that genitive Case in GNC is an indication that the subject stays in a θ-position in overt syntax, which is allowed in fairly limited contexts: *wh*-clauses and some subjunctive clauses.

More recently, Hiraiwa (2000) has presented yet another hypothesis. Like Watanabe (1996), Hiraiwa rejects the idea that a nominal head like D is responsible for genitive in GNC. Instead, he proposes that C (or the C-T-V amalgamate) assigns/checks genitive Case.

It is not my intention to review these alternatives by placing them under careful scrutiny. I will leave this important task to another occasion. My immediate goal in the sections to follow is to provide a principled account of the transitive restriction on GNC. Consider the analyses in Miyagawa (1993) and Watanabe (1996). Although they disagree on a number of aspects of their analyses, they converge on one point. It is the idea that the transitivity restriction should be captured as Minimality effects.[2] Simply put, presence of object causes a problem with respect to the licensing of genitive subject. In this paper, I will follow their footsteps and explore how their idea can be executed in the current version of the minimalist program and, more importantly, what theoretical conclusions can be drawn from it.

4.   Proposal

My central proposal is as follows. The transitivity restriction on GNC arises as the shifted object blocks AGREE involving the subject when it is genitive, but not when it is nominative. (9) below lists some of the crucial ingredients for my proposal.

(9) a.   Nominative Case is licensed by T, while Genitive Case is licensed by D (see Miyagawa (1993) and Ochi (2001)).
     b.   Japanese relative clauses are TPs (Murasugi (1991)).
     c.   DP (like *v*P and CP) is a phase. TP is not a phase.

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[1]   A consequence of this analysis is that there is no QR or if QR is at work, it cannot move the nominative QP very far (i.e., out of the prenominal clause): otherwise, we would expect scope ambiguity in (8a) as well.

[2]   Hiraiwa (2000) briefly discusses this issue but does not offer an analysis.

d.   Japanese involves overt object shift.

Among the alternative approaches touched upon in the previous section, I have adopted the approach to GNC in which D, a head external to the prenominal clause, is responsible for genitive Case. I hope the reason for this choice will become clear as the analysis unfolds (it is related to (9c)).

Let us see how data like (2), repeated below as (10), are analyzed in this analysis.

(10) a.   Taro-ga   naita riyuu
           Taro-NOM cried reason

     'the reason that Taro cried'

     b.   Taro-no   naita riyuu
           Taro-GEN cried reason

     'the reason that Taro cried'

AGREE holds of T and the nominative subject in (10a) in a trivial manner.

(11) [$_{DP}$ D [$_{NP}$ reason [$_{TP}$ T [$_{vP}$ Taro-NOM [v [$_{VP}$ cried]]]]]]
                            |_____↑

As for (10b), AGREE holds of D and *Taro-no* 'Taro-GEN', as illustrated below:[3]

(12) [$_{DP}$ D [$_{NP}$ reason [$_{TP}$ [$_{vP}$ Taro-GEN [v [$_{VP}$ cried]]]]]]
            |_____↑

Assuming with Murasugi (1991) that Japanese prenominal clauses are TPs, the DP shown in (12) includes two phases, *v*P and DP. The genitive subject, sitting in the spec of *v*P, is accessible from D on a par with AGREE holding in *wh*-movement constructions shown below, where a *wh*-phrase at the edge of *v*P is accessible from C.[4]

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[3]   For the moment I will ignore the EPP property of Japanese. I will discuss it in section 5.2.

[4]   One question is why the head N *riyuu* 'reason' does not block an AGREE relation between D and the genitive subject in (12). I can think of two possible reasons. First, the head N may undergo overt raising to D. Given that only the head of a chain acts as an intervener (see Chomsky 2001), *riyuu* does not intervene. Alternatively, we may capitalize on the fact that *riyuu* is a bare noun (it is a predicate). If we assume that features relevant for φ-agreement reside in the D head of the DP argument, it is quite plausible that D in (12) has access to the closest DP (the genitive subject), bypassing *riyuu*.

(13) a. (I wonder) what you cooked.

    b. $[_{CP}$ C $[_{TP}$ you$_j$ $[_{vP}$ what$_i$ $[_{vP}$ t_j $[_{VP}$ cooked t_i $]]]]]$

Before examining the transitivity restriction imposed on the GNC, I shall discuss one more theoretical issue: locality concerning multiple specifiers:

(14) $[_{ZP}$ Z …. $[_{HP}$ SPEC$_1$ $[_{HP}$ SPEC$_2$ [H YP]]]]

Chomsky (2000) formulates the Equidistance Principle, given in (15), thereby allowing probe Z to reach the inner specifier (SPEC$_2$) across the outer specifier (SPEC$_1$).

(15) Terms of the minimal domain of H are equidistant from probe Z.

Chomsky (2001), on the other hand, proposes that Z's access be limited, in principle, to the highest specifier. This proposal is summarized below.

(16) Only the phonological edge of HP (i.e., an edge element with no phonological content c-commanding it within HP) is accessible to Z.

    I would like to propose a hybrid theory of locality for multiple specifiers by incorporating both (15) and (16). My proposal is that (15) holds during one phase level, and (16) holds thereafter. That is, Equidistance holds during a phase level PH$_1$ in which the minimal domain in question is established, and once the derivation has completed PH$_1$ and reached the next phase PH$_2$, terms of the minimal domain of H (including multiple specifiers of H) are assigned rigid, asymmetric hierarchical relations.[5] It should be noted here that the proposed hypothesis is fully in line with the viewpoint that English employs overt object shift (see Johnson (1991), Koizumi (1995), and Lasnik (1999a, b)).[6]

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[5] The last point is shared by the *Phase Impenetrability Condition*, which introduces an asymmetry among terms of the minimal domain of H when the derivation reaches the next higher phase ZP: the specifier (i.e., edge) of H is still accessible to Z while the complement of H is not, with H as well as Z being a phase head.

[6] My proposal about the local application of Equidistance has some implication for ECM constructions (i).

(i) I believe Tom to like French.

If English always employs overt object shift (but see Lasnik (1999a)), it leads us to the conclusion that the infinitival clause in English has EPP, contrary to the proposals in Grohmann et al. (2000) and Bošković (2002). If the infinitival clause lacks the EPP, the higher *v*, which is a phase head, cannot access the embedded subject.

(ii) $[$ *v* ….. $[_{TP}$ T $[_{vP}$ French$_i$ $[_{vP}$ Tom [*v* $[_{VP}$ V t_i $]]]]]]$

With this much in mind, let us examine the contrast in (3), repeated as (17).

(17) a.　Taro-ga　　hon-o　　katta　mise
　　　　　Taro-NOM book-ACC bought store

　　　　'the store where Taro bought a book'

　　b.　*Taro-no　　hon-o　　　katta　mise
　　　　　Taro-GEN book-ACC　 bought store

　　　　'the store where Taro bought a book'

The data here are relative clauses.　Let us for the moment ignore the relative gap (corresponding to *mise* 'store') and focus on how the subject is licensed.　Nominative subject in (17a) is licensed at the level of TP, as shown in (18).　Thus, (15) is at work and AGREE successfully holds of T and SU.

(18) [$_{TP}$ T … [$_{vP}$ OB [$_{vP}$ SU [v [$_{VP}$ … t_{OB} ..]]]]]
　　　　　|＿＿＿＿＿＿＿↑

On the other hand, genitive subject in (17b) is licensed at the level of DP, which is the next higher phase.　Therefore, (16) comes into play and only OB is accessible to the probe D. The example is ruled out for this reason.

(19) [D [$_{TP}$ T … [$_{vP}$ OB [$_{vP}$ SU [v [$_{VP}$ … t_{OB} ..]]]]]]
　　　　|＿＿＿＿＿*＿＿＿＿↑

One crucial point in our discussion is that AGREE operating in GNC is φ-sensitive. That is, the probe D searches for an element with φ-features to mach them against its own φ-features.　On the other hand, the probe C seeks a *wh*-feature in (13), repeated below as (20), which is why the subject located in the spec of TP is irrelevant.

(20) a.　(I wonder) what you cooked.
　　b.　[$_{CP}$ C [$_{TP}$ you$_j$ [$_{vP}$ what$_i$ [$_{vP}$ t_j [$_{VP}$ cooked t_i]]]]]
　　　　　　|＿＿＿＿＿＿↑

There is good reason to think that D serves as a φ-sensitive probe, like T and unlike C.　It has been noted in the literature (see Huang (1982), Chomsky (1986), and Culicover and Rochemont (1992)) that a nominal phrase allows extraction of a nominal *wh*-phrase (21) but disallows extraction of a non-nominal *wh*-phrase (22b).

(21)　Who did you like a picture of *t*?

(22) a.　*[Which table] did you like [$_{DP}$ a book [$_{PP}$ on *t*]]?
　　b.　*[On which table] did you like [$_{DP}$ a book *t*]?

Although (22a) is excluded as a violation of the Adjunct Condition, as it involves extraction out of the PP adjunct within the object NP, it is not clear what excludes (22b).[7] In Chomsky and Lasnik's (1993) terms, for instance, the movement of the PP *on which table* crosses no barrier. Thus, a descriptive generalization is that a DP is a barrier for movement of a non-nominal element. As discussed in Ochi (2000), this generalization receives an account if (i) D is a phase head and (ii) it agrees with an element with ϕ-features. Then examples (21) and (22) have three phase domains, DP, vP, and CP. Accordingly, an element inside DP is invisible for the higher phase head v (and eventually for C), unless the former moves to the edge of DP. In (21), AGREE holds of D and the nominal *wh*-phrase *who,* moving the latter to the spec of DP. On the other hand, the PP *on which table* in (22b) cannot resort to this option. The nominal vs. non-nominal asymmetry falls out.

In this connection, it is worth pointing out that GNC applies to *ga*-marked DPs but not to *ga*-marked PPs, as shown in (23). As is well-known, *-no* is required for a PP modifier of a noun, as shown in (24).

(23) Yokohama eki   kara-ga/*-no   totemo chikai kooen
      Yokohama Station from-NOM/-GEN   very   close park

      'the park that it is Yokohama Station that is very close from (it)'

(24) Yokohama Eki   kara-no   michi
      Yokohama Station from-GEN road

      'a road from Yokohama Station'

Let us follow Kuroda (1988, 1992) and distinguish contextual Case marking and abstract Case marking (see also Fukui (1995), Saito (1985), and Murasugi (1991)). Under the assumption that *-no* is (a) contextually inserted (i.e., attached to a prenominal DP or PP), (b) a realization of the abstract genitive Case, or (c) both, (23) and (24) show that *-no* attached to PP belongs to the first category (i.e., it is due to the *no*-insertion rule (Murasugi 1991: chapter 2)). PP in (23) cannot be marked with *-no* because the context of this rule is not met (i.e., it is not immediately dominated by a projection of a noun), nor does it have Case properties.[8] On the basis of this consideration, I propose that DPs can, but non-DPs cannot, enter into an AGREE relation with D. This in turn supports the hypothesis that the genitive subject in GNC is licensed by the abstract genitive Case.

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[7]   Culicover and Rochemont (1992) resort to the head-government requirement of the ECP.

[8]   Following the observation of Stowell (1981), it has sometimes been suggested that PP can check Case features (see Takano (1998)). However, Bresnan (1991) and Conway (1996) show that what looks like a PP subject is a NP/DP in disguise.

(i)   [DP (place) under the bed] seems to be a nice place for the cat to sleep.

Let us return to the contrast in (17) and recap. The crucial difference between nominative subject and genitive subject is that while the former is licensed within the phase in which the multiple specifiers are created and equidistant, the latter must wait until the next phase in order to be licensed, at which point equidistance no longer plays a role.

This analysis correctly predicts that (5b), repeated as (25b), is degraded.

(25) a. *Taro-no   hon-o   katta   mise
        Taro-GEN book-ACC bought store

        'the store where Taro bought a book'

    b. *hon-o   Taro-no   katta   mise
        book-ACC   Taro-GEN bought store

        'the store where Taro bought a book'

(25b), in which the object is preposed, is no better than (25a). Suppose that the scrambled object is located at a TP internal position, which is lower than D.[9] This point is confirmed by the fact that unlike genitive subject, a scrambled object does not take scope over the head noun, as noted by Miyagawa (1993).

(26) [[[Rubii-ka shinju]-o   Taro-ga   kau]   kanousei]-ga   50% izyoo da.
     ruby-or pearl-ACC   Taro-NOM buy   probability-NOM   50% over is

    i.   'The probability that Taro buys rubies or pearls is over 50%.'
    ii. *'The probability that Taro buys rubies or the probability that Taro buys pearls is
         over 50%.'

It follows that the head of the OB chain formed by scrambling necessarily intervenes between the probe D and the goal SU in a derivation for (25b), as shown below.[10]

(27) [D [$_{TP}$ OB [T … [$_{vP}$ t_{OB} [$_{vP}$ SU [v [$_{VP}$ t_{OB} …......]]]]]]]
         |_____*_____↑

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[9]   OB may be adjoined to TP or, if Miyagawa (2001) is correct, it may be in the spec of TP (but see the discussion below).

[10]   It is well-known that scrambling can be undone. Thus, OB scrambling may be undone but the result of this process cannot place OB in a position lower than the (outer) specifier of vP, since scrambling starts from the spec of vP.

Let us now turn to (4), repeated as (28):

(28) a.   Taro-ga   [*e*] katta hon
           Taro-NOM   bought book

        'the book that Taro bought'

    b.   Taro-no [*e*] katta hon
           Taro-GEN   bought book

        'the book that Taro bought'

Well-formedness of (28b) is consistent with the statement in (16). With the object lacking phonological content, the phonological edge of *v*P in (28b) is the genitive subject, which is therefore accessible to D.

(29) $[D [_{TP} T \ldots [_{vP} e [_{vP} SU [v [_{VP} \ldots\ldots]]]]]]$

Let us be more precise. Chomsky (2001) proposes that (16) need not be stipulated as a principle, its effects being derivable from other considerations. He suggests that a trace does not induce intervention effects, which are restricted to the head of a chain (or the whole chain). If this line of thinking is adopted for our discussion here, then it follows that movement involved in Japanese relativization must target a position which is at least as high as the specifier of DP, as illustrated below:

(30) $[_{DP} OP_i [D [_{NP} book [_{TP} [_{vP} t_i [_{vP} Taro\text{-}GEN [v [_{VP} bought t_i]]]]]]]]]$

Once the relative operator sits in the spec of DP, SU becomes accessible from D.

But I know of no language in which the relative operator moves so high. It will accordingly give us a problem with the semantics of relative clauses because we would require a language-specific rule, in addition to Predication Abstraction rule of Heim and Kratzer (1998), to convert Japanese relative clauses into predicates.

Let us therefore pursue an alternative possibility. Perlmutter (1972) (see also Kuno (1973)) claims that the gap in Japanese relatives can be *pro*, which is why no Subjacency effects are detected in this construction. The following example illustrates this point.

(31) $[[e_i] [e_j]$ kiteiru   fuku$_j$]-ga   kawaii   kodomo$_i$
               wearing clothes-NOM cute   child

    'the child who the clothes (he/she) is wearing is cute'

And examples like (32) below confirm that *pro* does not induce intervention effects in GNC:[11]

(32) Yamada-ga   hokkaidou-o   otozureta shuu-wa yuki   da-tta   ga ….
     Yamada-NOM Hokkaido-ACC visited   week-top snow   be-past   but

'The week when Yamada visited Hokkaido was snowy, but ...'

    a.   Satou-ga   soko-o   otozureta shuu-wa   hare   datta.
           Sato-NOM   there-ACC visited   week-top   sunny was

        'The week when Sato visited there was sunny.'

    b.   Satou-ga [*e*] otozureta shuu-wa hare   datta.
           Sato-NOM   visited   week-top sunny   was

        'The week when Sato visited [*e*] was sunny.'

    c.   *Satou-no soko-o   otozureta shuu-wa hare   datta.
           Sato-GEN there-acc visited   week-top sunny   was

        'The week when Sato visited there was sunny.'

    d.   Satou-no [*e*] otozureta shuu-wa   hare   datta.
           Sato-GEN   visited   week-top   sunny was

        'The week when Sato visited [*e*] was sunny.'

(32b), which is similar to (32a) except that the object is *pro*, is grammatical. (32c) has genitive subject and the sentence is degraded due to the transitivity restriction. Of our interest is (32d), which contains genitive subject and the object *pro*. Unlike (32c), this sentence is grammatical.

    But why doesn't *pro* induce intervention effects? Takahashi's (2001) analysis offers a straightforward answer. Takahashi shows that empty categories in general do not undergo movement (but are licensed in-situ via AGREE). Thus, no intervention effects arise in examples like (28b) and (32d) because, unlike a lexical DP, the object *pro* remains inside VP and does not undergo move to the spec of *v*P. Our analysis of GNC is thus quite consistent with the *pro* hypothesis for Japanese relativization.[12]

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[11]   See more discussion of null arguments and GNC in section 5.1. Note that the data here involves two gaps, one in the object position and another in an adjunct position (for relativization). Of our interest is, of course, the former.

[12]   This is one crucial respect in which our account differs from Watanabe (1996), who argues that GNC is a manifestation of *wh*-agreement.

Let me end this section with a remark on (9a). Following Miyagawa (1993) and Ochi (1999), I have maintained throughout that D, a head external to the relative clause, is responsible for genitive Case. But my proposal can be reframed in an analysis in which something other than D assigns/checks off genitive Case. Take C, for instance. Since C also introduces a new phase domain, the hypothesis that C is responsible for genitive Case (while T is responsible for nominative Case) would give us more or less the same result. Thus, depending on how exactly Hiraiwa's (2000) "C-T-V amalgamation" is worked out, and depending on precisely how genitive Case licensing differs from nominative Case licensing in his analysis, his C-based analysis of GNC may or may not be made compatible with my proposal.

5. Some Consequences

5.1. Null Argument and Strict/Sloppy Identity Readings

It was proposed in the last section that *pro* does not undergo overt object shift and hence does not act as an intervener. This subsection shows that there are in fact cases in which a null object induces intervention effects. This point is demonstrated by the fact that a null object in GNC affects possible interpretations.

Let us first consider the following examples.

(33) Hanako-ga   jibun-no seetaa-o   aratta.   Taro-mo [*e*] aratta.
     Hanako-NOM self-GEN sweater-ACC   washed   Taro-also   washed

     'Hanako washed her sweater. Taro washed [*e*] also.'

As discussed by Otani and Whitman (1991), a null object construction yields a strict identity reading and a sloppy identity reading. That is, this example has a reading in which Taro washed Hanako's sweater (strict identity reading) and another reading in which Taro washed his own sweater (sloppy identity reading).

With this in mind, let us examine the following data. (34a) has nominative subject and (34b) genitive subject.

(34) Hanako-ga   jibun-no seetaa-o   aratta   toki-wa   chijimanakatta ga, …
     Hanako-NOM self-GEN sweater-ACC   washed   time-TOP   shrink-not-past   but

     'The time when Hanako washed her sweater, (it) didn't shrink but ….

       a.   … Taro-ga   [*e*]   aratta   toki-wa   chijinda.
             -NOM   washed   time-TOP   shrink-past

      '… the time when Taro washed [*e*], (it) got shrunk.'

b.　… Taro-no　[*e*]　aratta　toki-wa　　chijinda.
　　　　Taro-GEN　　washed　time-TOP　shrink-past

'… the time when Taro washed [*e*], (it) got shrunk.'

While strict and sloppy interpretations are equally available for (34a), the dominant reading of (34b) is a strict identity reading. It is very hard, if not impossible, to get a sloppy identity reading in this example. What accounts for this fact?

I think the argument deletion hypothesis of Kim (1999) and Oku (1998) for Korean/Japanese provides us with a clue. These authors argue that a sloppy identity reading is derived via argument ellipsis, an operation available in Japanese and Korean but not in languages like English. According to this hypothesis, the example (33) on its sloppy identity reading is analyzed as involving PF deletion of the object in the second clause under identity, as shown below:[13]

(35) Hanako-ga　　jibun-no seetaa-o　　　aratta.
　　 Hanako-NOM self-GEN sweater-ACC　washed

　　 Taro-mo　~~jibun-no seetaa-o~~　　　aratta.
　　 Taro-also self-GEN sweater-ACC　washed

　　 'Hanako washed her sweater. Taro also washed his sweater.'

Let us further assume that when *pro* occupies the object position, the example receives the strict identity interpretation on a par with (36) below, which has the pronoun *sore* 'it' in the second sentence.

(36) Hanako-ga　　jibun-no seetaa-o　　　aratta.　　Taro-mo sore-o　aratta.
　　 Hanako-NOM self-GEN sweater-ACC　washed　　Taro-also it-ACC　washed

　　 'Hanako washed her sweater. Taro also washed it.'

Let us now return to (34). The fact that (34a) allows both readings indicates that it can be analyzed as in (37a) or as in (37b).

(37) a.　… Taro-ga　　*pro* aratta　toki-wa　chijinda.
　　　　　 Taro-NOM　　　　 washed time-TOP shrink-past

　　 b.　… Taro-ga　~~jibun-no seetaa-o~~　　　aratta　　toki-wa　　chijinda.
　　　　　 Taro-NOM self-GEN sweater-ACC　washed　　time-TOP shrink-past

(37a) yields the strict identity reading and (37b) the sloppy identity reading. Turning to (34b), the fact that it lacks the sloppy identity reading implies that (38b) is illicit.

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[13]　To be precise, Oku's (1998) original analysis is based on LF copying of missing arguments.

(38) a.   … Taro-no *pro* aratta toki-wa   chijinda.
            Taro-GEN   washed time-TOP shrink-past

  b. *… Taro-no ~~jibun-no seetaa-o~~   aratta   toki-wa   chijinda.
            Taro-GEN self-GEN sweater-ACC washed   time-TOP shrink-past

Since *pro* does not undergo object shift, (38a) is legitimate, yielding the strict identity reading. On the other hand, the object in (38b), though deleted at PF, undergoes overt object shift in syntax, thereby inducing an intervention effect.[14]

5.2. EPP in Japanese

The analysis presented so far rests crucially on the supposition that Japanese has overt object shift (9d). This point has implications for the nature of the EPP Japanese. Let us reconsider (5), repeated as (39).

(39) a.   Taro-ga   hon-o   katta   mise
            Taro-NOM book-ACC bought   store

    'the store where Taro bought a book'

  b. *Taro-no   hon-o   katta   mise
        Taro-GEN book-ACC bought   store

    'the store where Taro bought a book'

Recall that (39b) is illicit because of a Minimality violation as shown in (19) (repeated as (40) below for convenience):

(40) [D [$_{TP}$ T … [$_{vP}$ OB [$_{vP}$ SU [v [$_{VP}$ … t_{OB} ..]]]]]]
        |_____*_____↑

But if T could attract SU (the genitive subject) to its specifier for an EPP satisfaction, moving it over OB, then SU should be accessible to D, and the derivation should converge, contrary to fact.

(41) [D [$_{TP}$ SU-GEN [$_{vP}$ OB [$_{vP}$ t $_{SU}$ [v [$_{VP}$ … t_{OB} ..]]]]]]
        |_____↑

The discussion here leaves us with two possibilities regarding the EPP in Japanese.[15] One is that the EPP holds in Japanese, and it is tied with nominative Case checking. Thus,

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[14]   What would go wrong if the object in (38b) remains in-situ in syntax and gets deleted at PF? If this were a possible derivation, then there should be no intervention effects and we would expect (34b) to be ambiguous. I will leave this question open.

nominative subject must move to the spec of TP in overt syntax, whereas genitive subject cannot. The latter may stay vP internally (see Miyagawa (1993) and Watanabe (1996)) as shown in (42a) and is licensed by AGREE, or it may move to the spec of DP in overt syntax (42b) (see Ochi 2001).

(42) a.   [$_{DP}$ D [$_{TP}$ T [$_{vP}$ SU-GEN [v [$_{VP}$ …..]]]]]]
       |_____↑

   b.   [$_{DP}$ SU-GEN [D [$_{TP}$ [$_{vP}$ t$_{SU}$ [v [$_{vP}$ …..]]]]]]
       ↑_____|

An alternative possibility is that the EPP is absent in Japanese. If this proves to be correct, the basic word order of Japanese is actually OSV (derived by overt object shift), and SVO order is derived by an optional movement such as scrambling. I will tentatively adopt the first hypothesis and assume that Japanese (nominative) subject is located in the spec of TP in overt syntax.

5.3. Object Shift and Floating Numeral Quantifiers

Finally, let us turn to an argument offered in the literature that goes against overt object shift in Japanese. It involves floating numeral quantifiers (FNQ).

(43) a.   Kodomo-ga   san-nin mikan-o   tabeta.
       children-NOM three-CL orange-ACC   ate

       'Three children ate an orange/oranges.'

   b.   Taro-ga   mikan-o   san-ko   tabeta.
       Taro-NOM   orange-ACC   three-CL ate

       'Taro ate three oranges.'

The syntax of FNQ has received a great amount of attention in the generative literature, and most of the works assume in one form or another that there is a tight locality condition governing the FNQ and its associate DP argument. Miyagawa (1989), for instance, characterizes the relevant locality requirement in terms of a mutual c-command condition. Other scholars such as Kamio (1983) and Kawashima (1998) propose that the FNQ and its

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[15]   The following discussion assumes that genitive phrase cannot undergo scrambling (see Saito 1985). Note the ungrammaticality of (ib) below:

(i)   a.   Taro-no   eigo-no   hon
          Taro-GEN English-GEN book

       'Taro's book of English'

   b.   *Eigo-no   Taro-no   hon
          English-GEN Taro-GEN book

associate start out as a single constituent. Let us provisionally adopt the single constituent hypothesis.

Of our concern is the fact, due originally to Haig (1980) and Kuroda (1980), that the subject cannot be separated from the subject FNQ by the direct object, as shown in (44b).

(44) a. Kodomo-ga (kinoo) san-nin hon-o katta.
    children-NOM yesterday three-CL book-ACC bought

'Three children bought a book/books.'

b. *Kodomo-ga hon-o san-nin katta.
    children-NOM book-ACC three-CL bought

'Three children bought a book/books.'

c. Hon-o Taro-ga san-satsu katta.
    book-ACC Taro-NOM three-CL bought

'Taro bought three books.'

As shown in (44c), the object and the object FNQ do not have this limitation, as they can be separated from each other by the subject. In short, there is a subject-object asymmetry in Japanese with respect to the distribution of FNQs.

Let us look at the paradigm more carefully. Grammaticality of (44c) shows that the locality requirement of the object FNQ can take advantage of the object trace.

(45) Hon$_i$-o Taro-ga t_i san-satsu katta.
    book-ACC Taro-NOM three-CL bought

A question then arises as to why (44b) cannot resort to structures of the following sort:

(46) [$_{TP}$ children$_i$-NOM [$_{vP}$ book$_j$-ACC [$_{vP}$ t_i three-CL [v [$_{VP}$ t_j read]]]]]

In (46), the object shifts to the spec of vP, and the subject moves out of vP. If this is a possible structure, the locality requirement of the FNQ should be satisfied by the subject trace and the sentence should be ruled in. Consideration of this point led authors like Ura (1996) and Watanabe (1996) to conclude that Japanese does not have overt object shift (i.e., overt movement of direct object to a Case position). Therefore, proponents of the overt object shift in Japanese, including me, must say something about this issue.

I think that the theory of floating quantifiers (FQ) developed by Bošković (2004) offers an answer. Elaborating on Sportiche's (1988) analysis of FQs in English and French, Bošković (2004) argues that a FQ cannot be stranded in a θ‑position. According to Bošković,

this prohibition is responsible for the ungrammaticality of examples like (47b), which has been an outstanding problem for Sportiche's (1988) theory.

(47) a.　　The children$_i$ have t_i all been scolded t_i.

　　 b.　　*The children$_i$ have t_i been scolded t_i all.

As briefly discussed in Bošković (2004), the same logic should apply to (46). In this structure, the FNQ is stranded in a θ-position, which is the source of ungrammaticality. By contrast, (44a) has the FNQ preceding the shifted object. It is plausible to suppose that there are intermediate (non-θ) positions through which the subject moves, stranding the FQ, as illustrated below.

(48)　[$_{TP}$ children$_i$-NOM [$_{XP}$ t_i three-CL [$_{vP}$ book$_j$-ACC t_i [$_{VP}$ t_j read]]]]

Thus, once the analysis in Bošković (2004) is adopted, traditional paradigms like that in (44) cease to be a problem for the overt object shift hypothesis for Japanese, and in fact become quite consistent with it.

Let us end this subsection with a comment about an issue that arises from the foregoing discussion. Bošković's (2004) analysis seems to be at odds with Hasegawa's (1993) proposal that the FNQ forces its associate DP to reconstruct. Consider the following data (taken from Ueda (2004)):

(49) a.　San-nin-no gakusei-o　　dono sensei-mo sidooshiteiru.
　　　　3-CL-GEN student-ACC every teacher　　supervise

　　　　'There are three students who are supervised by every teacher.'
　　　　'Each of the teachers supervises three students.'

　 b.　Gakusei-o　　san-nin　　dono sensei-mo sidooshiteiru.
　　　　student-ACC　3-CL　　every teacher　supervise

　　　　'*There are three students who are supervised by every teacher.'
　　　　'Each of the teachers supervises three students.'

(49a) has a non-floating version of the NQ inside the scrambled object. Not surprisingly, the sentence is ambiguous. (49b) shows that the scrambled FNQ presents a different picture. In this case, the sentence does not have the reading in which the scrambled object takes wider scope although the object FNQ and the object are preposed. Based on paradigms like this and others, Hasegawa (1993) proposes that the FNQ + its associate DP takes scope at a θ-position of the associate DP. Scopewise, then, (49b) is on a par with its non-scrambled version shown in (50), which is also unambiguous.

(50) Dono sensei-mo gakusei-o   san-nin sidooshiteiru.
    every teacher   student-ACC 3-CL   supervise

    '*There are three students who are supervised by every teacher.'
    'Each of the teachers supervises three students.'

We can now see that there is a potential conflict. Hasegawa shows that the FNQ forces reconstruction of its associate DP. Bošković argues that the F(N)Q cannot be associated with (or, more precisely, stranded at) the base position of the associate DP.

This may bring us to the conclusion that the FNQ forces reconstruction but this reconstruction targets only an intermediate position of the chain of the associate DP. This is quite consistent with the proposal made by Johnson and Tomioka (1997), who argue that scope reconstruction of an argument DP cannot target a θ-position but only an intermediate position of the argument chain.

6.   Conclusion

To conclude, I have argued in this paper that the overt object shift hypothesis for Japanese offers a simple and coherent explanation for the transitivity restriction imposed on GNC. Simply put, the object cannot be present with the genitive subject because of the (defective) intervention effect created by the shifted object. A lot more needs to be said and done to evaluate this hypothesis properly but let me stress that success of the proposed analysis would entail non-trivial theoretical consequences for Japanese syntax as well as for the theory of UG. For instance, the fact that the object in Japanese always shifts to the spec of vP, a canonical accusative Case checking position, strongly indicates that accusative Case in Japanese is a structural Case, contrary to the proposals of Takahashi (1993) and Takano (1998). My analysis also leads to the views that DP is a phase, and that equidistance is part of the UG, but calculation of this principle is confined to a very local domain of a syntactic derivation.

7.   References

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