1. Introduction

Oku (1988) presents an interesting hypothesis that scrambling and ellipsis are related with each other in Japanese. In particular, he argues that they are different manifestations of an alleged characteristic property of Japanese: θ-roles are weak features in the language (Bošković and Takahashi 1998).

This paper takes a different tack on the relationship between scrambling and ellipsis in Japanese, based on the Ellipsis Movement Generalization (EMG) put forth in Nakamura 2009. It turns out that the generalization has important implications for the nature of scrambling. More specifically, it is argued, contrary to the standard analysis represented by Saito 1985, 1992, 2003, that scrambling does not involve syntactic movement of arguments themselves. Rather, scrambling of the relevant sort involves either null operator movement or PF movement (Ueyama 1998, 2003). It is also shown that Bošković and Takahashi’s (1998) account of scrambling as base-generation, followed by LF θ-checking, suffers empirical as well as conceptual problems (Bailyn 2001).

The organization of the present paper is as follows. Section 2 offers background information on scrambling in Japanese, on which the subsequent discussion is based. There we distinguish between A-scrambling and A'-scrambling and see how the distinction is analyzed by the three
major approaches to scrambling. Section 3 considers how the existence of argument ellipsis relates to scrambling. The EMG, applied to arguments in Japanese, implies that they cannot undergo overt syntactic movement. We are naturally led to think that scrambling must involve either null operator movement or PF movement, as argued by Ueyama (1998, 2003). Section 4 examines long-distance scrambling, showing that A-scrambling out of subjunctive complements is problematic for the approaches making use of direct syntactic movement or LF θ-checking. Section 5 presents the novel observation that scrambling of a clausal complement out of a tensed clause can be A-movement. The null operator analysis is shown to be the only one that can explain the fact. Section 6 is a short conclusion.

2. Analyses of Two Types of Scrambling

2.1. Two Types of Scrambling

As is well known, Japanese permits “scrambling,” which alters word orders in certain ways. Thus (1a) and (1b) are both possible:

(1) a. Taroo-ga ringo-o tabeta.
    Taro-NOM apple-ACC ate
    ‘Taro ate an apple.’

b. Ringo-i-o Taroo-ga ec_i tabeta.
    apple-ACC Taro-NOM ate
    Lit. ‘An apple, Taro ate.’

Under the widely accepted analysis, stemming from Saito (1985) (see also Harada 1977), (1a) represents the basic sentence, whereas (1b) is the “scrambled” version of (1a), derived by moving the thematic object ringo ‘apple’ to the sentence-initial position. One argument for the movement approach is based on the fact that scrambling exhibits island effects (Saito 1985:246-247):
(2) a. ?*Ano hon-ōi [John-ga [[ec_i ec_i katta] hito_j]-o sagasiteiru that-book-ACC John-NOM bought person-ACC looking.for rassii. seem
(Lit. That book, it seems that John is looking for the person who bought.)

ignoring seem
(Lit. To Tokyo, it seems that although John wants to go, Mary is ignoring that fact.)

In (2a) the object *ano hon ‘that book’ has been scrambled out of the relative clause modifying the head noun *hito ‘person’ in violation of the Complex NP Constraint. In (2b), on the other hand, the scrambling of *Tookyoo-ni ‘to Tokyo’ has taken place out of the concessive clause headed by noni ‘although’ in violation of the Adjunct Condition. If island sensitivity is a signature property of syntactic movement, then examples like (2) count as evidence for the popular analysis.³

It has been recognized in the literature (Saito 1992, Ueyama 1998 among numerous others; see also Mahajan 1990 for Hindi) that descriptively, scrambling in Japanese can be classified into two types. One is “A-scrambling,” illustrated in (3). In this type, the scrambled element can remain in its surface position at LF. The other is “A'-scrambling,” illustrated in (4), where the scrambled element is put back to its original position at LF.

   PF: DP-ACC/DAT ... DP-NOM ... V
   LF: DP-ACC/DAT ... DP-NOM ... V
(4) A'-scrambling (Ueyama’s (1998) Surface OS-type):
   PF: DP-ACC/DAT ... DP-NOM ... V
   LF: DP-NOM ... DP-ACC/DAT ... V

The major properties of the two types of scrambling are listed in (5) and (6) (adapted from Ueyama 1998):

(5) Properties of A-scrambling (Deep OS-type):
   a. Availability of anaphor-binding
   b. Absence of weak crossover (WCO) effects
   c. Wide scope reading of “scrambled” DP with respect to subject

(6) Properties of A'-scrambling (Surface OS-type):
   a. Reconstruction effects
   b. Absence of Condition C violations
   c. Narrow scope reading of “scrambled” DP with respect to subject

A-scrambled DPs can bind an anaphor, remedy potential WCO violations, and take scope over subject ((5a-c)), whereas A'-scrambled ones have no interpretative impact, exhibiting the properties given in (6a-c).

Let us focus on WCO configurations to illustrate the distinction between A-scrambling and A'-scrambling (see Ueyama 1998 for discussion of the other properties in (5) and (6)). WCO effects are observable in examples such as (7) (Postal 1971, Wasow 1972).

(7) a. *Who does his mother love
    b. *His mother loves everyone.

(8) a. Who loves his mother?
    b. Everyone loves his mother.

(7a,b) are ruled out, as they involve WCO violations: in (7a) the wh-phrase literally crosses over the pronominal variable with which it is coreferential, and in (7b) the quantifier everyone is supposed to undergo Quantifier Raising (May 1977) across the pronoun, leading to a structural
configuration similar to the one in (7a) at LF. In sharp contrast to (7a,b),
(8a,b) are legitimate, because the variables directly bound by the
quantificational expressions c-command the pronominal variables.

(7a,b) show that A’-movement induces WCO effects, whereas (9a,b)
show that A-movement does not:

(9)  a. Who $e_{ci}$ seems to his, mother $e_{ci}$ to be lovable?
    b. Everyone, seems to his, mother $e_{ci}$ to be lovable.

In (9) the A-movement across the pronoun into Spec of TP does not result
in a WCO violation.

Turning now to Japanese, clause-internal scrambling can be either
A-scrambling or A’-scrambling, as shown in (10) and (11):

(10)  a. *[So-ko$_1$-o tekitaisiteiru kaisya]-ga Toyota-sae$_{1r}$-o
      that-place-ACC be:hostile company-NOM Toyota-even-ACC
      uttaeta.
      sued
      (Lit. ‘The company which is hostile to it$_1$ sued even Toyota$_{1r}$.’)
    b. Toyota-sae$_{1r}$-o [so-ko$_1$-o tekitaisiteiru kaisya]-ga
      Toyota-even-ACC that-place-ACC be:hostile company-NOM
      $e_{ci}$ uttaeta.
      sued
      Lit. ‘Even Toyota$_{1r}$, the company which is hostile to it$_1$ sued.’
      Ueyama (1998:31)

(11)  a. Toyota-sae$_{1r}$-ga [so-ko$_1$-o tekitaisiteiru kaisya]-o
      Toyota-even-NOM that-place-ACC be:hostile company-ACC
      uttaeta.
      sued
      ‘Even Toyota$_{1r}$ sued the company which is hostile to it$_1$.’
    b. [So-ko$_1$-o tekitaisiteiru kaisya]$_{j}$-o Toyota-sae$_{1r}$-ga
      that-place-ACC be:hostile company-ACC Toyota-even-NOM
      $e_{cj}$ uttaeta.
      sued
      Lit. ‘[The company which is hostile to it$_1$], even Toyota$_{1r}$ sued.’
      Ueyama (1998:38)
(10a), as in (7b), contains a WCO configuration and thus is excluded. In particular, the quantificational phrase Toyota-sae ‘even Toyota’ is the object c-commanded by the complex subject containing the pronominal expression soko ‘it’ referring to Toyota-sae.\(^5\) However, if the object is scrambled, as in (10b), the sentence becomes acceptable on a par with (9b), indicating that this type of scrambling counts as A-scrambling. (11b), on the other hand, is a case of A'-scrambling. If the scrambled complex object stayed in its surface position, (11b) would be ruled out as a WCO violation, just like (7b) and (10a). It must be then that the scrambled object reconstructs into its base-generated position to create the structure in (11a) at LF.

2.2. Analyses of Scrambling

This subsection briefly summarizes three competing analyses of scrambling in Japanese as (a) syntactic movement, (b) LF \(\theta\)-checking, and (c) Null Operator/PF Movement.

2.2.1. Scrambling as Syntactic Movement

The first analysis, proposed by Saito (1985, 1992) among others and illustrated in (12), takes scrambling to be overt syntactic movement, which can be A or A'-scrambling.

\[
\begin{align*}
\text{DP-ACC/DAT} \ldots \text{DP-NOM} \ldots ec \ldots V \\
\text{Movement can be A or A'}
\end{align*}
\]

a. If A, then  
   LF: DP-ACC/DAT ... DP-NOM ... ec ... V  

b. If A', then  
   LF: DP-NOM ... DP-ACC/DAT ... V

There are conditions on A-scrambling, though. Putting details aside, Miyagawa (2003) argues that it is V-to-T movement that makes (EPP-driven) A-scrambling into Spec of TP possible because of the notion of equidistance (Chomsky 1993) (cf. Bošković and Takahashi 1998),
whereas Saito (2003), within his framework, basically suggests that only scrambling within a (CP) phase (Chomsky 2001, 2008) can be A-scrambling.

2.2.2. Scrambling as LF θ-checking

The second analysis, proposed by Bošković and Takahashi (1998) and adopted by Oku (1998), takes scrambling to be base-generation, as illustrated in (13).

(13) DP-ACC/DAT ... DP-NOM ... V

\[\uparrow\]

Base-generated

a. If A (θ-checking), then
   LF: DP-ACC/DAT ... DP-NOM ... V
b. If A' (no θ-checking), then
   LF: DP-NOM ... DP-ACC/DAT ... V

If the θ-role of the scrambled DP can be properly licensed in its surface position, then the DP stays where it is, resulting in A-scrambling. If, on the other hand, no such θ-role licensing happens, then the scrambled DP typically has to lower to a θ-position, resulting in A'-scrambling. This analysis assumes that (i) θ-roles are formal features, (ii) θ-features are weak in Japanese, which can be checked at LF, and (iii) θ-checking in the TP-adjointed position, made possible by V-to-T movement, is optional.

2.2.3. Scrambling as Null Operator/PF Movement

The third and last analysis, proposed by Ueyama (1998, 2003) and shown in (14), claims that A-scrambling and A'-scrambling are derived differently.
According to this analysis, A-scrambling involves the base-generation of a scrambled DP and null operator movement, which identifies the \( \theta \)-role of the scrambled DP. In other words, A-scrambling is treated as a species of *to chasing-construction*.\(^6\) A 'scrambling, on the other hand, is taken to be PF movement.\(^7\) Since it takes place in PF, it has no effect on LF and the scrambled DP is always interpreted in its \( \theta \)-position.

Notice that *to chasing*-movement does not induce WCO violations, as shown in (15) (Lasnik and Stowell 1991:695).

(15) John, was hard \([OP_i \text{ [PRO to persuade his, boss [PRO to vouch for } \text{ ec}_i \text{]}}]\).

This is in full accord with Ueyama’s (1998, 2003) analysis and the grammaticality of examples like (10b) comes as no surprise.

3. Argument Ellipsis and the Ellipsis Movement Generalization

Shifting our attention now to ellipsis in Japanese, it has been observed that argument DPs can be elided, as in (16b) (Oku 1998, Takahashi 2008 among others).
(16) a. Masao−ga zibun−o suisensita.
    Masao-NOM self-ACC recommended
    ‘Masao recommended himself.’

b. Taro−mo [zibun−o] suisensita.
    Taro-also self-ACC recommended
    ‘Taro did, too.’

(16b) permits the sloppy reading, where Taro recommended himself, rather than Masao. The silent DP cannot be a null pronoun, because (17) with the intended reading is ungrammatical.

(17) *Taro−ga pro− suisensita.
    Taro-NOM recommended
    ‘Taro recommended himself.’

Thus the claim is that (16b) is indeed a case of ellipsis (see Takahashi 2008 for further discussion).

Assuming the copy theory of ellipsis (see, for example, Chung et al. 1995), Oku (1998) tries to tie ellipsis and scrambling in Japanese. He suggests that Japanese allows for both precisely because θ-checking can wait until LF. In the case of scrambling, a DP is base-generated in a non-θ-position and undergoes movement to a θ-position, if necessary. In the case of argument ellipsis, no element is base-generated in the ellipsis site. Then an appropriate antecedent is copied into the empty θ-position at LF. According to Oku’s (1998) analysis, the fact that English allows neither argument ellipsis nor scrambling is explicable in terms of a parametric difference: θ-features are strong in English, whereas they are weak in Japanese (cf. Chomsky 1993).

Viewed from a different angle, however, the existence of argument ellipsis has a rather surprising implication for scrambling. Consider the Ellipsis Movement Generalization in (18) presented by Nakamura (2009:321):
(18) *The Ellipsis Movement Generalization* (EMG):

If a certain category can undergo ellipsis, it cannot undergo movement except when it is phonologically null.

Nakamura (2009) maintains that the EMG in (18) is a natural consequence of a version of phase theory, whereby chunks of syntactic structure are handed over to PF cyclically for linearization purposes (see Fox and Pesetsky 2005, Bošković 2007a,b among others). Given that spell-out domains coincide with ellipsis sites (Holmberg 2001), the category targeted by ellipsis (VP in English, for instance) cannot be targeted by syntactic operations (thus, there is no (phonologically overt) VP movement in English): categories become syntactically inert once sent to PF. From the viewpoint of cyclic linearization, however, it must be that phonological contents matter in syntax. More specifically, phonologically covert elements should enjoy more freedom with respect to movability than their phonologically overt counterparts because they, by definition, do not have to be linearized. Nakamura (2009) argues that that is exactly the case.

It follows from the EMG that since argument DPs can undergo ellipsis in Japanese, they themselves should not be able to undergo movement from their surface positions.\(^8\) Interestingly, this immediately rules out the syntactic movement approach.\(^9\) It appears that the LF movement approach is not incompatible with the EMG, because the EMG, as it stands, has nothing to say about LF movement. However, Bailyn (2001) points out several conceptual as well as empirical problems with the approach. For example, he rightly notes that treating \(\theta\)-roles as formal features goes against the strictly local characterization of \(\theta\)-role licensing by Merge (Chomsky 1995) and severely increases the computational burden. In addition, Bošković and Takahashi’s (1998) analysis fails to solve the optionality issue surrounding scrambling that it is supposed to solve: the Last Resort issue is handled at the expense of introducing another kind of optionality with respect to base-generation of scrambled elements (in adjoined positions) and LF lowering (or LF raising in limited cases). To be
more concrete, the LF movement approach wrongly rules out even simple examples such as (1b), given that (1a) and (1b) share the same numeration and thus compete with each other: (1b) is clearly more costly than (1a). Furthermore, if there is no such thing as LF movement in the first place, as has been suggested in the literature (Kayne 1998 for example), Bošković and Takahashi’s (1998) account is simply untenable. It seems then that Ueyama’s (1998, 2003) approach is the only one that is fully consistent with the EMG and other considerations such as Economy.

To sum up, theoretically speaking, Ueyama’s (1998, 2003) analysis appears to be preferred to the other analyses. Although Ueyama is not explicit about null operator movement, let us assume, for concreteness, that A-scrambling is derived as shown in (19).

\[
(19) \quad [\text{TP DP-DAT/ACC } [\text{vp } \text{OP} \quad [\text{DP-NOM } [\text{vp } \ldots \text{ ec } \ldots \text{ V } ]]]]
\]

Following Kuroda (1988) and others, it is assumed here that thematic subject does not have to move to Spec of TP. The “scrambled” DP is base-generated in Spec of TP, and the object null operator moves within little vP.\(^{10}\) It is worth pointing out that the null operator analysis is free from the conceptual problems that face the LF \(\theta\)-checking analysis. In particular, the problem of optionality goes away, because (1a) and (1b), for instance, do not have the same numeration: (1b) with A-scrambling has one extra lexical item, namely the null operator, in its numeration.\(^{11}\) The direct insertion of a DP into Spec of TP seems to be an option open to languages of the world (cf. \textit{there}-insertion in English).

4. Long-distance Scrambling

We have already seen that clause-internal scrambling can be A or A'-scrambling. Let us now examine long-distance scrambling to see whether the proposed analyses can deal with it. It has been established that long-distance scrambling out of tensed CPs can only be A'-scrambling
(Saito 1992, 2003, Uchibori 1997, 2000, Ueyama 1998, 2003 among others). As shown in (20b), the WCO violation in (20a) cannot be remedied by the long-distance scrambling. The grammaticality of (21b) shows that the scrambled DP can be put back to its θ-position at LF.

(20)  a *[So-kōi-no bengosi]-ga [John-ga Toyota-ni-sae
that-place-GEN attorney-NOM John-NOM Toyota-DAT-even
ayamatta to] omotteiru.
apologized COMP think
(‘Its attorney thinks that John apologized even to Toyota.’)
b. *Toyota-ni-saei [so-kōi-no bengosi]-ga [John-ga ec
Toyota-DAT-even that-place-GEN attorney-NOM John-NOM
ayamatta to] omotteiru.
apologized COMP think
(Lit. ‘Even to Toyota, its attorney thinks that John
apologized.’) (Ueyama 2003)

(21)  a. Toyota-saei-ga [John-ga so-kōi-no bengosi-ni
Toyota-even-NOM John-NOM that-place-GEN attorney-DAT
ayamatta to] itta.
apologized COMP said
‘Even Toyota said that John apologized to its attorney.’
b. So-kōi-no bengosi-ni Toyota-saei-ga [John-ga ec
that-place-GEN attorney-DAT Toyota-even-NOM John-NOM
ayamatta to] itta.
apologized COMP said
Lit. ‘To its attorney, even Toyota said that John apologized.’

This kind of long-distance scrambling can be handled equally well by the competing analyses. Miyagawa’s (2003) theory and Bošković and Takahashi’s (1998) theory are successful, because there is no way the embedded V can reach the matrix T. Saito’s (2003) analysis captures the fact because the movement is across a CP phase boundary. Ueyama’s (1998, 2003) analysis is also fine: as shown in (22b), the null operator in the
tough-construction cannot be extracted out of a tensed clause (see Browning 1987, Stowell 1986 among others).

(22) a. John₁ is easy \([OP, [PRO to please ecᵢ]]\).
    
    b. * John₁ is easy \([OP, [PRO to believe [(that) Mary pleased ecᵢ]]]\)

Unlike the case of clause-internal A-scrambling, in which the null operator movement takes place within the vP domain (see (19)), long-distance A-scrambling in examples like (20b) would have to move the null operator across a finite T. This is, however, prohibited. Capitalizing on the idea that both a null operator and a tense are species of referential expressions to be identified (see Enç 1987 and Lasnik and Stowell 1991), Nakamura (2008) suggests that they share the same feature called the “R-operator” feature. (22b), then, is ruled out as an intervention effect: the “R-operator” feature of C selected by easy cannot Agree with the null operator due to the presence of an intervening T with the same feature.¹² In short, the ban on long-distance A-scrambling derives directly from the locality of null operator movement under Ueyama’s (1998, 2003) account.

So far, the proposed analyses are empirically equally successful. However, a difference emerges when we consider subjunctive complements. Uchibori (1997, 2000) demonstrates that long-distance scrambling out of subjunctive CP complements can be A-scrambling. Thus, the WCO violation in (23a) can be circumvented by scrambling the embedded object long-distance, as shown in (23b).

    
    Toyota-even-ACC desert-SUBJ COMP prayed
    (Lit. ‘[The company which is hostile to it₁] prayed that the bank would desert even Toyotaᵢ,’)

[ 167 ]
b. Toyota-sae_r-o [so-ko_r-o tekitaisiteiru kaisha]-ga
    Toyota-even-ACC that-place-ACC be:hostile company-NOM
    [ginko-ga ec_i misute-ro to] inotta.
    bank-NOM desert-SUBJ COMP prayed
    Lit. ‘Even Toyota, [the company which is hostile to it] prayed that the bank would desert.’

(24b), where the bound pronominal has been scrambled out of the subjunctive complement, shows that the scrambling can be undone.

(24) a. Toyota-sae_r-ga [ginko-ga so-ko_r-no kogaisya-ni
    Toyota-even-NOM bank-NOM that-place-GEN subsidiary-DAT
    yuusisi-ro to] inotta.
    lend.money-SUBJ COMP prayed
    ‘Even Toyota, prayed that the bank would lend money to its subsidiary.’

b. So-ko_r-no kogaisya_r-ni Toyota-sae_r-ga [ginko-ga ec_j
    that-place-GEN subsidiary-DAT Toyota-even-NOM bank-NOM
    yuusisi-ro to] inotta.
    lend.money-SUBJ COMP prayed
    Lit. ‘To its subsidiary, even Toyota, prayed that the bank would lend money.’

It should be noted that both Miyagawa’s (2003) analysis and Bošković and Takahashi’s (1998) are unable to explain the A-scrambling in (23b), precisely because the embedded verb does not raise to the matrix T in subjunctive clauses (see Uchibori 2000, section 5.3 for arguments). In order for Saito’s (2003) account to work, it must be assumed that subjunctive CP is not a phase (cf. Uchibori 2000).

Ueyama’s (1998, 2003) null operator analysis can account for (23b), given the assumption that subjunctive T, like control infinitival T, lacks the “R-operator” feature. The assumption is a reasonable one in light of the
similarities between the subjunctive and the infinitive. Manzini (2000), for
example, argues that a subjunctive is an indefinite T bound by what she
calls an intentional operator.

The results of the discussion of DP scrambling are summarized in
(25).

(25) DP scrambling

<table>
<thead>
<tr>
<th></th>
<th>Clause-initial</th>
<th>Long-distance (subjunctive)</th>
<th>Long-distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>A/ A'</td>
<td>✓</td>
<td>* / ?</td>
<td>✓</td>
</tr>
<tr>
<td>Syntactic Mov’t:</td>
<td>✓</td>
<td>*</td>
<td>✓</td>
</tr>
<tr>
<td>LF θ-checking:</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>NO / PF Mov’t:</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

The ambiguity of clause-internal scrambling in terms of the A-/A’-status can
be explained by all the three approaches. They can also capture the fact that
long-distance scrambling out of a regular finite clause is uniformly
A’-movement. A-scrambling out of a subjunctive clause, however, poses a
problem for the approaches that crucially rely on V-to-I’ movement
(Miyagawa 2003, Bošković and Takahashi 1998) and possibly for the
phase-based approach (Saito 2003). Ueyama’s (1998, 2003) analysis, on the
other hand, faces no such problem.

5. Clausal Complements

Let us now consider clausal complements and see how they differ
from DP arguments. They, like DP arguments, can scramble, as shown in
(26b).

     Hanako-NOM Taro-NOM new car-ACC bought COMP said
     ‘Hanako said that Taro bought a new car.’
b. [Taroo-ga atarasii kuruma-o katta to], Hanako-ga ec₁ itta.
   Taro-NOM new car-ACC bought COMP Hanako-NOM said
   Lit. ‘[That Taro bought a new car], Hanako said.’

Tanaka (2008) observes that clausal complements can undergo ellipsis in Japanese. In (27b), what has been deleted is the complement CP and the sloppy reading obtains, where Taro, not Hanako, is the one whose daughter is thought to pass the exam.

(27) a. Hanako₀-wa [zibun₁-no musume-ga goukakusuru to]
   Hanako-TOP self-GEN daughter-NOM pass COMP
   omotteiru.
   think
   ‘Hanako thinks that her daughter will pass (the exam).’

b. Taroo₀-mo [zibun₁-no musume-ga-goukakusuru to]
   Taroo-also self-GEN daughter-NOM pass COMP
   omotteiru.
   think
   ‘Taroo does, too.’

Given the EMG and the line of reasoning pursued here, the scrambling in (26b) cannot be derived by the movement of the CP itself. Rather, it must involve either null operator movement or PF movement. It is predicted that the distribution of clausal A-scrambling should pattern with that of movement of CP null operators. Let us examine some relevant data to see if the prediction is borne out.

First, as expected, clause-internal CP scrambling can be A- or A'-scrambling. Observe the following examples:
(28) a. *[So-rei-o hiteisitekita hito]-ga [John-ga sinhannin that-thing-ACC have denied person-NOM John-NOM true culprit da to sae]i syuchoosita. COP COMP even claimed
(Lit. ‘The man who had denied it, claimed [even that John was the true culprit].’)

b. [John-ga sinhannin da to sae]i [so-rei-o John-NOM true culprit COP COMP even that-thing-ACC hiteisitekita hito]-ga ec_i syuchoosita.
have denied person-NOM claimed
Lit. ‘[Even that John was the true culprit], [the man who had denied it] claimed.’

apologized COMP said
‘Even Toyota said that John apologized to its attorney.’

b. [John-ga so-ko_i-no bengosi-ni ayamatta to]_j
John-NOM that-place-GEN attorney-DAT apologized COMP
Toyota-sae_i-ga ec_j itta.
Toyota-even-NOM said
‘[That John apologized to its_i attorney], even Toyota, said.’

In (28) sae ‘even’ is attached to the complement clause, making it a quantificational expression. (28a) contains a WCO configuration and is thus ruled out. The local scrambling of the complement clause in (28b) saves the otherwise ill-formed sentence, indicating that it counts as A-scrambling. (29b), derived from (29a), illustrates the A'-nature of the scrambling involved: the scrambled clause can be interpreted in its thematic position.

It must be pointed out here that CP operators behave differently from DP ones in terms of locality. In particular, they are not affected by the presence of finite T in any way, as (30) shows (see Potts 2002):
(30) We should resign right away, as I’m sure you’ll agree.

The structure of the as-clause in (30) is given in (31) (Potts 2002).¹⁴

(31) [pp as [cp OP₁ [tp I’m sure [cp [tp you’ll agree ecᵢ]])]

The null operator of the category CP denoting a proposition is assumed to have the “P-operator” feature rather than the “R-operator” feature (Nakamura 2008). This is why movement of CP null operators does not interact with finite T with the “R-operator” feature. Given this, Ueyama’s (1998, 2003) analysis predicts that CP scrambling out of a finite clause can be A-scrambling. Crucially, the other approaches make a different prediction. They predict that such scrambling, just like DP scrambling, can never be A-scrambling. (32b), where the long-distance scrambling of the sae-marked CP ameliorates the WCO violation in (32a), demonstrates that the predication made by the null operator analysis is correct.

(32) a. *[[so-re₁-o sinziteitō keizi]-ga [nakama-ga izure that-thing-ACC believe detective-NOM crony-NOM over time [John-ga sinhannin da to sae]ᵢ haku to] omotteiru].
   John-NOM true culprit COP COMP even confess COMP think
   (Lit. ‘[The detective who believes it] thinks [that the crony will confess [even that John is the true culprit] over time].’)

b. [John-ga sinhannin da to sae]ᵢ [[so-re₁-o sinziteitō John-NOM true culprit COP COMP even that-thing-ACC believe keizi]-ga [nakama-ga izure ecᵢ haku to] omotteiru].
   detective-NOM crony-NOM over time confess COMP think
   Lit. ‘[Even that John is the true culprit]ᵢ, [the detective who believes itᵢ] thinks [that the crony will confess ecᵢ over time].’

All the approaches predict that reconstruction of long-distance scrambling of CP is possible, which is indeed the case, as shown in (33b):

[ 172 ]
(33) a. Shinbun-ga [Toyota-sae\textsubscript{i}-ga [John-ga so-ko\textsubscript{i}-no
newspaper-NOM Toyota-even-NOM John-NOM that-place-GEN
bengosi-ni ayamatta to] itta to] tsutaeta.
attorney-DAT apologized COMP said COMP reported
‘The newspaper reported that even Toyota, said that John
apologized to its, attorney.’

b. [John-ga so-ko\textsubscript{i}-no bengosi-ni ayamatta to],
John-NOM that-place-GEN attorney-DAT apologized COMP
shinbun-ga [Toyota-sae\textsubscript{i}-ga ec\textsubscript{i} itta to] tsutaeta.
newspaper-NOM Toyota-even-NOM said COMP reported
Lit. ‘[That John apologized to its, attorney], the newspaper
reported that even Toyota, said.’

Finally, consider the following examples:

(34) a. *[So-re\textsubscript{t}-o nozomu hitotati]-ga [koohoo-ga
that-thing-ACC hope for people-NOM spokesperson-NOM
[Amerika-ga Toyota-no kuruma-o motto ukeireru to
America-NOM Toyota-GEN car-ACC more accept COMP
sae],i happyoosi-ro to] inotta].
even announce-SUBJ COMP prayed
(Lit. ‘[The people that hope for it,] prayed that the spokesperson
will announce [even that America will import more of Toyota’s
cars],’)

b. [Amerika-ga Toyota-no kuruma-o motto ukeireru to sae],
America-NOM Toyota-GEN car-ACC more accept COMP even
[[so-re\textsubscript{t}-o nozomu hitotati]-ga [koohoo-ga
that-thing-ACC hope for people-NOM spokesperson-NOM
happyoosi-ro to] inotta].
announce-SUBJ COMP prayed
Lit. ‘[Even that America will import more of Toyota’s cars], the
people that hope for it,] prayed that the spokesperson will
announce.
COMP prayed
'The business community prayed that even Toyota will announce that America will import more of its cars.'
COMP prayed
Lit. '[That America will import more of its cars], the business community prayed that even Toyota will announce.'

CP scrambling out of subjunctive complements can be A-scrambling, as in (34b), or A'-scrambling, as in (35b). Just like the case of DP scrambling, its A-status is mysterious for Miyagawa (2003) and Boškovic and Takahashi (1998), but could be handled by Saito (2003) if we assume the subjunctive complement is not a phase (Uchibori 2000). In contrast, Ueyama’s (1998, 2003) theory accounts for the A-status correctly.

The results of the examination of CP scrambling are given in (36):

(36) CP scrambling

<table>
<thead>
<tr>
<th>Syntaxic Mov’t:</th>
<th>Clause-initial</th>
<th>Long-distance (subjunctive)</th>
<th>Long-distance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A/ A'</td>
<td>A/ A'</td>
<td>A/ A'</td>
</tr>
<tr>
<td>LF 0-checking:</td>
<td>√</td>
<td>* / ?</td>
<td>*</td>
</tr>
<tr>
<td>NO / PF Mov’t:</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
</tbody>
</table>

Crucially, only Ueyama’s (1998, 2003) analysis can explain why CPs
behave differently from DPs when it comes to long-distance scrambling.

In brief, the EMG helps us choose among the competing analyses of Japanese scrambling. In particular, we are led to think that the null operator analysis of the kind proposed originally by Ueyama (1998, 2003) is superior to the other analyses.\(^{15}\) It has been shown that not only theoretical considerations but also empirical ones concerning the A/A'-status of scrambling point to the same conclusion.

6. Conclusion

The main thrust of the present paper has been to explore the implications of the existence of argument ellipsis for scrambling in Japanese. Interestingly enough, the Ellipsis Movement Generalization immediately rules out the popular analysis of the kind defendeds by Saito (1985, 1992, 2003), whereby scrambling involves direct syntactic movement. Ueyama’s (1998, 2003) account, supported by the EMG, has been shown to be the most successful both theoretically and empirically (See also Hoji 2006b). To the extent that the present line of thinking is on the right track, we have found converging evidence for both the EMG and the null operator movement analysis of A-scrambling in Japanese.

Notes

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1 This paper deals exclusively with scrambling and ellipsis of arguments and leaves a detailed examination of adjuncts for future work (see Oku 1998 for some relevant discussion).

2 The abbreviations used in this paper are as follows:

<table>
<thead>
<tr>
<th>ACC-accusative</th>
<th>COMP-complementizer</th>
<th>COP-copula</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAT-dative</td>
<td>GEN-genitive</td>
<td>NOM-nominative</td>
</tr>
<tr>
<td>SUBJ-subjunctive</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In the examples to follow, *ec* stands for “empty category.” It is used for expository purposes only and indicates the θ-position with which a dislocated element is associated. Indices are also used for the sake of convenience, bearing no theoretical import.

3 See note 15.

4 The availability of coreference between a scrambled DP and *otagai* ‘each other’ has often been taken to be a diagnostic for A-scrambling (see Saito 1992 among others). However, Hoji (2006a) argues that *otagai* does not count as a real local anaphor. See Ueyama 1998:71-78 for relevant discussion.

5 See Bereckmans (1993) for the quantificational nature of *even*.

6 See Browning 1987 for extensive discussion of null operator constructions including *tough*-structure. We adopt the null hypothesis that properties of phonologically empty operators are universal across languages: no direct evidence regarding them is supposed to be available to children.

7 Consistent with Ueyama’s (1998, 2003) claim, Sauerland and Elbourne (2002: Section 4) argue that (total) reconstruction of scrambling in Japanese is possible only when it is derived by PF movement.

8 As pointed out by Oku (1998), not only objects but also subjects can be elided in Japanese. Given the kind of analysis advocated by Holmberg (2001), this fact raises a nontrivial question, left open here, of how elements in specifier positions can be targeted by Spell-Out: it is commonly assumed that Spell-Out sends the complement of a phase head to PF (see Chomsky 1995, 2001, 2008). A working hypothesis is that argument DPs in Japanese are spelled out as soon as they are introduced into derivation because they, unlike their English counterparts, lack uninterpretable Case features (see Kuroda 1965 for the nonsyntactic nature of morphological case in Japanese).


10 One of the well-known properties of null operator movement is that it cannot take place across a finite T (see (22) below). The movement in (19) is not blocked, because no minimality-inducing T intervenes in any way. A question remains as to why *v* in Japanese can be endowed with the feature that matches with the corresponding feature of the null operator. We
leave this question open.

11 In the case of A'-scrambling or PF scrambling, (1a) and (1b) have exactly the same cost, as far as syntax is concerned.

12 It is assumed that null operator movement cannot be successive cyclic (cf. Stowell 1986). See Nakamura 2008, where it is argued based on the theory of cyclic linearization (Fox and Pesetsky 2005, Bošković 2007a,b) that null operator movement is always in one fell swoop.

13 See note 6.

14 See note 12.

15 Under Ueyama’s (1998, 2003) analysis, the island violations in (2) must have been incurred by PF-movement, suggesting that island constraints are essentially phonological in nature (see Merchant 2001, 2008 for relevant discussion).

References


