Two Types of Scrambling Constructions in Japanese [*]

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1. Introduction

The sentences of the form in (1b) are often referred to as instances of the scrambling construction, in contrast to those of the 'unmarked word order' in (1a).[1]

(1) a. NP-NOM   NP-ACC/DAT   V
     b. NP-ACC/DAT   NP-NOM   V

The scrambling construction is one of the most extensively discussed topics in Japanese syntax, and various kinds of analyses have been presented over the years. It is not a straightforward task, however, to summarize the result of the past study, since the preceding works are based on sets of assumptions often radically different from one another.

In order to lay out the relevant descriptive observations in an analysis-neutral manner, I use the terms *SO-type* [Subject-Object word order] construction and *OS-type* [Object-Subject word order] construction in this paper. In addition, I call the 'object' NP preceding the 'subject' in the OS-type construction as *DL* (cf. the 'dislocated' NP), whether or not it is analyzed to have moved to its 'surface' position by a syntactic movement.

(2) a. SO-type construction:
         NP-NOM   NP-ACC/DAT   V
     b. OS-type construction:
         NP-ACC/DAT (=DL)   NP-NOM   V

In section 2, I will critically review the descriptive generalizations reported in the past study, paying attention to the accompanying assumptions as well.   In section 3, the recaptured past observations are summarized, so that they form a skeletal analysis, which shall be called the *Essential Analysis* in this work.   In other words, the *Essential Analysis* is meant to express an answer to questions such as "What has been uncovered regarding this construction?" or "What is the standard analysis of this construction?" Since the *Essential Analysis* is underspecified in several respects, many full-fledged analyses can be compatible with it, logically speaking.

In section 4, I will introduce further properties of the OS-type construction which have not been reported in the literature.   If these observations in section 4 are correct and form the descriptive generalizations to be accounted for, they will serve to significantly reduce the range of the adequate analyses.   For the illustration of the point, I will review Saito 1992 in section 5, and show that the lines of analyses represented by Saito 1992 would

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[1]   Sometimes a sentence in which an adjunct phrase is placed before the nominative NP is also regarded as an instance of scrambling.   But I limit the discussion in this work to the construction in which an accusative-marked NP or a dative-marked NP appears before the nominative-marked NP, mainly because the 'unmarked' position for an adjunct phrase is not yet totally clear in Japanese.

suffer from serious problems in accounting for the new observations presented in section 4.   The conclusion will be presented in the form of the *Revised Essential Analysis*, which expresses the minimal requirements on any successful analysis of the OS-type construction, considering both the newly reported generalizations and the findings from the past study.[2]

2. Past study of the OS-type Construction

2.1. Subjacency effects

It has been assumed in the literature that the OS-type construction is derived from the corresponding SO-type construction by the movement of the DL; let us tentatively call such an operation *Scrambling* following the literature. Harada 1977 argues that Scrambling is a syntactic movement, by demonstrating that the OS-type construction in Japanese exhibits subjacency effects.[3]

(3) Subjacency effects in the OS-type construction:

   a. ?*[A-no   hon-o]$_i$ John-ga [$_{NP}$ [$_S$ *ec   ec$_i$*   katta]   hito]-ni
          that-GEN book-ACC   John-NOM   bought   person-DAT

       aitagatteiru rasii
       want:to:see   seem

       'It seems that [that book]$_i$, John wants to meet [the person who bought   *ec$_i$*]'
       (Saito 1985:285 (11a))

   b. ?*[Russell-ni]$_i$ John-ga [$_{NP}$ [$_S$ *ec   ec$_i$*   atta   koto-ga   aru]
          Russell-DAT   John-NOM   met   fact-NOM   exist

       hito]-o   mituketa rasii
       person-ACC found   seem

       'It seems that [Russell]$_i$, John found [a person who actually met *ec$_i$*]'
       (Saito 1985:286 (11b))

It has been considered in the literature that the fact that the OS-type construction exhibits subjacency effects means that an overt movement is involved in deriving this construction; it is also usually assumed that what undergoes movement is the DL.   Strictly speaking, however, it is not necessarily the case that the offending movement should have applied to the DL.

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[2]   The core idea presented in this paper was first proposed in Ueyama 1997; the analysis there was mainly based on the observations regarding the weak crossover effects. Hayashishita 1997 has further examined the quantifier scope interpretation from the viewpoint of the analysis in Ueyama 1997.   The analysis of the OS-type construction to be proposed in this paper (as well as the one presented in Ueyama 1998) is an extended version of Ueyama 1997 which has incorporated the claim in Hayashishita 1997.

[3]   Scrambling is not necessarily clause-bounded, as pointed out in Saito 1985 among others.   Section 4.1 below contains some examples of the 'long distance' OS-type construction.

Furthermore, the subjacency effects do not sufficiently indicate that the construction is derived by an overt syntactic movement, since it is not demonstrated that being an overt syntactic movement is a necessary condition for the subjacency effects.

Nevertheless, assuming that the OS-type construction is derived by a syntactic movement of a DL, the issue of interest among Japanese linguists then moved onto how this movement should be further characterized: namely, whether it is an A-movement (as passivization or raising in English) or an A'-movement (as *wh*-movement in English). It has been said that Scrambling exhibits both A-properties and A'-properties. Let us examine the so-called A-properties in section 2.2 and the so-called A'-properties in section 2.3.

2.2. A-properties: absence of the WCO effects
2.2.1. A-properties

(4a) and (4b) are the representative A-properties that are discussed in the literature regarding the OS-type construction in Japanese.

(4)   (Alleged) A-properties of the OS-type construction:
    a.   Availability of anaphor-binding
    b.   Absence of weak crossover (WCO) effects

The reported observations relevant to (4a) presuppose that the word *otagai* 'each other/respective' in Japanese has the feature [+anaphor] in the binding theoretic sense. Hoji 1998b, however, convincingly argues against this assumption, which is widely-held among Japanese generative linguists.[4] He demonstrates that (i) if we took *otagai* to be unambiguously [+anaphor, -pronominal], we would completely fail to capture the wide range of empirical paradigms discussed in Hoji 1998b, and (ii) if we took *otagai* to be ambiguous between [+anaphor, -pronominal] and [-anaphor, +pronominal], on the other hand, the validity of such a claim is not demonstrable. Therefore, although the alleged observations themselves are completely consistent with the analysis to be given below, I will not address (4a) in this work.

Let us now consider (4b) 'Absence of WCO effects'. Sentences in (5) are typically used to illustrate the WCO effects; they do not allow the bound reading between the two underlined NPs, and they are to be contrasted with (6) in which a bound reading is available (Postal 1971, Wasow 1972, Chomsky 1976).

(5)   WCO effects:
    a.   *<u>His</u> best friend hit <u>every student</u>.
        (after QR: <u>every student</u>$_i$ <u>his</u> best friend hit t_i)
    b.   ?*<u>Who</u>$_i$ did [<u>his</u> best friend] hit t_i ?

(6)   a.   <u>Every student</u> hit <u>his</u> best friend.
    b.   <u>Who</u> hit <u>his</u> best friend?

The effects are not observed in the case of (7), despite the apparently similar configuration.

(7)   a.   <u>Every daughter</u>$_i$ seems [to <u>her</u> father] t_i to be beautiful.
    b.   <u>Who</u>$_i$ t_i seems [to <u>his</u> mother] t_i to have come?

This observation is often understood in a generalized form as in (8):

(8)   a.   Movement to an A-position does not induce WCO effects.
    b.   Movement to an A'-position induces WCO effects.

The absence of WCO effects is regarded as an A-property in this sense.

2.2.2. WCO effects and the QP type

It is usually assumed that the availability of a bound reading is sensitive to the structural relation of c-command (see Evans 1977, Partee 1978, and Reinhart 1983ab, among others). If we assume (9) for now, mainly following the spirit of Reinhart 1983ab and Hoji 1998c, the relevant condition can be stated as in (10).[5]

(9)   The bound reading in (6)-(7) is based on the *Formal Dependency (FD)* established between the (QR-)trace of a QP and the dependent term.

(10)   *FD(A,B) if A does not c-command B at LF.[6]

Let us introduce a few remarks on the availability of a bound reading, summarizing the parts of Ueyama 1998:section 3.1 that are relevant to the current discussion.

It is important that we use a QP such as *NP-sae* 'even NP', *10 izyoo-no NP* 'ten or more NPs', or *55%-no NP* '55% of the NPs' in order to illustrate the WCO effects clearly. I call them [FD]QPs in this paper, since these QPs can have a bound reading only in terms of an FD, which is contingent upon c-command, as stated in (10).[7]

(11)   [FD]QPs:
    NP-sae   'even NP'
    10 izyoo-no NP   'ten or more NPs'
    55%-no NP   '55% of the NPs'

(12)   An instance of WCO effects:
    *[<u>So-ko</u>-o   tekitaisisiteiru kaisya]-ga   <u>Toyota-sae-o</u>

---

[4]   The relevant points are summarized in section A.3.1 of Ueyama 1998.

[5]   It is claimed in Reinhart 1983ab and Hoji 1998c that <u>every</u> instance of bound variable anaphora is contingent upon c-command, but I have argued against this generalization in Ueyama 1998. I do not go into the discussion regarding the theoretical status of a bound reading in this paper.

[6]   Cf. Hoji 1998c: (5), Hoji in this volume: (18); cf. also Ueyama 1998:155 (65a).

[7]   These QPs were tentatively called as *A-type QPs* in Ueyama 1998.

that-place-ACC   be:hostile   company-NOM   Toyota-even-ACC

uttaeta.
sued

'[the company which is hostile to <u>it</u>] sued [<u>even Toyota</u>].'

Some QPs allow an apparent bound reading without recourse to FD. First, I have pointed out in Ueyama 1998 that an apparent bound reading obtains without c-command if we use *do-no NP* 'which/every NP', as long as it precedes the dependent term in the surface word order. I tentatively call this type of QP as ^{existential}QP, without any further discussion of its nature in this paper.[8]

(13)   Apparent bound reading in terms of an ^{existential}QP:

a.   [Kyonen   Toyota-ga   <u>do-no   zidoosya-gaisya</u>-o   uttaeta
     last:year   Toyota-NOM   which-GEN automobile-company-ACC   sued

koto]-ga   <u>so-ko</u>-o   toosan-ni   oiyatta no?
fact-NOM   that-place-ACC   bankrupt-DAT   drove COMP

'(Lit.) [The fact that Toyota sued <u>which automobile company</u> last year] caused <u>it</u> to go bankrupt ?' (i.e., <u>Which automobile company</u> is such that the fact that Toyota sued <u>it</u> caused <u>it</u> to go bankrupt?)

b.   [Kyonen <u>do-no   zidoosya-gaisya</u>-ga   Toyota-o   uttaeta toyuu
     last:year   which-GEN automobile-company-NOM   Toyota-ACC   sued   COMP

riyuu-de],   John-ga   <u>so-ko</u>-o   tyoosasiteiru   no?
reason-with   John-NOM   that-place-ACC   is:investigating   COMP

'(Lit.) [For the reason that <u>which automobile company</u> sued Toyota last year], is John investigating <u>it</u>?' (i.e., <u>Which automobile company</u> is such that John is investigating <u>it</u> for the reason that <u>it</u> sued Toyota last year?)

In addition, QPs such as *subete-no NP* 'every NP' or *NP1 to NP2* 'NP1 and NP2' (at least marginally) allow an apparent bound reading even if the QP does not precede the dependent term. Again tentatively I call this type of QP as a ^{specific}QP.[9]

(14)   Apparent bound reading in terms of a ^{specific}QP:

a.   ?<u>So-ko</u>-no   bengosi-ga   <u>subete-no   zidoosya-gaisya</u>-o
     that-place-GEN   attorney-NOM   every-GEN   automobile-company-ACC

uttaeteiru (node,   zidoosya-gyookai-wa   daikonran-ni   otiitteiru).

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[8]   These QPs were tentatively called as *B-type QPs* in Ueyama 1998. Ueyama 1998 demonstrates in chapter 3 that the anaphoric relation as in (13) is subject to the syntactic condition different from the one for the anaphoric relation involving a ^{FD}QP, and proposes in chapter 5 that it is an instance of an E-type link.

[9]   Regarding the (apparent) anaphoric relation as illustrated in (14), readers are referred to Appendix D of Ueyama 1998 and Hayashishita 1999 for the relevant discussion.

sued   because   automobile-industry-TOP   disorder-DAT
be:thrown:into

'(Since) {<u>its/a retained</u>} attorney has sued <u>every automobile company</u> (, the automobile industry has been thrown into a state of disorder).'

b.   ?<u>So-ko</u>-no   bengosi-ga   <u>Toyota to Nissan</u>-o   suisensita
     that-place-GEN   attorney-NOM   Toyota and Nissan-ACC   recommended

(node,   ato-wa   dareka-ni   Mazda-o   suisensite-moraw-eba
because   rest-TOP   someone-DAT   Mazda-ACC   recommend-ask-if

ii   dake   da).
good   only   COPULA

'(Since) {<u>its/a retained</u>} attorney recommended <u>Toyota and Nissan</u> (, now we have only to ask someone to recommend Mazda).'

I do not go into the discussion regarding the nature of the anaphoric relation in (13) and (14) in this paper.   The only point crucial to the following discussion is the fact that we should, as we in fact will in the ensuing discussion, avoid ^{existential}QPs or ^{specific}QPs and use only ^{FD}QPs in examining the WCO effects.

2.2.3. WCO effects and the OS-type construction
Let us return to the discussion of the OS-type construction. Consider the schematic form in (15).

(15)   OS-type construction:
       QP_i-ACC/DAT ... [$_{NP}$ ... <u>NP</u> ...]-NOM   ... t_i ... V

Although (15) may appear to be a WCO configuration, the OS-type construction in (16) allows a bound reading, even if we use an ^{FD}QP.

(16)   Absence of WCO effects in the OS-type construction:
       <u>Toyota-sae-o</u>$_i$ [<u>so-ko</u>-o   tekitaisisiteiru kaisya]-ga ec_i
       Toyota-even-ACC   that-place-ACC   be:hostile   company-NOM

uttaeta.
sued

'[<u>Even Toyota</u>]$_i$, [the company which is hostile to <u>it</u>] sued ec_i.'

cf.   A corresponding SO-type construction:
      *[<u>So-ko</u>-o   tekitaisisiteiru kaisya]-ga   <u>Toyota-sae-o</u>
       that-place-ACC   be:hostile   company-NOM   Toyota-even-ACC

uttaeta.
sued

'[the company which is hostile to <u>it</u>] sued [<u>even Toyota</u>].'

Thus, if one assumes that the OS-type construction is derived by Scrambling, Scrambling has to have an A-property since it does not induce the WCO effects, as argued in Yoshimura 1992 among others.

2.3. A'-properties: reconstruction effects
2.3.1. A'-properties
Scrambling also appears to have properties associated with the so-called A'-movement in English. Those properties in (17) are the representatives of the A'-properties mentioned in the literature regarding the OS-type construction in Japanese.

(17) (Alleged) A'-properties of the OS-type construction:
  a. Reconstruction effects of Condition C violation
  b. Reconstruction effects of 'pronominal'-binding (and 'anaphor'-binding)

(17a) is discussed in Saito 1985 and Saito 1992, for example. Schematically, it concerns whether an anaphoric relation can be established between $John_i$ and he_i in the configuration (18):

(18)   ...[... $\underline{John}_i$ ...]$_j$ ...[$\underline{he}_i$ [... t_j ...]] …

Saito 1992 seemingly assumes that the contrast between (19a) and (19b) indicates that the availability of the anaphoric relation in (18) is related to the A/A' distinction.

(19) a. ??[Which picture of $\underline{John}_i$]$_j$ did $\underline{he}_i$ like t_j
      (van Riemsdijk & Williams 1981:201 (86a), cf. Lebeaux 1990:319 (2c))
  b. [$\underline{John}$'s$_i$ mother]$_j$ seems to $\underline{him}_i$ [t_j to be smart]
      (Saito 1992:90 (47a))

On the basis of the observation that the configuration (18) is not always clearly acceptable with the OS-type construction, Saito 1992 argues that Scrambling "cannot be analyzed simply as A movement" (p.91). In characterizing the phenomenon, however, Saito 1992 mentions the notion of 'degree of embedding', along the lines of van Riemsdijk & Williams 1981. Although it is possible that such a notion is indeed crucial, this notion cannot be expressed in terms of the primitive concepts in Grammar, thereby suggesting that the relevant condition cannot be stated as a grammatical condition. Therefore I consider that we should dismiss the observations reported there for the reason that the alleged contrast cannot be stated in formal terms (at least at this stage), even if we agreed with the descriptive generalization.[10]

Let us turn to (17b). It has been noticed since Engdahl 1980, van Riemsdijk & Williams 1981, Barss 1984, 1986, and Lebeaux 1990 that a configuration such as in (20) is well-formed in spite of the fact that a reflexive pronoun appears not to be c-commanded by its antecedent.

(20) Reconstruction effects:
  a. [Which pictures of $\underline{himself}$]$_i$ does $\underline{John}$ like t_i ?

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  b. [These photographs of $\underline{himself}$]$_i$, $\underline{John}$ really likes t_i .
      (Barss 1986:17 (1))

These examples have been said to exhibit *reconstruction effects*.[11] It has been known that the presence of the reconstruction effects in (20) crucially depends upon whether the trace is c-commanded by the QP or not. This is illustrated by the contrast in (21).

(21) a. (Guess) [which one of $\underline{his}$ teachers]$_i$ Mary told the principal that $\underline{every\ boy}$ should talk to t_i
  b. *(Guess) [which one of $\underline{his}$ teachers]$_i$ Mary told t_i that $\underline{every\ boy}$ should talk to the principal.
      (Hoji & Ueyama 1998:(40a,b))

In (21a) the trace is c-commanded by *every boy* and the bound reading is available, while in (21b) it is not c-commanded by *every boy* and the bound reading does not obtain.

It has been pointed out that raising does not exhibit reconstruction effects in contrast with a *wh*-movement, as shown in (22).[12]

(22) a. *Wh*-movement:
      [Which friend of $\underline{his}$ son]$_i$ did $\underline{even\ John}$ invite t_i ?
  b. Raising:
      *[Which friend of $\underline{his}$ son]$_i$ seems to $\underline{even\ John}$ t_i to win the prize?

The availability of reconstruction effects is thus regarded as an A'-property.

2.3.2. Reconstruction effects in the OS-type construction
As has been reported in Hoji 1985 and Yoshimura 1992, among others, the OS-type construction exhibits reconstruction effects, as schematized in (23) and exemplified in (24).

(23)   [... $\underline{NP}$ ...]-ACC/DAT$_i$ ... QP-NOM ... t_i ...   V

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[10] See sections A.3.2 and B.1.4 of Ueyama 1998 for more discussion on this issue.

[11] Various analyses have been proposed to account for the reconstruction effects, including the postulation of a new level of representation (van Riemsdijk & Williams 1981), an operation of *(literal) reconstruction* (Langendoen & Battistella 1982, Saito 1992), *chain binding* (Barss 1986), and the *copy* and *deletion* theory of movement (Chomsky 1995).

[12] It is sometimes claimed that an A-movement can exhibit reconstruction effects (Belletti & Rizzi 1988, Barss 1986, Kitagawa & Kuroda 1992); but, as far as I know, the relevant examples involve *every NP*. Since we know that a ^{specific}QP (such as *every NP*) can have a bound reading without c-command, as mentioned above, I wish to maintain the generalization that an A-movement does not exhibit reconstruction effects. Relevant discussion is found in section D.2 of Ueyama 1998, which however does not cover Fox 1999. (I learned only at the final stage of the preparation of this work that Fox 1999 also argues that A-reconstruction is possible, in part drawing from Lebeaux 1994.)

(24)　　　[So-ko-no　　ko-gaisya]-o　　Toyota-sae-ga　　suisensita
　　　　　that-place-GEN　child-company-ACC　Toyota-even-NOM　recommended

　　　　'Even Toyota recommended [its subsidiary].'　(i.e. It holds even
　　　　with Toyota that it recommended its subsidiary.)

Therefore, if one assumes that the OS-type construction is derived by
Scrambling, this movement should have an A'-property.
　　　Note that some examples of the OS-type construction fail to exhibit the
reconstruction effects.[13]　Consider (25), in comparison with (26):

(25)　　　?*[So-no zidoosya-gaisya-no　　ko-gaisya]-o　　do-no
　　　　　　that-GEN automobile-company-GEN　child-company-ACC　which-GEN

　　　　zidoosya-gaisya-ga　　suisensita　　no?
　　　　automobile-company-NOM　recommended　COMP

　　　　'Which automobile company recommended [that automobile
　　　　company's subsidiary]?'

(26)　a.　[So-ko-no　　ko-gaisya]-o　　do-no　　　zidoosya-gaisya-ga
　　　　　that-place-GEN　child-company-ACC　which-GEN　automobile-company-NOM

　　　　suisensita　　no?
　　　　recommended　COMP

　　　　'Which automobile company recommended [its subsidiary]?'

　　　b.　Do-no　　zidoosya-gaisya-ga　　[so-no　zidoosya-gaisya-no
　　　　　which-GEN　automobile-company-NOM　　that-GEN automobile-company-GEN

　　　　ko-gaisya]-o　　suisensita　　no?
　　　　child-company-ACC　recommended　COMP

　　　　'Which automobile company recommended [that automobile
　　　　company's subsidiary]?'

Ueyama 1998 classifies the dependent terms into two groups, and claims that
the reconstruction effects generally do not obtain when a [large]NP is involved.
(27a) and (27b) exemplify [large]NPs and [small]NPs, respectively.

(27)　a.　[large]NPs:
　　　　so-no zidoosya-gaisya　　'that automobile company'
　　　　so-no daigaku-insei　　'that graduate student'
　　　　that linguist (in English)

　　　b.　[small]NPs:
　　　　so-ko　　'it/that institution'
　　　　so-re　　'it/that thing'
　　　　he, it (in English)

The　[large]NP/[small]NP　contrast　also　obtains　in　English　with　respect　to

[13]　　　In fact, Kuno & Kim 1994:24 (5.9b) argues that there is no reconstruction effects in
Japanese, citing an example similar to (25) in the relevant respects.

reconstruction effects.[14]

(28)　a.　Every linguist insisted that John had demanded a special evaluation
　　　　　of him.
　　　b.　Every linguist insisted that John had demanded a special evaluation
　　　　　of that linguist.

(29)　Reconstruction effects with a [small]NP:
　　　a.　[Which evaluation of him]₁ did every linguist insist that John had
　　　　　demanded　t_1　?
　　　b.　[A special evaluation of him]₁, every linguist insisted that John had
　　　　　demanded　t_1　.

(30)　No reconstruction effects with a [large]NP:
　　　a.　?*[Which evaluation of that linguist]₁ did every linguist insist that
　　　　　John had demanded　t_1　?
　　　b.　?*[A special evaluation of that linguist]₁, every linguist insisted that
　　　　　John had demanded　t_1　.

Readers should consider the notions [large]*NPs* / [small]*NPs* to be merely descriptive
labels, rather than theoretical primitives.[15]　The crucial point is that we should
use a [small]NP in testing the reconstruction effects in question.　Therefore, the
example in (25) is not a counterexample to the generalization that the OS-type
construction in Japanese exhibits reconstruction effects.

2.4. 'Undoing' of the movement: radical reconstruction of a wh-phrase
　　　Saito 1989,1992 further argues that some properties of the OS-type
construction in Japanese can be accounted for only if it is postulated that
Scrambling can be 'undone' at LF.[16]　This claim is partly based on the contrast
between (31) and (32).[17]

(31)　　　*[IP Hanako-ga　dare-ni　[CP [Masao-ga kuru] ka]　osieta] koto
　　　　　　Hanako-NOM　who-DAT　　Masao-NOM come　Q　told　fact

[14]　　　Although it is by far unmarked to use pronouns as a dependent term in English, it is
not impossible to have a bound reading using a demonstrative NP, as pointed out in Evans
1977:491.　I thank Ken Safir for helping me construct the examples in (29)-(30).

[15]　　　The relevant discussion is found in Ueyama 1998: sections 3.1, 3.4.1, & 5.3.2.1.

[16]　　　Cf. "A constituent moved by scrambling can move back to its D-structure position
in the LF component." (Saito 1992:86 (39))
　　　Yoshimura 1992 follows Saito 1989 in assuming that Scrambling can be 'undone'.
The operation called *Anti-scrambling* in Kitagawa 1990 also has the effect of 'undoing of
Scrambling', so to speak, but it is proposed independently of the phenomenon presented in
this subsection.　See Appendix B of Ueyama 1998 for the reviews of these works.

[17]　　　While Saito (1989,1992) discusses the relevant observations in terms of the so-
called proper binding condition, I have tried to simplify the presentation here.　Readers
are referred to Ueyama 1998: section 2.2.3, footnote 14 for a more faithful summary of his
discussion.

'the fact that Hanako told <u>who</u> [Q [Masao is coming]]'
(Saito 1992:84 (32b), due to K.I. Harada 1972)

(32) a. ?<u>Do-no hon-o</u>$_i$ Masao-ga [$_{CP}$ [Hanako-ga t_i tosyokan-kara
          which-GEN book-ACC   Masao-NOM   Hanako-NOM   library-from

karidasita] <u>ka</u>] siritagatteiru (koto)
checked:out   Q   want:to:know   fact

'(the fact that) <u>which book</u>$_i$, Masao wants to know [Q [Hanako
checked out t_i from the library]]'
(Saito 1992:84 (33b))

   b. ?<u>Dare-ni</u>$_i$ Mary-ga [$_{CP}$ [John-ga t_i Susan-o   syookaisita] <u>ka</u>]
       who-DAT   Mary-NOM   John-NOM   Susan-ACC introduced   Q

siritagatteiru (koto)
want:to:know   fact

'(Lit.) <u>To whom</u>$_i$, Mary wants to know [Q [John introduced Susan
t_i]]'
(Yoshimura 1992:244 (38b))

Both (31) and (32) can be schematically represented as in (33), in which the *wh*-phrase is located outside the scope of Q.

(33)   ... <u>*wh*-ACC/DAT</u> [$_{CP}$ [...   ] Q]   ...

Nevertheless, the examples in (32) are much more acceptable than (31).[18] Saito (1989,1992) argues that Scrambling can be literally 'undone' and the DL is 'radically reconstructed' to the trace position at LF, so that the OS-type constructions in (32) has the representations in (34) (prior to LF wh-movement).

(34) OS-type construction:
      PF: <u>[wh-ACC/DAT]</u>$_i$ ... [$_{CP}$ [... t_i ...] Q] ...
      LF: ... [$_{CP}$ [... <u>[wh-ACC/DAT]</u> ...] Q] ...

In other words, this analysis claims that the LF representation of (32b) is not distinct from that of (35), and it is thus expected that the configurations in (32) are not ungrammatical.

(35) SO-type construction:
      Mary-ga   [$_{CP}$ [John-ga   <u>dare-ni</u>   Susan-o   syookaisita] <u>ka</u>]
      Mary-NOM   John-NOM   who-DAT   Susan-ACC   introduced   Q

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[18]   Hajime Hoji (p.c.; February 1998) points out to me that the examples in (32) and (36) are hardly acceptable for him, reporting that presumably Scrambling of the *wh*-phrase out of the CP is blocked by the subjacency condition(s).   The fact that these sentences are more or less acceptable for me (and apparently many other speakers) then suggests the possibility that the subjacency effects of the OS-type construction are not as solid as normally believed.   Since this is beyond the scope of this work, I have to leave it for future research.

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siritagatteiru (koto)
want:to:know   fact

'(Lit.) Mary wants to know [Q [John introduced Susan <u>to whom</u>]]'

Saito 1992 claims that the same point is shown by the fact that (36) is not totally unacceptable: its schematic representations and the corresponding SO-type construction are given in (37) and (38), respectively.

(36)   ??[$_{CP}$ Hanako-ga   <u>do-no   hon-o</u>   tosyokan-kara karidasita to]$_i$
          Hanako-NOM   which-GEN book-ACC   library-from   checked:out COMP

Masao-ga [$_{CP}$ [minna-ga t_i omotteiru] <u>ka</u>] siritagatteiru koto
Masao-NOM   everyone-NOM   think   Q   want:to:know fact

'the fact that [that Hanako checked out <u>which book</u> from the library]$_i$, Masao wants to know [Q [everyone thinks t_i]]'
(Saito 1992:85 (36b))

(37) OS-type construction:
      PF: [[$_{CP}$ ... <u>wh-NP</u> ...]$_i$ ... [$_{CP}$ [... t_i ...] <u>Q</u>] ...]
      LF: [... [$_{CP}$ [... [$_{CP}$ ... <u>wh-NP</u> ...] ...] <u>Q</u>] ...]

(38) SO-type construction:
      Masao-ga [$_{CP}$ [minna-ga   [$_{CP}$ Hanako-ga   <u>do-no   hon-o</u>
      Masao-NOM   everyone-NOM   Hanako-NOM   which-GEN   book-ACC

tosyokan-kara karidasita to]   omotteiru] <u>ka</u>] siritagatteiru koto
library-from   checked:out COMP   think   Q   want:to:know   fact

'the fact that Masao wants to know [Q [everyone thinks [that Hanako checked out <u>which book</u> from the library]]]'

Notice that this 'literal reconstruction of a *wh*-phrase' cannot be explained by chain-binding proposed in Barss 1986.   Saito 1989,1992 thus argues on the basis of these observations that Scrambling is an operation which can be literally 'undone' at LF.[19]

3. Two representations of the OS-type construction

3.1. Redundancy in Saito (1992)'s analysis
We have seen that Scrambling appears to have both A- and A'-properties. This has led some linguists to propose that the OS-type construction is

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[19]   One should notice that the idea that some DLs are 'interpreted' in its θ-position is related to the insight underlying the claim that Scrambling is a stylistic rule (i.e., an operation which never affects the formal meaning of a sentence), which dates back to Ross 1967:51 for Latin and Inoue 1976/1977:232-233 and McCawley 1976 for Japanese. Reinterpreting this claim into the current framework, we can say that a stylistic rule corresponds to a PF movement, a movement which does not affect the LF representation, by definition.   I will propose later that some instances of the OS-type construction are indeed due to a PF movement of the DL.

structurally ambiguous, so that some DLs are located in an A-position while the others are in an A'-position.[20]   In addition, Saito 1989,1992 has argued that Scrambling can also be 'undone' at LF, *i.e.*, a DL can be put back into its θ-position at LF.   Saito 1992 concludes that the OS-type construction is three-way ambiguous: the DL may be literally reconstructed back into the trace position, may be in an A-position c-commanding the subject, or may be in an A'-position.

(39)   Saito's (1992) analysis of the OS-type construction:
    a.   at S-structure:
       the DL is adjoined to IP
    b.   at LF:
       (i)   the movement is undone,
       (ii) the chain is reanalyzed as an A-chain, or
       (iii) the DL is regarded to be in an A'-position.
    (cf. Saito 1992:99-100 (66))

Notice however that the alleged A'-properties (the reconstruction effects of 'pronominal'-binding) will be accounted for, once we assume that Scrambling can be 'undone'.   For example, according to this analysis, the LF representation of (24a) can be identical to that of (40), and the acceptable status of (24a) is expected, provided that the availability of a bound reading is determined at LF.

(24)   a.   [So-ko-no   ko-gaisya]-o   Toyota-sae-ga   suisensita
       that-place-GEN   child-company-ACC   Toyota-even-NOM   recommended

      'Even Toyota recommended [its subsidiary].'

(40)   SO-type construction:
    Toyota-sae-ga   [so-ko-no   ko-gaisya]-o   uttaeta
    Toyota-even-NOM   that-place-GEN   child-company-ACC   sued

    'Even Toyota recommended [its subsidiary].'

Incidentally, Saito 1992 considers (41) as evidence supporting the claim that Scrambling can be an A'-movement, assimilating (41) with the topicalization in English in (42b).

(41)   Zibunzisin-o$_i$ [Hanako$_i$-ga t_i hihansita] (koto)
    self-ACC   Hanako-NOM   criticized   fact

    '(the fact that) Herself$_i$, Hanako$_i$ criticized t_i '
    (Saito 1992: (17), (53), (58) & (71))

(42)   a.   *Himself$_i$ seems to John$_i$ to be a genius.
    b.   Himself$_i$, [John$_i$ likes t_i].
    (Saito 1992:77 (18))

However, we can regard (41) as another instance of the 'literal reconstruction', so to speak, since the LF representation of (41), if Scrambling is undone at LF, will be identical to that of (43).

(43)   SO-type construction:
    Hanako-ga   zibunzisin-o   hihansita (koto)
    Hanako-NOM   self-ACC   criticized   fact

    '(the fact that) Hanako criticized herself '

Thus, the two-way distinction is sufficient for accounting for the major observations which have been discussed in the literature: we have only to assume that some DLs are in an A-position c-commanding the subject while the others are in its θ-position at LF, and it is unnecessary to postulate that some DLs are in an A'-position c-commanding the subject at LF.

3.2. *Essential Analysis*
The discussion so far leads us to the analysis summarized in (44).   I will refer to (44a) as *Deep OS-type* and the DL therein as *Deep DL*; in addition, I will refer to (44b) as *Surface OS-type* and the DL therein as *Surface DL*.

(44)   *Essential Analysis*:
    An OS-type construction involves either a Deep DL (as in (44a)) or a Surface DL (as in (44b)).
    a.   Deep OS-type:
       PF: NP-ACC/DAT (=DL) ... NP-NOM ... V
       LF: NP-ACC/DAT (=DL) [... NP-NOM ... V]
    b.   Surface OS-type:
       PF: NP-ACC/DAT (=DL) ... NP-NOM ... V
       LF: NP-NOM [... NP-ACC/DAT (=DL) ... V]

Given the necessary conditions for bound readings in (9)-(10) above, it follows that the Deep OS-type does not exhibit WCO effects while the Surface OS-type does.[21]   Therefore, the properties of the OS-type construction should be classified as follows.

(45)   Properties of the Deep OS-type (*one more to be added later*):
    Absence of WCO effects

(46)   Properties of the Surface OS-type (*one more to be added later*):
    a.   Preservation of WCO effects
    b.   Reconstruction effects
    c.   Literal reconstruction of a *wh*-phrase

Since it is claimed in (45) and (46) that the nullification of WCO effects

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[20]   Such an analysis has been defended in Mahajan 1990, Saito 1992 and Miyagawa 1997, among others.   The relevant discussion is also found in Webelhuth 1989 and Yoshimura 1992.

[21]   I have not yet shown the examples of the OS-type construction preserving the WCO effects, but they will be introduced in section 4 below.

is a property of the Deep OS-type, and the reconstruction effects one of the Surface OS-type, it is expected that the two effects do not cooccur with respect to the same DL.[22]   This prediction is borne out, as illustrated by (47).[23]

(47)   ?*[So-ko$_i$-no   kaikeisi-o-sae]$_j$ [so-itu$_j$-no   kookoo-no
              that-place-GEN   accountant-ACC-even   that-guy-GEN   high:school-GEN

         sensei]-ga   [subete-no   zidoosyagaisya]$_i$-ni   ec$_j$ suisensita.
         teacher-NOM   every-GEN   automobile:company-DAT   recommended

         '[Even its$_i$ accountant]$_j$, [his$_j$ high school teacher] recommended to [every automobile company]$_i$.'

         Intended (but impossible) interpretation:
              $\forall x$ (x=automobile company) [it holds with even y, who is x's accountant, that y's high school teacher recommended y to x]

3.3. Implications to the scope interpretation
         The distinction between the Deep and the Surface OS-type brings us a new insight into the issue of scope interpretations in the OS-type construction. (48) is the descriptive generalization which has been assumed in most of the literature in Japanese syntax (see Kuroda 1969/1970, Hoji 1985, among others).[24]

(48)   (i)   In the SO-type construction, 'QP1-NOM   QP2-ACC/DAT   V'
              QP1>QP2, but *QP2>QP1.

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[22]   Mahajan (1990:47-52) reports that this is exactly the case with the scrambling construction in Hindi.   I am grateful to Hajime Hoji (p.c.;1996) for originally pointing out to me that my analysis also makes this prediction.

[23]   (47) shows that the Deep OS-type is not a construction which induces reconstruction effects.   Hoji & Ueyama 1998 argues for the same conclusion on the basis of the observation of resumption in the OS-type construction.   It further discusses the structural condition on the reconstruction effects in general.

[24]   Although the generalization in (48) has been largely accepted in the literature, some speakers detect scope ambiguity in the SO-type construction, as noted in Kitagawa 1990.   For example, (i) allows the second reading relatively easily.
(i)   SO-type construction:
         [Dareka-ga   [uti-no   subete-no sensyu-o]   bikoositeiru] (toyuu
         someone-NOM   our-GEN   all-GEN   athlete-ACC   shadow   COMP
         koto-wa,   zen'in-ga   kiken-ni   sarasareteiru toyuu koto da.)
         fact-TOP   everyone-NOM danger-DAT   exposed   COMP fact COPULA
         '(The fact that) someone is shadowing every athlete of ours (means that everyone's life is in danger.)'
         $\exists x[\forall y(y = \text{athlete})[x$ is shadowing $y]]$
         $\forall y(y = \text{athlete})[\exists x[x$ is shadowing $y]]$
But such an ambiguity is restricted to the cases in which the second QP is a [specific]QP, and absent in the case where the second QP is a [FD]QP.   (See Hayashishita 1999 for relevant examples and discussion.)   In contrast, the scope ambiguity in the OS-type construction is observable, even if we use [FD]QPs.   Therefore, despite some apparent counterexamples, I maintain that (48) expresses a descriptive generalization which needs to be accounted for.

(ii)   In the OS-type construction, 'QP2-ACC/DAT   QP1-NOM   V'
       QP1>QP2, and QP2>QP1.

Suppose that we take the hypothesis in (49), following Reinhart 1976, Huang 1982, and Aoun & Li 1989:

(49)   Scope Interpretation Hypothesis:
       a.   The scope of a QP is its c-commanding domain after QR.
       b.   If QP1 c-commands QP2 before QR applies, QP1 must also c-command QP2 after QR.[25]

The unambiguity of the SO-type construction is directly expected from this hypothesis.   In addition, the ambiguity of the OS-type construction is also expected, since, under the *Essential Analysis*, the OS-type construction in (50) can have two LF representations in (51a) and (51b), which will result in different scope interpretations.

(50)   OS-type construction:
       PF: QP2-ACC/DAT   QP1-NOM   V

(51)   a.   LF representation (before QR) of (50) in case it is the Deep OS-type:
            QP2-ACC/DAT ... [QP1-NOM ... V]
            QP2 > QP1
       b.   LF representation (before QR) of (50) in case it is the Surface OS-type:
            QP1-NOM ... [QP2-ACC/DAT ... V]
            QP1 > QP2

Thus, we can consider that the 'QP2 > QP1' reading is a property of the Deep OS-type while the 'QP1 > QP2' reading (in the OS-type construction) is a property of the Surface OS-type.

3.4. Summary and consequences
       (52) lists the major observations regarding the OS-type construction in Japanese that have been mentioned above, stated in informal terms.

(52)   (Alleged) properties of the OS-type construction:
       a.   Subjacency effects are observed.
       b.   'Anaphor-binding' is available from the DL.
       c.   A quantifier DL does not induce so-called weak crossover (WCO) effects.
       d.   Reconstruction effects are observed (at least with respect to bound variable anaphora).
       e.   Reconstruction effects are not necessarily observed with respect to the Condition C/D effects.

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[25]   (49b) should be understood as a mere generalization.   It has yet to be considered how the relevant constraint should be stated to achieve the effect in question under the framework assumed here.

f. A DL is not necessarily an 'A-binder'.
g. A *wh*-DL may have to be literally reconstructed back to its theta-marked position before an LF *wh*-movement.
h. The scope ambiguity emerges (even if the corresponding SO-type construction is unambiguous).

Pointing out that the observations in (52a,b,e) should not necessarily be connected to an argument in regard to the syntactic position of the DL, I have argued that the rest of the properties can all be attributed to either the Deep OS-type or the Surface OS-type (or both) in the *Essential Analysis* in (44), repeated here.

(44) *Essential Analysis*:
An OS-type construction involves either a Deep DL (as in (44a)) or a Surface DL (as in (44b)).
a. Deep OS-type:
PF: NP-ACC/DAT (=DL) ... NP-NOM ... V
LF: NP-ACC/DAT (=DL) [... NP-NOM ... V]
b. Surface OS-type:
PF: NP-ACC/DAT (=DL) ... NP-NOM ... V
LF: NP-NOM [... NP-ACC/DAT (=DL) ... V]

Restated in our terms, the properties of the Deep and the Surface OS-type are summarized as follows.

(53) Properties of the Deep OS-type:[26]
a. Absence of WCO effects
b. Wide scope reading of DL with respect to the subject

(54) Properties of the Surface OS-type:
a. Preservation of WCO effects
b. Narrow scope reading of DL with respect to the subject
c. Reconstruction effects
d. Literal reconstruction of a *wh*-phrase

In the next section, I will show, mainly based on the properties (53a,b) and (54a,b), that the distribution of the Deep DL is more restricted than that of the Surface DL.

4. Further Conditions on the Deep DL

It is generally assumed in the literature that any instance of the OS-type construction exhibits the properties (53a,b). Most instances of the OS-type

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construction in fact pattern as in (55).

(55) a. $\underline{QP_i}$-ACC/DAT ... [$_{NP}$ ... $\underline{NP}$ ...]-NOM ... ec_i ... V
bound variable anaphora available
b. QP2-ACC/DAT QP1-NOM V
the reading QP2>QP1 available

In the terms of the *Essential Analysis*, the observations in (55) are accounted for by assuming that these are instances of the Deep OS-type. Some instances of the OS-type construction, however, pattern as in (56), contrary to the widely-held assumption just noted.

(56) a. *$\underline{QP_i}$-ACC/DAT ... [$_{NP}$ ... $\underline{NP}$ ...]-NOM ... t_i ... V
bound variable anaphora unavailable
b. QP2-ACC/DAT QP1-NOM V
the reading QP2>QP1 unavailable

It follows that such an OS-type construction can only be an instance of the Surface OS-type.
This section demonstrates that there are syntactic environments in which only a Surface DL can occur, as indicated in (57).

(57) a. The DL in the long distance OS-type construction is necessarily a Surface DL.
b. There is at most one Deep DL in a clause. (Thus, in the multiple OS-type construction, at least one of the DLs is a Surface DL.)
c. In the multiple OS-type construction, it is harder for the second DL to be a Deep DL compared to the first DL.

The following subsections discuss the long distance OS-type and the multiple OS-type construction.

4.1. Long distance OS-type construction

We begin with the long distance OS-type construction. Before entering the discussion, however, it must be noted that we should exclusively examine the configuration in (58a) instead of the one in (58b).

(58) a. NP_1-DAT (=DL) NP-NOM [$_{CP}$ ... ec_1 ...] ...
b. NP_1-ACC (=DL) NP-NOM [$_{CP}$ ... ec_1 ...] ...

This is because an NP-ACC can be an argument of the matrix predicate (*i.e.*, a *major object*), and hence we cannot really tell whether a surface string such as (58b) is a long distance OS-type construction as in (59a), or a clause-internal OS-type construction as in (59b).[27]

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(59) a. NP_1-ACC (=DL)   NP-NOM   [$_{CP}$ ... ec_1 ...] ...
    b. NP_1-ACC (=DL)   NP-NOM ec_1 [$_{CP}$ ... ec ...] ...

Now I argue that the LF representation of the long distance OS-type construction in (60) should be as in either (61a) or (61b), but not as in (62).

(60) PF: NP1-DAT (=DL)   NP2-NOM [$_{CP}$ NP3-NOM ... ec_1 ... V1 COMP] V2

(61) LF:
    a. NP2-NOM [$_{CP}$ NP3-NOM   ... NP1-DAT (=DL) ...   V1 COMP] V2
    b. NP2-NOM [$_{CP}$ NP1-DAT (=DL)   NP3-NOM ... ec_1 ... V1 COMP] V2

(62) LF: *NP1-DAT (=DL)   NP2-NOM [$_{CP}$ NP3-NOM ... ec_1 ... V1 COMP] V2

Given this, it is predicted that NP1 does not take wide scope over NP2 in (60) and that the bound reading is not available in (63).[28]

(63)   QP-DAT$_1$ [$_{NP}$ ...   NP   ...]-NOM [$_{CP}$ ... ec_1 ...] ...

Both predictions are indeed borne out. Due to space considerations, however, I will only present the data relevant to the bound reading. Ueyama 1998 and Hayashishita 1999 contain the empirical paradigms that pertain to the prediction in regard to quantifier scope.

As shown in (64), the configuration (60) does not allow a bound reading, when we use an [FD]QP.

(64) a. ?*10 izyoo-no kigyoo-ni   [so-ko-no   bengosi]-ga
       10 more:than-GEN company-DAT   that-place-GEN   attorney-NOM

     [John-ga   *ec*   ayamatta to]   omotteiru.
     John-NOM   apologized COMP   think

     'Its attorney thinks [that John apologized to ten or more companies].'
     (I.e., this sentence does not mean: 'It holds ten or more companies that its attorney thinks that John apologized to it.')

    b. ?*Toyota-ni-sae   [so-ko-no   bengosi]-ga [John-ga   *ec*
       Toyota-DAT-even   that-place-GEN   attorney-NOM   John-NOM

     ayamatta to]   omotteiru.
     apologized   COMP   think

     'Its attorney thinks [that John apologized to even to Toyota].'
     (I.e., this sentence does not mean: 'It holds even with Toyota that its attorney thinks that John apologized to it.')

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what corresponds to *him* in (i) in Japanese can be phonetically unrealized. The relevant discussion and references are given in section A.1 of Ueyama 1998.

[28]   The observation that the long distance OS-type construction does not induce the scope ambiguity has been reported in Kitagawa 1992 and apparently in several other unpublished manuscripts inaccessible to me.

Compare (64) with (65), where an (apparent) bound reading is possible with an [existential]QP.

(65)   Do-no   zidoosya-gaisya-ni   [so-ko-no   bengosi]-ga
    which-GEN automobile-company-DAT   that-place-GEN   attorney-NOM

    [John-ga   *ec*   ayamatta to]   omotteiru no?
     John-NOM   apologized COMP think   COMP

    'To which automobile company does [its attorney] think [that John apologized]?'

Yoshimura 1992 and Saito 1992 conclude that a long distance OS-type construction does not induce the WCO effects. One may consider that the relevant sentences given by them should be counted as counterexamples to my claim, but the reported observations are in fact consistent with the theory assumed here. I have exhausted the relevant examples provided in Yoshimura 1992 and Saito 1992 in the following. Schematically, the examples in (67) and (68) have the configuration given in (66a) and (66b), respectively.

(66) a. NP-ACC/NP-DAT$_i$ NP-NOM [$_{CP}$ ...   NP   ... t_i ...] ...
    b. NP-ACC/NP-DAT$_i$ [$_{NP}$ ...   NP   ...]-NOM [$_{CP}$ ... t_i ...] ...

(67) Long distance OS-type construction and WCO effects:
    a. Daremo$_j$-o   Mary-ga [$_{CP}$ [$_{NP}$ [e_i bizin kontesuto-de   { e /so-itu-
      everyone-ACC   Mary-NOM   beauty contest-at   that-guy-

     o}   mikaketa] hito$_i$]-ga t_j sukininatta to]   itta   (koto)
     ACC   saw   person-NOM   fell:in:love   COMP   said   fact

     '(Lit.) (the fact that) everyone$_j$, Mary said [that [the person who saw her at the beauty contest] fell in love with t_j]'

    b. Ittai   do-no   daigaku$_j$-ni Mary-ga [$_{CP}$ [$_{NP}$ [e_i zyuunen maeni
      the:hell which-GEN university-to Mary-NOM   ten:year   before

     { e /so-ko-ni}   ryuugakusiteita] hito$_i$]-ga   mata t_j
      that-place-to   studied   person-NOM   again

     nyuugakusita to]   itta no
     entered   COMP   said COMP

     '*Which university the hell$_j$ did Mary say [that [the person who studied there ten years ago] entered t_j again]?'

    c. Ittai   dare$_j$-o   Mary$_i$-ga [$_{CP}$ [$_{PP}$ zibun$_i$-ga   { e /so-itu-o}
      the:hell who-ACC   Mary-NOM   self-NOM   that-guy-ACC

     sonkeisiteiru kara]   Chomsky-ga t_j osieta-nitigainai to]
     admire   because   Chomsky-NOM   taught-must   COMP

     omotteiru no
     think   COMP

     '*Who the hell$_j$ does Mary think [that [because she admires him], Chomsky must have taught t_j]?'

d. <u>Daiya to rubii*k*</u>-o John-ga [_{CP} Mary-ga [_{NP} *e_i* [_{NP} *e_j*
diamond and ruby-ACC   John-NOM   Mary-NOM

{ *e* /so-re-o}   kattekureru hito*_j*]-o   sagasite kakuti-o
   that-thing-ACC   buy   person-ACC   look:for:and various:places-ACC

mawatteiru gyoosyoonin*_i*]-kara   *t_k*   katta to]   itta (koto)
travel   merchant-from   bought COMP   said   fact

'(Lit.) (the fact that) <u>the diamond and ruby*_k*</u>, [John said [that Mary
bought   *t_k*   from [the merchant who was traveling in various towns
looking for [the person who would buy <u>it</u>]]]].'
(Yoshimura 1992:126-130 (44c)-(47c))

(68) a. <u>daremo-o*_i*</u> [_{NP} bizin kontesuto-de { *e* /so-itu-o} mikaketa hito]-
everyone-ACC   beauty contest-at   that-guy-ACC saw   person-

ga   [_{CP} John-ga *t_i* sukininatta to]   itta (koto)
NOM   John-NOM   fell:in:love COMP said fact

'(Lit.) (the fact that) <u>everyone*_i*</u>, [the person who saw <u>her</u> at the beauty
contest] said [that Mary would fall in love with   *t_i*]'

b. Ittai   do-no   daigaku-ni*_i* [_{NP} zyuunen maeni { *e* /so-ko-ni}
the:hell   which-GEN university-at   ten:years before   that-place-at

ryuugakusiteita hito]-ga   [_{CP} Mary-ga kotosi *t_i* nyuugakusita
studied   person-NOM   Mary-NOM this:year   entered

to] itta no
COMP said COMP

'<u>Which university the hell*_i*</u> did [the person who studied <u>there</u> ten
years ago] say [that Mary entered *t_i* this year]?'

c. <u>Ittai dare-o*_i*</u> Mary-ga [_{PP} zibun-ga <u>{ *e* /so-itu-o}</u>   sonkeisiteiru
the:hell who-ACC Mary-NOM   self-NOM   that-guy-ACC admire

kara] [_{CP} Chomsky-ga *t_i* osieta-nitigainai to]   omotteiru no?
because Chomsky-NOM   taught-must   COMP think   COMP

'<u>Who the hell*_i*</u> does Mary think, [because she admires <u>him</u>], [that
Chomsky must have taught *t_i*]?')

d. <u>daiya to rubii-o*_i*</u> [_{NP} [_{NP} <u>{ *e* /so-re-o}</u>   kattekureru hito]-o
diamond and ruby-ACC   that-thing-ACC buy   person-ACC

sagasite kakuti-o   mawatteiru gyoosyoonin]-ga   [_{CP} Mary-ga
looking:for various:places-ACC traveling   merchant-NOM   Mary-NOM

t_i katta to]   itta (koto)
  bought COMP said fact

'(Lit.) (the fact that) <u>the diamond and ruby*_i*</u>, [the merchant who was
traveling in various towns looking for [the person who would buy <u>it</u>]]
said [that Mary bought *t_i*]'
(Yoshimura 1992:132-136 (48c)-(51c))

Saito 1992 cites the examples in (69), which have a structure schematized in

(66b).

(69) a. ?<u>Dare-o*_i*</u> [<u>so-itu</u>-no   hahaoya]-ga [Hanako-ga *t_i* aisiteiru to]
who-ACC   that-guy-GEN mother-NOM   Hanako-NOM   love   COMP

omotteru no?
think   COMP

'(Lit.) <u>Who*_i*</u>, [<u>his</u> mother] thinks [that Hanako loves   *t_i*]'

b. ?<u>Do-no hito-mo*_i*</u>   [<u>so-itu</u>-no hahaoya]-wa [Hanako-ga *t_i*
which-GEN person-also   that-guy-GEN mother-TOP   Hanako-NOM

aisiteiru to] omottei-nai.
love   COMP think-not

'(Lit.) <u>Anyone*_i*</u>, [<u>his</u> mother] does not think [that Hanako loves   *t_i*]'
(Saito 1992:109 (79))

Recall from the beginning of this subsection that an apparent long distance OS-type construction may well be a clause-internal one, when the DL is an accusative-marked NP. In addition, as mentioned in section 2.2.2 above, an ^{existential}QP may not exhibit WCO effects. Therefore, even if a bound reading obtains in an apparent long distance OS-type construction, the sentence is not a counterexample to my claim, if (i) the DL is an accusative-marked NP, or if (ii) an ^{existential}QP is used. Among the examples above, (67a,c,d), (68a,c,d), and (69a,b) qualify (i), and at least (67b) and (68b) qualify (ii).[29] Therefore, the observations reported in these works are all covered by the generalization presented in this paper. Conversely, if one adopts the conclusion drawn in Yoshimura 1992 and Saito 1992, the fact that a bound reading is not possible in (64) is left unexplained.

4.2. Multiple OS-type construction

     Let us now consider the multiple OS-type construction as schematized in (70). For convenience, we will call the first and the second DLs as *DL1* and *DL2*, respectively.

(70) a.   NP-ACC (=DL1)   NP-DAT (=DL2)   NP-NOM   ...   V
     b.   NP-DAT (=DL1)   NP-ACC (=DL2)   NP-NOM   ...   V

I argue that the schematic PF representation in (70) cannot correspond to the LF representation in (71d), and that (71c) is allowed only marginally, compared with (71a) and (71b).

(71) LF:

₂₉   Notice further that (69b) does not have a case-marker, and hence, it is not an instance of the OS-type construction, strictly speaking. As demonstrated in Hoji & Ueyama 1998, and Fukaya & Hoji 1999, the presence or the absence of a case-marker shows striking correlations with a number of other grammatical phenomena in Japanese. It must be noted for example that a construction without a case-marker generally does not exhibit subjacency effects.

a. NP-NOM ... DL2 DL1 ... V
    (*or* NP-NOM ... DL1 DL2 ... V)
b. DL1 NP-NOM ... DL2 ... V
c. ^{??}DL2 NP-NOM ... DL1 ... V
d. *DL1 DL2 NP-NOM ... V

It follows that DL1 and DL2 cannot both bind dependent terms within the nominative NP at the same time, and that DL1 and DL2 cannot take wide scope over the nominative NP at the same time. It is also expected that the bound reading with the QP being DL2 is harder than the one with the QP being DL1, and that the wide scope reading of DL2 over the nominative NP is harder than that of DL1 over the nominative NP. Again I omit the illustration of the scope examples, due to space considerations, referring the reader to Ueyama 1998:section 2.4 and Hayashishita 1999.

First let us make sure in (72) that there are instances in which two bound readings obtain simultaneously.[30]

(72) SO-type construction:
    [USC to UCLA to-ga]   [55%-no gakusei-ni]   [[so-itu-o
     USC   and UCLA and-NOM   55%-GEN student-DAT   that-guy-ACC

    sitteiru] so-ko-no   sensei-o]   suisen-saseta.
    know   that-place-GEN professor-ACC recommend-made

    '[(Each of) USC and UCLA] made [55% of the students] recommend [its professor who knows him].'

We now examine the configuration of (70). As shown in (73), the two bound readings do not obtain at the same time if both the two QPs are ^{FD}QPs.

(73) a. ?*[USC to UCLA to-o]   [55%-no   gakusei-ni]
           USC and UCLA and-ACC 55%-GEN   student-DAT

      [[so-itu-o   sitteiru] so-ko-no   sensei-ga]   suisen-saseta.
       that-guy-ACC know   that-place-GEN professor-NOM recommend-made

      '[Its professor who knows him] made [55% of the students] recommend [(each of) USC and UCLA].'

    b. ?*[55%-no   gakusei-ni]   [USC to UCLA to-o]
          55%-GEN   student-DAT   USC and UCLA and-ACC

      [[so-itu-o   sitteiru] so-ko-no   sensei-ga]   suisen-saseta.
       that-guy-ACC know   that-place-GEN professor-NOM recommend-made

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'[Its professor who knows him] made [55% of the students] recommend [(each of) USC and UCLA].'

In contrast to (73), the two bound readings successfully obtain in the multiple OS-type construction as in (74) and (75), in which an ^{existential}QP is involved.

(74) a. [USC to UCLA to-o]   [do-no   gakusei-ni-mo]   [[so-itu-o
       USC   and UCLA and-ACC which-GEN student-DAT-also   that-guy-ACC

      sitteiru] so-ko-no   sensei-ga]   suisen-saseta
      know   that-place-GEN professor-NOM recommend-made

      '[Its professor who knows him] made [every student] recommend [(each of) USC and UCLA] '

    b. [55%-no gakusei]-ni   [do-no   daigaku-o-mo]   [[so-itu-
       55%-GEN   student-DAT which-GEN university-ACC-also   that-guy-

      o   sitteiru] so-ko-no   sensei-ga]   suisen-saseta
      ACC know   that-place-GEN professor-NOM recommend-made

      '[Its professor who knows him] made [55% of the students] recommend [every university].'

(75) a. [Do-no   daigaku-o]   [do-no   gakusei-ni-mo]   [[so-itu-o
       which-GEN university-ACC which-GEN student-DAT-also   that-guy-ACC

      sitteiru] so-ko-no   sensei-ga]   suisen-saseta no?
      know   that-place-GEN professor-NOM recommend-made COMP

      '[Which university] did [its professor who knows him] make [every student] recommend ?'

    b. [Do-no   gakusei-ni]   [do-no   daigaku-o-mo]   [[so-itu-
       which-GEN student-DAT   which-GEN university-ACC-also that-guy-

      o   sitteiru] so-ko-no   sensei-ga]   suisen-saseta no?
      ACC know   that-place-GEN professor-NOM recommend-made COMP

      '[Which student] did [its professor who knows him] make recommend [every university]?'

If *55%-no gakusei* '55% of the students' in (73) is replaced with *so-no gakusei* 'that student', for example, the relevant anaphoric relation also becomes possible, since the coreference between *so-no gakusei* and *so-itu* is allowed.

(76) a. [USC to UCLA to-o]   [so-no   gakusei-ni]   [[so-itu-o
       USC and UCLA and-ACC   that-GEN   student-DAT   that-guy-ACC

      sitteiru]   so-ko-no   sensei-ga]   suisen-saseta.
      know   that-place-GEN professor-NOM recommend-made

      '[Its professor who knows him] made [that student] recommend [(each of) USC and UCLA].'

    b. [So-no gakusei-ni]   [USC to UCLA to-o]   [[so-itu-o
       that-GEN student-DAT   USC and UCLA and-ACC   that-guy-ACC

sitteiru] so-ko-no sensei-ga] suisen-saseta.
know that-place-GEN professor-NOM recommend-made

'[Its professor who knows him] made [that student] recommend [(each of) USC and UCLA].'

Another point in regard to the multiple OS-type construction is that DL2 is harder to be a Deep DL than DL1. Thus, (78) and (79) demonstrate that the bound reading in (77b) is hardly established in case α is an [FD]QP, compared to the case in (77a).

(77) a. ... α-ACC/DAT NP-DAT/ACC [... β ...]-NOM V
     b. ... NP-DAT/ACC α-ACC/DAT [... β ...]-NOM V

(78) a. (Kotosi-wa) A-sya-o-sae Toyota-ni [so-ko-no
        (this:year-TOP) A-company-ACC-even Toyota-DAT that-place-GEN

        oya-gaisya]-ga suisensita.
        parent-company-NOM recommended

        '(This year,) [its parent company] recommended even Company A to Toyota.'

     b. ?*(Kotosi-wa) Toyota-ni A-sya-o-sae [so-ko-no
        (this:year-TOP) Toyota-DAT A-company-ACC-even that-place-GEN

        oya-gaisya]-ga suisensita.
        parent-company-NOM recommended

        '(This year,) [its parent company] recommended even Company A to Toyota.'

(79) a. (Kotosi-wa) A-sya-ni-sae Toyota-o [so-ko-no
        (this:year-TOP) A-company-DAT-even Toyota-ACC that-place-GEN

        oya-gaisya]-ga suisensita.
        parent-company-NOM recommended

        '(This year,) [its parent company] recommended Toyota to even Company A.'

     b. ?*(Kotosi-wa) Toyota-o A-sya-ni-sae [so-ko-no
        (this:year-TOP) Toyota-ACC A-company-DAT-even that-place-GEN

        oya-gaisya]-ga suisensita.
        parent-company-NOM recommended

        '(This year,) [its parent company] recommended Toyota to even Company A.'

As expected, there is no such contrast in case α in (77) is an [existential]QP. The examples in (80) correspond to the configuration schematized in (77b).

(80) a. (Kotosi-wa) Toyota-ni do-no zidoosya-gaisya-o [so-ko
        (this:year-TOP) Toyota-DAT which-GEN automobile-company-ACC that-place

        -no oya-gaisya]-ga suisensita no?

-GEN parent-company-NOM recommended COMP

'(This year,) which automobile company did [its parent company] recommend to Toyota?'

     b. (Kotosi-wa) Toyota-o do-no zidoosya-gaisya-ni [so-ko
        (this:year-TOP) Toyota-ACC which-GEN automobile-company-DAT that-place

        -no oya-gaisya]-ga suisensita no?
        -GEN parent-company-NOM recommended COMP

'(This year,) to which automobile company did [its parent company] recommend Toyota?'

In these examples, the bound reading is allowed as readily as their analogues corresponding to (77a).

5. *Revised Essential Analysis*

We have noted in section 3 that there can be many ways of executing the idea represented by the *Essential Analysis*. The new descriptive generalizations in section 4, however, significantly reduce the range of the adequate analyses. In fact, the direction suggested by these observations is quite different from the one presumed in most of the previous analyses. This may however not be evident at first sight. In this section, therefore, I shall try to show this by demonstrating that Saito 1992, one of the representative analyses of the OS-type construction, suffers from serious problems in accounting for the new generalizations. I will then present the *Revised Essential Analysis*, which, although it is still skeletal, accounts for all the observed facts.

5.1. Recapturing the analysis proposed in Saito 1992

According to the analysis proposed in Saito 1992, the OS-type construction is derived when Scrambling (as an instance of Move α) applies to (81a) to yield (81b).[31]

(81) a. NP-NOM NP-DAT/ACC ...
     b. [IP NP$_i$-DAT/ACC [IP NP-NOM ... t_i ...]]

He states that this movement "does not, or at least need not, establish semantically significant operator-variable relations" unlike topicalization and *wh*-movement in English (Saito 1992:88), and relates this to his claim that

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[31] It is not discussed in Saito 1992 what motivates this movement, but Saito & Fukui 1998 argues that Scrambling does not need to have a motivation (just like Merge) since the structure it creates is consistent with the X-bar schemata for Japanese. (Cf. "The operation Merge is not subject to Last Resort, in the sense that it is 'costless' and thus need not be motivated by any kind of feature checking (Chomsky 1995:26). Hence, if scrambling and heavy NP shift are instances of Merge, it is not at all surprising that they are optional." (Saito & Fukui 1998:452-453))

Scrambling can be 'undone' at LF.[32]   Saito 1992 does not specify what theoretical entity or property ensures the availability of the 'radical reconstruction' of Scrambling, but it seems reasonable, on the basis of Saito & Fukui 1998: section 2.1, mentioned in footnote 31, that for Saito 1992 Scrambling can be 'undone' because it is not motivated by any sort of feature checking.[33]

When Scrambling is undone at LF, i.e., when the DL is literally put back into the original θ-position, the representations in (82) are derived, which conform with what we have called the Surface OS-type.

(82)   Surface OS-type under the analysis in Saito 1992:
PF: $[_{IP}$ NP$_i$-DAT/ACC $[_{IP}$ NP-NOM   ... t_i ... $]]$
LF: NP-NOM [... NP-ACC/DAT ... V]

When the movement is not undone, on the other hand, the representations in (83) obtain, and this corresponds to what we have called the Deep OS-type.

(83)   Deep OS-type under the analysis in Saito 1992:
PF: $[_{IP}$ NP$_i$-DAT/ACC $[_{IP}$ NP-NOM   ... t_i ... $]]$
LF: $[_{IP}$ NP$_i$-DAT/ACC $[_{IP}$ NP-NOM   ... t_i ... $]]$

Recall that the representations of the Deep OS-type are meant to account for the so-called A-properties of the OS-type construction.   But how can the DL show A-properties while being in an IP-adjoined position, which is normally regarded as an A'-position?   Saito 1992 argues that the chain formed by Scrambling can be reanalyzed as an A-chain at LF under certain conditions (which we will examine more in detail in the next subsection).

The relevant points of Saito's analysis can thus be summarized as in (84):[34]

(84)   Saito's Grammar (reinterpreted):
a.   An NP can move without being motivated by feature-checking.
b.   The chain formed by the movement in (84a) can be reanalyzed as an A-chain, provided that the relevant conditions are satisfied.
c.   The movement in (84a) must be 'undone' in the covert component unless (84b) takes place.[35]

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[32]   This point is mentioned in Saito 1989.   Cf. "I have argued in this paper that scrambling is S-structure A'-movement and, further, that it can be freely undone in the LF component.   The latter conclusion implies that scrambling need not establish a semantically significant operator-variable relation, as already suggested in Ross (1967), N. McCawley (1976), and Chomsky and Lasnik (1977), among others." (Saito 1989:194)

[33]   Saito & Fukui 1998:443 refers to Lee 1994 for the hypothesis that "a chain created for the purpose of feature checking must be retained at LF."

[34]   Recall from section 3.1 above that Saito's (1992) assumption that the chain formed by Scrambling can alternatively be an A'-chain is superfluous, as nothing in his paper requires it.

[35]   Cf. "I was led to adopt Tada's (1990) hypothesis that a non-operator, non-A

Therefore his analysis in effect claims (85):

(85)   a.   A Deep OS-type (i.e., the OS-type construction with A-properties) can obtain if and only if the A-chain reanalysis is possible.
b.   A Deep DL undergoes movement.

In the following two subsections, I argue against Saito's (1992) analysis and in fact any analysis that incorporates either of the assumptions in (85), by demonstrating that serious problems are inevitably caused by each of these assumptions.[36]

5.2. Deep DL and Case-marking

In this subsection, I examine the assumption (85a) in light of the descriptive generalizations presented in section 4 above, which are summarized in (57), repeated here.

(57)   a.   The DL in the long distance OS-type construction is necessarily a Surface DL.
b.   There is at most one Deep DL in a clause.   (Thus, in the multiple OS-type construction, at least one of the DLs is a Surface DL.)
c.   In the multiple OS-type construction, it is harder for the second DL to be a Deep DL compared to the first DL.

While (57a) is in effect discussed in Saito 1992 and is compatible with his analysis, (57c) (or possibly (57b) as well) turns out to raise a serious problem for the assumption (85a); this will become clear as we examine some details of his A-chain reanalysis hypothesis later in this subsection.[37]

First, let us see how (57a) is accounted for under the analysis presented in Saito 1992.   Suppose that the A-chain reanalysis is in principle possible, as long as no well-formed conditions are violated.[38]   Saito 1992 assumes that (86)

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position is not licensed at LF.   This hypothesis implies that unless scrambling is undone, the position of a scrambled phrase must be reanalyzed either as an operator position or as an A position at LF." (Saito 1992:102)

[36]   The insight stated in (84) is, in a sense, formulated more straightforwardly in Boskovic & Takahashi 1998.   Unlike Saito 1992, their analysis does not claim (85b), and hence, the criticism in section 5.3 below does not apply to their analysis.   Since their analysis still keeps (85a), the arguments in section 5.2 are relevant to Boskovic & Takahashi 1998 as well as to Saito 1992.   See especially fn. 42 below.

[37]   The assumption in (85a) may face another problem with respect to the availability of resumption in the Deep OS-type, as originally pointed out in Hayashishita 1997, since it is normally considered that an A-chain does not allow resumption.   However, this does not make a strong counterargument without a formal theory of resumption in Japanese and I will not pursue the discussion here.   Hoji & Ueyama 1998 discusses the relevant empirical materials and makes an attempt to characterize resumption in Japanese.

[38]   In fact, this seems to be an implicit assumption of Saito 1992.   This is suggested by the logic in the following part: "The first possibility is that the Chain Condition (=(87) [A.U.]), or the relevant part of it, applies at S-structure but not at LF.   If this is the case,

is one of the well-formedness conditions for an A-chain, following Chomsky 1986b.[39]

(86)   Each link of an A chain must be 0-subjacent.   (I.e., no barrier can intervene between two members of a single A chain.)
         (Saito 1992:100 (67))

According to the condition in (86), then, the long distance Scrambling can never be reanalyzed as an A-chain while the clause-internal Scrambling may optionally be reanalyzed as an A-chain, at least in regard to this condition. Thus, (57a) does not raise any problem against Saito's (1992) analysis.

    Second, the observation (57b) indicates that not every clause-internal 'Scrambling chain' can be reanalyzed as an A-chain.   Therefore, this generalization raises a problem for any analysis which assumes that an IP-adjoined position (i.e., a landing site of a clause-internal Scrambling) can always be an A-position in the relevant sense.   Let us see how the IP-adjoined position is characterized in Saito 1992.

    He assumes that (87) is another well-formed condition for an A-chain.

(87)   If $C = (a_1,...,a_n)$ is a maximal CHAIN, then a_n occupies its unique θ-position and a_1 its unique Case-marked position.[40]
         (Saito 1992: (60)&(74); cited from Chomsky 1986a:137 (171))

This condition requires that an NP be Case-marked in the 'scrambled' position in order to qualify as a Deep DL (i.e., the 'scrambled NP' that exhibits A-properties).   Saito 1992 specifically claims that V^0 raises to I^0 at LF so that V^0 can enter into SPEC-head agreement with an NP in an IP-adjoined position.[41] Saito 1992:106 goes on as follows: "Suppose further that the IP adjoined position in Japanese can not only be an IP SPEC position, as Kuroda (1988) proposes, but can also participate in SPEC/head agreement with the position of I. The latter assumption basically means that SPEC/head agreement in Japanese differs from that in English in two respects: It is optional and furthermore can

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then nothing would prevent the chain created by clause-internal scrambling from being an A chain at LF." (Saito 1992:106)   This argument does not hold if one considers that the Chain Condition is a licensing condition for an A-chain, and that nothing can be reanalyzed unless it is licensed as such.

[39]   While Saito 1992 cites Chomsky 1986b for (86), I have not been able to locate the part in Chomsky 1986b which exactly states (86) as it is.

[40]   Apparently, this condition is not meant to apply to A'-chains.

[41]   Saito 1992 follows Kuroda 1988 and assumes that an adjoined position can enter into SPEC-head agreement.   Obviously, however, Saito 1992 does not adopt Kuroda's (1988) analysis of the OS-type construction.   According to Kuroda 1988, a 'scrambled NP' (a DL, in our terms) cannot be marked with Case.   (Cf. Kuroda 1988: Proposition J-9 "A scrambled object marked with *o* is not Case-marked," and Assumption U-5 (revised) "If a chain is marked with Case, it cannot occupy more than one Case position."   Note that, for Kuroda, the object position and the Spec of IP position, which is taken to be the landing site of scrambling, are both Case-marked positions.)   As suggested by (87), on the other hand, it is crucial in Saito 1992 that a DL can be marked with Case.

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be many to one."   Therefore this analysis explicitly predicts that both of the two DLs in the multiple OS-type construction can be a Deep DL simultaneously. This however is a wrong prediction, as we have observed in section 4.2 and as recorded in (57b), repeated above.

    One may object, however, that the analysis suggested in Saito 1992 can be made compatible with the observation (57b) with some modification which does not affect the main claim a great deal.[42]   Suppose for example that NPs in Japanese need not be Case-marked (perhaps because of the accompanying overt case-marker) but can optionally receive Case[43], and that verbs can carry at most one Case to assign; it will be assigned to an NP in an object position if Case assignment takes place before V raises to I, while it will be assigned to a 'scrambled' position after the V-to-I raising.[44]   Then according to (87), a 'Scrambling chain' can be reanalyzed into an A-chain only if the DL (rather than its trace) is assigned Case by the verb, and hence it will be guaranteed that there be at most one Deep DL per clause.   This is one way to make Saito's (1992) analysis compatible with (57b).

    Even if we adopt this modification, however, (57c) poses an even more serious challenge for Saito's analysis.   (57c) states that DL1, rather than DL2, tends to be picked as a target of SPEC-head agreement with V+I, in the terms of Saito (1992).

(88) $[_{IP}$ DL1 $[_{IP}$ DL2 $[_{IP}$ NP-NOM   ... V+I $]]]$

If it were the other way around, *i.e.*, if the NP closer to V+I enters into agreement relation, this might sound more plausible, but the fact is that one has to assume that SPEC-head agreement can occur skipping the closer possible

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[42]   It is not always easy to modify an analysis so as to make it compatible with (57b), depending upon how it characterizes the source of 'A-properties' of a Deep DL.   For example, Saito & Fukui 1998 seems to assume that an IP-adjoined position is construed as an A-position after V raises to I, judged from the statement in Saito & Fukui 1998:454, fn.25.   It is very difficult to modify such an analysis so that only one DL be assigned 'A-properties' in a multiple OS-type construction.

    The analysis presented in Boskovic & Takahashi 1998 also faces this problem.   In our terms, they claim that a Deep DL (i.e., a 'scrambled' NP which shows A-properties) is θ-marked in the 'scrambled' position, and that "a verb may θ-mark its object in the IP-adjoined position" "when moved to I" (Boskovic & Takahashi 1998:360).   As we have seen in section 4.2 above, a verb such as *recommend* can have two internal arguments, THEME (accusative-marked) and GOAL (dative-marked), so to speak, and either NP can be a Deep DL especially when it is the only DL.   But yet it is not allowed for both of them to become Deep DLs at the same time.   This fact cannot be explained under the analysis in Boskovic & Takahashi 1998, unless it is augmented by a highly implausible stipulation (such as *A verb cannot θ-mark more than one object after raising to I*, for example).

[43]   This is what Kuroda (1988: section 6) proposes.

[44]   One may also entertain the possibility that Case is always assigned at LF and V-to-I raising is an optional operation.   I do not pursue this possibility because Saito 1992:106 states that the V-to-I raising he has in mind is an operation exactly like the one Chomsky 1991 suggests for English, which is not considered to be optional.

target, and furthermore, that such a 'long distance' agreement is in fact much more preferred to a 'local' agreement. Technically it may be possible to conceive of a stipulation yielding such a result. It is however most likely that such a stipulation would go against the core insight underlying the notion 'agreement', and hence may ultimately undermine what constitutes the core insight concerning the computational system of the human language faculty.

The root of this problem lies in the assumption that the 'A-properties' of a DL are attributed to the establishment of a relation between the verb and the DL. This assumption however is the core idea of the A-chain reanalysis hypothesis in Saito 1992, as recorded in (85a), repeated here.

(85) a. A Deep OS-type (i.e., the OS-type construction with A-properties) can obtain if and only if the A-chain reanalysis is possible.

The observation (57c) therefore indicates that (85a) cannot be maintained.

5.3. Movement vs. Base-generation

Consider now the representations in (89):

(89) 'SO-type-looking Deep OS-type':
       PF: NP-NOM ... NP-DAT/ACC ...
       LF: [NP-DAT/ACC]$_i$ ... NP-NOM ... t_i ...

(89) has a PF representation of an SO-type construction, and an LF representation of the Deep OS-type; therefore, if (89) were well-formed, it would be predicted that an (apparent) SO-type construction could exhibit the properties of the Deep OS-type. But in fact, this is not the case, at least generally speaking.[45] Therefore, any analysis of the OS-type construction should explain why (89) is very marginal at best.

Under an analysis which assumes that a Deep DL undergoes movement, (89) will obtain if the movement takes place in the covert component. Therefore, such an analysis has to stipulate that the relevant movement must be overt in order to exclude (89). As an attempt to ensure this, one may wish to entertain the possibility that Scrambling is motivated by a strong feature (i.e., a feature which must be checked before Spell-Out). However, if this assumption is taken, it must be reconsidered why Scrambling can be 'undone' at LF. Recall from the discussion in section 5.1 that one of the most plausible accounts for the difference between Scrambling in Japanese and *wh*-movement in English, for example, is to assume that Scrambling can be 'undone' exactly because it is not driven by any feature-checking, as suggested in Saito & Fukui 1998:section 2.1 and Lee 1994. Obviously, these two assumptions conflict with each other. Therefore, as long as the explanation for 'undoing' of

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[45] Kitagawa 1990 in effect mentions that an SO-type construction can marginally exhibit some properties of the OS-type construction. See section B.1.2 of Ueyama 1998 for a summary of the relevant parts of Kitagawa 1990. His observations with respect to the bound reading and the scope interpretation are accounted for by the analysis presented in Ueyama 1998:Appendix D and Hayashishita 1999.

Scrambling just given is maintained, one can merely add an unprincipled stipulation that Scrambling is an overt operation, in order to rule out (89).

The problem is in fact mentioned in Saito 1992:108, but it is presented as a problem for the absence of WCO effects only, and he proposes that the WCO effects should be accounted for by referring to the S-structure. This solution is clearly unsatisfactory, since the problem is relevant, not only to the WCO effects, but to any property connected with the Deep OS-type. For example, Saito 1992 assumes that the Binding Theory applies at LF, and that an "anaphor" *otagai* 'each other' can be bound by a Deep DL. Although we do not adopt the assumption that *otagai* has the feature [+anaphoric] (as mentioned in section 2.2.1 above), let us momentarily accept this assumption, for the sake of discussion. Suppose that Scrambling can also take place at LF; since it is a covert movement, the PF representation is just like an SO-type sentence, but the 'scrambled' NP c-commands the subject at LF. It is then predicted by his theory that an "anaphor" within the subject could be bound by a covertly 'scrambled' NP, but he explicitly denies the possibility of such "anaphor"-binding in his (13). This discrepancy between the prediction and the observation is not even pointed out in Saito 1992.

I have argued that any analysis incorporating the assumption (85b) has to stipulate that the movement has to take place in the overt component, and that it is difficult to derive the stipulation from a deeper principle.

(85) b. A Deep DL undergoes movement.

Therefore, I conclude that an appropriate analysis of the OS-type construction should not include (85b).

5.4. *Revised Essential Analysis*

I have thus argued against the claims in (85), repeated here.

(85) a. A Deep OS-type (i.e., the OS-type construction with A-properties) can obtain if and only if the A-chain reanalysis is possible.
       b. A Deep DL undergoes movement.

The criticisms in the preceding subsections apply to any analysis which (directly or indirectly) makes these claims, and in fact they apply to almost all analyses of the OS-type construction in the literature.

The *Essential Analysis* given in section 3.2 above was meant to delineate the minimal requirements for any successful analysis of the OS construction. Now that we have rejected the claims in (85), the range of the appropriate analyses is further restricted, and we are in a position to revise the *Essential Analysis* so that it can account for all the observations presented above, without assuming (85).

First, we have to assume that the Deep DL is base-generated in a position outside the θ-domain of the predicate, since the claim (85b) is rejected.[46] One

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[46] The claim that the DL is (*or* can be) base-generated in a position c-commanding the nominative NP is found in some preceding works.

would then naturally wonder how the locality between the Deep DL and the corresponding θ-position could be accounted for. Ueyama 1997 proposes that the Deep DL has to be accompanied by an empty operator movement originated in the θ-marked position corresponding to the DL, as schematized in (90).[47]

(90) Deep OS-type:
PF: NP-DAT/ACC (=DL) ... NP-NOM ... ec_i ... [48]
LF: NP-DAT/ACC (=DL) Op_i NP-NOM ... t_i ...

In order to account for the observation that a clause boundary cannot intervene between the Deep DL and its corresponding θ-position (as summarized in (57a)), it is necessary to assume that the relevant empty operator movement is clause-bounded.[49] As for the observation recorded in (57b) that there is at most one Deep DL per clause, we should assume that the position in which the DL is base-generated in (90) does not exist more than one per clause, either for a syntactic or an interpretive reason. I consider that this is a choice which should be made on the basis of the consideration of a wider range of facts, including the comparison between the OS-type construction and other constructions which arguably involve an empty operator movement, such as C(ase-)M(arked)-comparatives, CM-stripping, CM-sluicing, and CM-clefts in Japanese, as discussed in Hoji & Ueyama 1998. Although I cannot yet

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Kitagawa 1990 proposes that the OS-type construction can be derived either from the D-structure (i) '... NP-NOM ... NP-ACC ... V ...' or (ii) '... NP-ACC ... NP-NOM ... V ...'. Unlike the analysis in this paper, however, it is claimed there that the cases (i) and (ii) are not distinguished in regard to the availability of a bound reading or the scope interpretation. See Ueyama 1998:section B.1.2 for a review of his analysis.

Boskovic & Takahashi 1998 proposes that every DL is base-generated in a position outside the θ-domain of the predicate, and that the Deep DL remains in that position while the Surface DL moves into the object position. See section 5.2 (especially fn. 42) for a criticism of their analysis.

[47] Ueyama 1997 states that it is a case-marker on the DL (rather than the NP itself) that requires the empty operator movement. It is assumed that a case-marker is not properly interpreted without being syntactically related to the verb, and that (i) θ-marked positions are syntactically related to the verb and that (ii) the empty operator movement as in (90) forms a syntactic relation between the Deep DL and the θ-position. A crucial assumption here is that a case-marker is not related to abstract Case at all.

[48] In this work I leave open at what point of the derivation the empty operator movement occurs, since it does not seem to hinge on any empirical issues at this stage.

[49] Ueyama 1997 states that the empty operator movement in question is an instance of QR, which is assumed to be clause-bounded. Obviously the assumption that the relevant empty operator movement is clause-bounded should be carefully examined in connection with other constructions in Japanese which may involve an empty operator movement: *e.g.* cleft construction, *tough* construction, comparative ellipsis, stripping, sluicing and so on. I leave it to the future research to argue for the assumption that the empty operator movement in Japanese is clause-bounded. Hoji & Ueyama 1998 contains some relevant discussion.

I am grateful to Hajime Hoji for originally suggesting to me that the Deep OS-type might involve an empty operator movement.

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provide a full-fledged argument at this stage, I will suggest in section 5.5 below that the availability of this position is closely related with the interpretation of the entire clause in question.

The properties of the Deep OS-type (summarized in (53), which is repeated here) can be accounted for straightforwardly under the analysis in (90).

(53) Properties of the Deep OS-type:
a. Absence of WCO effects
b. Wide scope reading of DL with respect to the subject

A dependent term contained in the subject NP can be bound by the DL, because the latter c-commands the former in their base-generated positions, and the Formal Dependency (which is contingent upon LF c-command, as introduced in (9)-(10) in section 2.2.2 above) can be established between them. Hence the absence of the so-called WCO effects is as expected. Similarly, the DL QP will take wide scope over the subject QP because the former c-commands the latter at LF, assuming the Scope Interpretation Hypothesis (which is introduced in (49) in section 3.3 above).[50]

Saito 1992 presumes that the Surface DL undergoes the derivation just like the one of the Deep DL until S-structure. Exactly for this reason, he needs the A-chain reanalysis hypothesis in order to make the Deep OS-type diverge from the Surface OS-type. But as we have argued in section 5.2, this hypothesis is inappropriate for the OS-type construction in Japanese. Now, if we postulate that the Surface DL is base-generated in the same position as the Deep DL, we would need to devise some mechanism in order to separate them in the course of the derivation.[51] I would like to propose instead that the Surface DL undergoes a derivation different from the one of the Deep DL from the beginning.

Let us assume that a Surface DL is base-generated in the (ordinary) θ-position, unlike a Deep DL. Note that no operation is necessary in order to derive the LF representation of the Surface OS-type.

(91) Surface OS-type:
PF: NP_i-DAT/ACC (=DL) NP-NOM ... t_i ...
LF: NP-NOM NP-DAT/ACC (=DL) ...

Although Saito 1989, 1992 and others have proposed an analysis in which a Surface DL undergoes an overt movement and then is covertly put back into the θ-position, the representations in (91) obtain if we assume that the Surface DL undergoes a PF movement, as Hayashishita 1997 proposes. The latter derivation should be more 'costless' than the 'undoing' analysis since the PF

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[50] See fn. 25 in section 3.3 above, for the status of the Scope Interpretation Hypothesis (49) in this paper.

[51] Thus, Boskovic & Takahashi 1998, which assumes that every DL is base-generated outside of the θ-domain, adopts the A-chain reanalysis hypothesis in Saito 1992.

movement analysis requires only one operation to derive (91).[52] The properties of the Surface OS-type (summarized in (54) repeated here) are then accounted for in a straightforward manner.

(54) Properties of the Surface OS-type:
    a. Preservation of WCO effects
    b. Narrow scope reading of DL with respect to the subject
    c. Reconstruction effects
    d. Literal reconstruction of a *wh*-phrase

       There does not seem any syntactic 'motivation' for this movement. But such property may be ascribed to the PF movement in general, as it is often said that an operation in the phonological component has properties different from the one in the overt (i.e., before Spell-Out) and the covert components. Nevertheless, we have to assume that the PF movement (or the PF representation) is relevant to the so-called subjacency conditions, in order to account for the fact that the OS-type construction (whether it is the Deep or the Surface OS-type) exhibits the locality effects. Naturally the ultimate analysis has to be accompanied by a theory of subjacency effects, but this is definitely beyond the scope of this work, and should be pursued in some future research.[53]
       We have also observed the effects described by (57c) in section 4.2.

(57) c. In the multiple OS-type construction, it is harder for the second DL to be a Deep DL compared to the first DL.

I have argued in section 5.2 that this fact cannot be accounted for under the A-chain reanalysis hypothesis as in Saito 1992. Under our current analysis, in which a Deep DL is base-generated and a Surface DL undergoes PF movement, the generalization is rephrased as in (92):

(92) The PF movement crossing the Deep DL is allowed only marginally.

Although (92) may appear to be an unnatural condition, it is worth noting that (92) is relevant to another construction as well. Recall from the discussion in section 5.3 that an SO-type construction normally does not (but sometimes marginally does) exhibit the properties of the Deep OS-type. I have pointed out there that this observation cannot be accounted for by the analysis in Saito 1992 since it allows the derivation of (89) (repeated here), unless a stipulation is added that this movement cannot occur in the covert component.

(89) 'SO-type-looking Deep OS-type':
    PF: NP-NOM ... NP-DAT/ACC ...
    LF: [NP-DAT/ACC]$_i$ ... NP-NOM ... t_i ...

Under the analysis given in this subsection, (93) is the schematic structure corresponding to (89).

(93) 'SO-type-looking Deep OS-type':
    PF: NP-NOM$_j$ NP-DAT/ACC (=Deep DL) ... t_j (=PF movement trace) ... ec_i ...
    LF: NP-DAT/ACC (=Deep DL) Op$_i$ NP-NOM ... t_i ...

If the derivation in (93) were allowed freely, the current analysis would also make a wrong prediction as well.[54] Notice however that the PF movement in (93) is blocked (or regarded as marginal) due to (92). Therefore (92) may be worth taken into consideration in characterizing the PF movement in general. I would like to suggest that the 'subjacency effects' in Japanese to be described in future research should also cover the effects of (92).
       We can summarize the preceding discussion in the form of the *Revised Essential Analysis* in (94):

(94) *Revised Essential Analysis*:
    a. Deep OS-type:
       PF: NP-DAT/ACC (=DL) ... NP-NOM ... ec_i ... [55]
       LF: NP-DAT/ACC (=DL) [Op$_i$ [NP-NOM ... t_i ...]]
    b. Surface OS-type:
       PF: NP$_i$-DAT/ACC (=DL) NP-NOM ... t_i ...
       (DL having undergone a PF movement)
       LF: NP-NOM [NP-DAT/ACC (=DL) ...]

This analysis is still skeletal, with many choices left open. It is nevertheless significant that this line of analysis does not suffer from the fatal problems that plague the line of analysis as presented in Saito 1992.

5.5. A note on the availability of a Deep DL and the clause type
       The *Revised Essential Analysis* claims that an NP can be base-generated outside the θ-domain of the predicate. One may naturally wonder what type of position this might be. I believe that in order to fully characterize this position, we must consider how a Deep DL is interpreted in this position, taking into account the observations given in this subsection. Although its discussion in

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[54] This is the issue discussed in section 5.3 above. I thank Chris Kennedy for raising a question relevant to this point.

[55] Alternatively, the PF representation of the Deep OS-type may be as in (i):
(i) PF: NP-DAT/ACC (=DL) [Op$_i$ [NP-NOM ... t_i ...]]
It depends on at what point of the derivation the empty operator movement occurs, as mentioned in footnote 48 above.

regard to the interpretive characteristics of the Deep DL (in comparison with nominative-marked NPs, so-called 'topics', and other case-marked NPs) is still speculative, let us cite the relevant claim made in Ueyama 1996,1997,1998.

Ueyama 1996, 1997 claim that there are syntactically two types of clause structures, and that the one is (ultimately) interpreted as an *eventuality* while the other as a *predicational proposition*.[56]   It is not easy to demonstrate whether a given clause is interpreted as an *eventuality* or as a *predicational proposition*. For example, a sentence 'John kissed Mary' can be understood as either (i) an eventuality of 'kissing' whose agent is 'John' and whose theme/patient is 'Mary', or (ii) a predication of a property 'kissed Mary' in regard to a substance 'John', and it appears that the two interpretations cannot be distinguished in terms of the truth condition(s). [57]   Nevertheless, there are some clauses which unambiguously represent an *eventuality*, such as the embedded clause of a perceptual verb, as given in (95).[58]

(95)   NP-DAT [CP ... [COMP *tokoro*]]-NOM   *mieta*
        'NP could see the scene of CP.'

Generally speaking, an embedded clause of a perceptual verb characteristically denotes an *eventuality*, since it is impossible to visibly 'see' a *predicational proposition*.   In contrast, the embedded clause in (96), for example, can express a *predicational proposition* just as a matrix clause.

(96)   NP-TOP   [CP ... [COMP *to*]]   *omotteiru*
        'NP thinks that CP.'

I wish to claim that a Deep DL has to correspond to one of the two constituents of the 'major predication', which can be found only in a clause expressing a *predicational proposition*: in other words, I claim that a Deep DL cannot be interpreted if the clause is interpreted as an *eventuality*.   It then follows that a DL within a clause expressing an *eventuality* is necessarily a

Surface DL for interpretive reasons, hence, the LF representation corresponding to (97) must be (98a), rather than (98b).

(97)   PF: NP-DAT [CP NP-ACC/DAT NP-NOM ... [COMP *tokoro*]]-NOM *mieta*

(98)   LF:
        a.   NP-DAT [CP NP-NOM ... NP-ACC/DAT ... [COMP *tokoro*]]-NOM *mieta*
        b.   *NP-DAT [CP NP-ACC/DAT ... NP-NOM ... [COMP *tokoro*]]-NOM *mieta*

We thus expect that the WCO effects are preserved in this type of OS-type construction, and that the DL cannot take wide scope over the embedded subject.   In other words, we expect that (99a) disallows the bound reading and that (99b) fails to yield the reading in which QP1 takes wider scope than QP2.

(99)   a.   NP-DAT [CP QP-ACC/DAT [NP ...   NP   ...]-NOM ... [COMP *tokoro*]]-NOM *mieta*
        b.   NP-DAT [CP QP1-ACC/DAT QP2-NOM ... [COMP *tokoro*]]-NOM *mieta*

Both of these expectations are in fact borne out.   Due to space limitation, however, I only present the examples relevant to the bound reading in what follows.[59]

(100a) is an example which shows that a bound reading is not available in the configuration in (99a), and its corresponding SO-type construction is given in (100b).

(100) a.   ?*John-ni-wa   [CP 55%-no robotto-o   [NP so-re-no
            John-DAT-TOP   55%-GEN robot-ACC   that-thing-GEN

            sekkeisya]-ga   kowasiteiru   tokoro]-ga   mieta   rasii.
            designer-NOM   destroying   COMP-NOM   could:see they:say

            'They say that John could see [[its designer] destroying 55% of the robots].'

      b.   *John-ni-wa   [CP [NP so-re-no   sekkeisya]-ga   55%-no
            John-DAT-TOP   that-thing-GEN designer-NOM   55%-GEN

            robotto-o   kowasiteiru   tokoro]-ga   mieta   rasii.
            robot-ACC   destroying   COMP-NOM   could:see they:say

            'They say that John could see [[its designer] destroying 55% of the robots].'

One might suspect that the perceptual report construction does not allow a bound reading at all, but (101) shows that it is indeed possible, as long as a relevant FD (i.e., Formal Dependency, the establishment of which is contingent upon LF c-command) can be established.[60]

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[56]   I am using the term *eventuality* to cover both *events* and *states*, following Bach 1986.

[57]   See Kuroda 1965, 1972, 1992 for relevant discussions, especially in regard to the distinction between *categorical* and *thetic* judgments, since sometimes the types of phenomena discussed there are also relevant to the distinction between *predicational proposition* and *eventuality*.   These two distinctions are not meant to be identical, however.   The main concern of Kuroda's is the characterization of nominative-marked NPs and topic-marked NPs, and as a result, his theory does not easily extend to Deep DLs. Ueyama 1996, 1997, 1998 have tried, on the other hand, to characterize the core concept in a way different from the Kuroda's, so as to cover the distinction between the Deep and the Surface OS-type.

[58]   One may consider (95) to be an instance of the OS-type construction, since a dative-marked NP precedes a nominative-marked phrase, but this is the unmarked word order with the predicate *mieta* 'could see'.   Therefore, the sentences with the order [NP-DAT ... NP-NOM ... *mieta*] exhibits the properties of the SO-type construction, and those with the order [NP-NOM ... NP-DAT ... *mieta*] the properties of the OS-type construction. Some of the relevant examples are found in Takezawa 1987.

[59]   As noted in section 4, Ueyama 1998:ch. 2 and Hayashishita 1999 contain the relevant empirical paradigms in regard to the scope interpretation.

[60]   There are also some speakers who hardly allow quantification within the embedded clause of a perceptual verb.   Interestingly, even such speakers generally accept a bound

(101)   John-ni-wa   [_CP_ <u>55%-no   robotto</u>-ga   [_NP_ <u>so-re</u>-no
         John-DAT-TOP   55%-GEN   robot-NOM   that-thing-GEN

         sekkeisya]-ni   tobikakatteiru   tokoro]-ga   mieta   rasii.
         designer-DAT   assaulting   COMP-NOM   could:see they:say

         'They say that John could see [<u>55% of the robots</u> assaulting [<u>its</u>
         designer]].'

Notice that the QP in (100) is what we have called an [FD]QP, i.e., a QP which can yield a bound reading only on the basis of an FD.   As we have seen in section 2.2.2 above, other types of QPs (such as *do-no NP* 'which NP', which we have labeled as [existential]QP above) allow a bound reading without recourse to FD, and hence, it is predicted that a bound reading will obtain if we use such a QP instead of *55%-no NP* in (100).   This prediction too is borne out, as illustrated in (102).

(102)   John-ni-wa   [_CP_ <u>do-no   konpyuutaa</u>-o-mo   [_NP_ <u>so-re</u>-no
         John-DAT-TOP   which-GEN   computer-ACC-also   that-thing-GEN

         sekkeisya]-ga   kowasiteiru   tokoro]-ga   mieta   rasii. [61]
         designer-NOM   destroying   COMP-NOM   could:see they:say

         'They say that John could see [[<u>its</u> designer] destroying <u>every
         computer</u>].'

It is also expected that the bound reading in (100) should become available if the inner CP is embedded in an environment which allows the occurrence of a Deep DL.   As shown in (103), the bound reading is possible if the CP is a complement clause of a verb such as *omow-* 'think' (cf. (96)).

(103)   John-wa   [_CP_ <u>55%-no   kaisya</u>-ni   [_NP_ <u>so-ko</u>-no
         John-TOP   55%-GEN company-DAT   that-place-GEN

         bengosi-ga]   ayamatta   to]   omotteiru.
         attorney-NOM apologized COMP think

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reading with an [existential]QP.

[61]   Some speakers may not like the sequence *o-mo*.   We can make minimal pairs by using *ni-mo* instead, as in (i).
(i)   a.   ?*John-ni-wa   [<u>55%-no   robotto</u>-ni   [<u>so-re</u>-no
             John-DAT-TOP   55%-GEN   robot-DAT   that-thing-GEN
             sekkeisya]-ga   kizu-o   tuketeiru   tokoro]-ga   mieta   rasii.
             designer-NOM   scratch-ACC   put   COMP-NOM   could:see
             they:say
             'They say that John could see [[<u>its</u> designer] scratching <u>55% of the robots</u>].'
       b.   John-ni-wa   [<u>do-no   konpyuutaa</u>-ni-mo   [<u>so-re</u>-no
             John-DAT-TOP   which-GEN   computer-ACC-also   that-thing-GEN
             sekkeisya]-ga   kizu-o   tuketeiru   tokoro]-ga   mieta   rasii.
             designer-NOM   scratch-ACC   put   COMP-NOM   could:see
             they:say
             'They say that John could see [[<u>its</u> designer] scratching <u>every computer</u>].'

'John thinks [that [<u>its</u> attorney] apologized to <u>(each of) 55% of the companies</u>].'

I have suggested in this subsection that a Deep DL (i.e., a 'scrambled' NP showing the 'A-properties') is required to occur in a clause which is (ultimately) interpreted as what I call *predicational proposition*.   Obviously, more research is necessary in order to fully materialize the 'prospectus' presented above. Nonetheless, I find it to be significant and encouraging that   the observations in (100)-(103) confirm the predictions made by the analysis proposed in this work , once we assume that the position of the base-generated Deep DL is closely tied to a certain type of interpretation, and, as a result, a Deep DL is not allowed when the relevant interpretation is unavailable.

6. Conclusion

The aim of this work has been to characterize a proper analysis of the OS-type construction (i.e., the so-called 'scrambling' construction) in Japanese.   As mentioned in section 2, many analyses in effect recognize (at least) two distinct analyses for this construction, and we have given them the names *the Deep OS-type* and *the Surface OS-type*.

Having first classified the major observations in the past study as in (53) and (54), I argued in section 3 that any successful analysis should conform to the skeletal analysis presented in (44).

(53)   Properties of the Deep OS-type:
        a.   Absence of WCO effects
        b.   Wide scope reading of DL with respect to the subject

(54)   Properties of the Surface OS-type:
        a.   Preservation of WCO effects
        b.   Narrow scope reading of DL with respect to the subject
        c.   Reconstruction effects
        d.   Literal reconstruction of a *wh*-phrase

(44)   *Essential Analysis*:
        An OS-type construction involves either a Deep DL (as in (44a)) or a Surface DL (as in (44b)).
        a.   Deep OS-type:
        PF: NP-ACC/DAT (=DL) ... NP-NOM ... V
        LF: NP-ACC/DAT (=DL) [... NP-NOM ... V]
        b.   Surface OS-type:
        PF: NP-ACC/DAT (=DL) ... NP-NOM ... V
        LF: NP-NOM [... NP-ACC/DAT (=DL) ... V]

I then added further observations of the OS-type construction in section 4, as summarized in (57).

(57)   a.   The DL in the long distance OS-type construction is necessarily a

Surface DL.

   b.   There is at most one Deep DL in a clause.   (Thus, in the multiple OS-type construction, at least one of the DLs is a Surface DL.)

   c.   In the multiple OS-type construction, it is harder for the second DL to be a Deep DL compared to the first DL.

In section 5 I demonstrated that the observations in (57b) and (57c) raise serious problems for any analysis which incorporates the assumption in (85a) (including Saito 1992, Saito & Fukui 1998, and Boskovic & Takahashi 1998, among others).

(85) a.   A Deep OS-type (i.e., the OS-type construction with A-properties) can obtain if and only if the A-chain reanalysis is possible.

I also pointed out there that an analysis which assumes (85b) would need a stipulation which blocks the covert application of the relevant movement, and that the stipulation is very hard to be derived from a deeper principle.

(85) b.   A Deep DL undergoes movement.

Thus, I have argued that an appropriate analysis of the OS-type construction should assume neither (85a) nor (85b).

In order to illustrate that the observations presented in this work can be accounted for without the assumptions in (85), I have then presented the *Revised Essential Analysis* in (94).

(94) *Revised Essential Analysis*:

   a.   Deep OS-type:
      PF: NP-DAT/ACC (=DL)   ...   NP-NOM   ... ec_i ...
      LF: NP-DAT/ACC (=DL)   [Op_i [NP-NOM   ... t_i ...]]

   b.   Surface OS-type:
      PF: NP$_i$-DAT/ACC (=DL)   NP-NOM   ... t_i ...
        (DL having undergone a PF movement)
      LF: NP-NOM   [NP-DAT/ACC (=DL) ...]

This analysis has to be accompanied by the following assumptions.

(104) a.   The empty operator movement in (94a) is clause-bounded.

      b.   There is at most one position per clause in which the DL is base-generated as in (94a).

      c.   The subjacency condition applies to the PF movement (or to the PF representation) in (94b).

The theories from which (104) can be derived have yet to be developed, but I have suggested above that each assumption in (104) is at least not implausible.

Instead of (85), the proposed analysis claims (105):

(105) a.   A Deep OS-type (i.e., the OS-type construction with A-properties) can obtain if and only if the DL can be base-generated in the pre-

nominative position (accompanied by an empty operator movement, as specified in (94a)).

   b.   A Deep DL does not undergo movement.

Thus, as far as the OS-type construction in Japanese is concerned, I conclude that the 'A-positions' in Japanese are coextensive with the positions where an NP is base-generated.   Note that this conclusion is not meant to be a universal claim, since we have not scrutinized the corresponding facts in other languages. In fact, I consider it to be quite likely that there is a language (which is equipped with a rich overt agreement system, presumably) that has a marked word order construction involving an overt A-movement.   If it is shown (i) that the existence of a certain syntactic head X^0 is relevant to the availability of the Deep OS-type (so to speak), (ii) that the relation of the X^0 and the DL (so to speak) must be local, and desirably (iii) that the agreement between the X^0 and the DL is overtly marked, we will be able to conclude that an A-movement is involved in deriving the construction in question.

Before closing, I would like to mention that the conclusion drawn in this paper can be relevant to the claim made in Fukui 1986 and in Kuroda 1988, when interpreted as in Hoji 1998a:section 3, that Japanese lacks formal agreement features altogether.   An immediate consequence of this assumption is that there is no feature-driven movement in this language at all (as claimed in Saito & Fukui 1998), and the conclusion in this work can thus be considered as a natural consequence of this assumption.   Conversely, if it is shown to hold that the A-positions in Japanese are completely coextensive with the positions where an NP is base-generated, it follows that there is no positive evidence for the existence of A-movement, and hence the relevant formal features, in this language.   In this sense, then, the conclusion in this work can be regarded as a piece of supporting argument for the claim that there is no formal agreement features in Japanese.

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