Single Output Syntax and Covert Incorporation*

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0. Introduction

There have been various proposals regarding how to accommodate so-called "covert movement" phenomena within the framework of the minimalist program (MP), which was proposed by Chomsky (1993) and further developed by Chomsky (1995, 2000, 2001a, 2001b). Chomsky (1993, 2001b) claims that "covert movement" phenomena should be captured by category movement after Spell-Out (in the covert component). Chomsky (1995) claims that "covert movement" phenomena should not be captured by category movement but by feature movement after Spell-Out. Under Chomsky's (2000, 20012a) theory, where there is virtually no operation after Spell-Out, "covert movement" phenomena are captured by Agree between features before Spell-Out (in the overt syntax). Following, among others, Bobaljik (1995) and Brody (1995), Pesetsky (2000) assumes single-output syntax. In the single-output model, there is just one movement component; the phonological principles of chain pronunciation determine which position of a chain is pronounced. Under Pesetsky's analysis, "covert movement" phenomena are captured by the fact that the moved phrase is pronounced in its trace position and unpronounced in its moved position in the PF component. This paper investigates the $\text{NP}_1\text{ga/ni}\ \text{NP}_2\text{ga a(-ru)}$ 'NP$_1$-Nom/Dat NP$_2$-Nom exist(-Nonpast)' construction in Japanese, the typical examples of which are given in (1a-e), arguing that it presents evidence in favor of
Pesetsky's analysis of "covert movement" phenomena:

(1) a. John_{1}-ga/ni [[e_i genkin-de kuruma-o ka-u]
   John-Nom/Dat for-cash car-Acc buy-Nonpast
   yoyuu]-ga a-ru rasi-i
   enough (money)-Nom exist-Nonpast seem-Nonpast
   'It seems that John can buy a car for cash.'

   b. John_{1}-ga/ni [[e_i kaisha-o kubi-ni na-ru]
   John-Nom/Dat company-Acc is fired
   kanoosei]-ga a-ru rasi-i
   chance-Nom exist-Nonpast seem-Nonpast
   'It seems that there is a chance that John will be fired
   from the company.'

   c. John_{1}-ga/ni [[e_i siken-ni gookaku su-ru]
   John-Nom/Dat examination-Dat pass-Nonpast
   mikomi]-ga a-ru rasi-i
   chance-Nom exist-Nonpast seem-Nonpast
   'It seems that there is a chance that John will pass the
   examination.'

   d. John_{1}-ga/ni [[e_i hikooki-ni not-ta]
   John-Nom/Dat airplane-Dat be-Past
   keiken]-ga a-ru rasi-i
   experience-Nom exist-Nonpast seem-Nonpast
   'It seems that John has been on an airplane.'

   e. John_{1}-ga/ni [[e_i piano-o hi-ku]
   John-Nom/Dat piano-Acc play-Nonpast
   sainou]-ga a-ru rasi-i
   chance-Nom exist-Nonpast seem-Nonpast
   'It seems that John has a talent for playing the piano.'

The organization of this paper is as follows. Section 1 investigates
the structure of the NP_{1}-ga/ni NP_{2} ga a(-ru) construction in Japanese,
arguing that NP_{1} and NP_{2} count as a subject and an object respectively.
Section 2 explicates facts on extraction out of the complement clause of
the head noun of NP_{2} in the NP_{1}-ga/ni NP_{2} ga a(-ru) construction. It is
shown that such an extraction is possible in the overt and covert components without violating the noun-complement case of the Complex NP Constraint (CNPC). Section 3 proposes that the head noun of NP₂ should undergo covert noun incorporation into the light verb a(-ru) 'exist (-Nonpast)'. It is shown that our covert noun incorporation analysis can account for the transparency effects of the complement clause of the head noun of NP₂ in the NP₁-ga/ni NP₂-ga a(-ru) construction regarding overt/covert extraction. Section 4 makes concluding remarks.

1. The NP-ga/ni NP-ga a(-ru) Construction in Japanese

This section investigates the structure of the NP₁-ga/ni NP₂-ga a(-ru) construction in Japanese. In ordinary Japanese sentences, subjects are marked with Nominative Case whereas objects are marked with Accusative Case, as exemplified below:

(2) John-ga ki-ta rasi-i  
   -Nom come-Past seem-Nonpast  
   'It seems that John came.'

(3) John-ga hon-o kat-ta rasi-i  
   -Nom book-Acc buy-Past seem-Nonpast  
   'It seems that John bought a book.'

As pointed out by, among others, Mikami (1972), Kuno (1973), Kuroda (1978), Shibatani (1977; 1979), Teramura (1982), and Takezawa (1988), however, stative sentences in Japanese show different Case patterns from non-stative sentences. Let us look at the following examples:

(4)  
   a. John-ga nihongo-ga wakar-u rasi-i  
      -Nom Japanese-Nom understand-Nonpast seem-Nonpast  
      'It seems that John understands Japanese.'
   b. John-ni nihongo-ga wakar-u rasi-i  
      -Dat Japanese-Nom understand-Nonpast seem-Nonpast  
      'It seems that John understands Japanese.'

(5)  
   a. John-ga unten-ga deki-ru rasi-i  
      -Nom driving-Nom can-do-Nonpast seem-Nonpast
'It seems that John can drive.'

b. John-ni unten-ga deki-ru rasi-i
   -Dat driving-Nom can-do-Nonpast seem-Nonpast

'It seems that John can drive.'

As we can see from the examples above, the two-place stative predicates, wakar- ‘understand’ and deki- ‘can do’ allow both the NP₁-ga NP₂-ga pattern and the NP₁-ni NP₂-ga pattern. The light verb a(-ru) ‘exist (-Nonpast)’, which is inherently stative, also exhibits these two Case patterns, as exemplified by (6a, b):

(6) a. John-ga yuuki-ga a-ru rasi-i
   -Nom courage-Nom exist-Nonpast seem-Nonpast

'It seems that John is courageous.'

b. John-ni yuuki-ga a-ru rasi-i
   -Dat courage-Nom exist-Nonpast seem-Nonpast

'It seems that John is courageous.'

Ithas been assumed in the generativeliterature (see, among others, Kuno 1973, Kuroda 1978, Shibatani 1977; 1979, and Takezawa 1988) that in the NP₁-ni/ga NP₂-ga construction, NP₁ and NP₂ count as a subject and an object respectively. Let us look at two sets of evidence which Shibatani (1977; 1979) adduces in favor of this view. First, Shibatani argues that evidence supporting this view comes from reflexivization facts. It is well known that only subjects can serve as antecedents of the reflexive zibun ‘self’ in Japanese, as exemplified below:

(7) John₁-ga Bill₁-o [zibun₁;/ə/-no heyade] nagut-ta
   -Nom   -Acc self-Gen room in hit-Past
   rasi-i
   seem-Nonpast

Lit.: 'It seems that John₁ hit Bill₁ in self₁;/ə/- room.'

In the NP₁-ga/ni NP₂-ga construction, it is not the NP₂ but the NP₁ that serves as an antecedent of the reflexive zibun ‘self’, as shown below:

Hence, this provides evidence in favor of the subjecthood of NP1 and the objecthood of NP2 in the NP1-ga/ni NP2-ga construction.

Shibatani argues that further support for this view is provided by subject honorification facts. One kind of honorific expressions in Japanese, traditionally called sonkeigo, is syntactically conditioned by a subject, as shown below (adapted from Takezawa 1987: 32):

(9) a. Yamada-sensei-ga sono gakusei-o
Yamada-professor-Nom that student-Acc
o-maneki-ni-nat-ta rasi-i
invite (honorific)-Past seem-Nonpast
'It seems that Professor Yamada invited that student.'

b. *Sono gakusei-ga Yamada-seisei-o
that student-Nom Yamada-professor-Acc
o-maneki-ni-nat-ta rasi-i
invite (honorific)-Past seem-Nonpast
'That student invited Professor Yamada.'

The honorific expression o-V-ni-nar can only be used when the subject refers to a person who the speaker considers to be worthy of respect. In (9a), the honorific expression is interpreted with the subject Yamadasensei 'Professor Yamada'; the result is acceptable. In (9b), on the other hand, the honorific expression cannot be interpreted with Yamadasensei 'Professor Yamada', since it is the object. Instead, the honorific expression must be interpreted with the subject sono gakusei 'that student'; it results in a pragmatic anomaly. In the NP1-ga/ni NP2-ga construction, it is not the NP2 but the NP1 that is the target of the honorific expression o-V-ni-nar, as shown below (adapted from Takezawa 1987: 33):
(10) a. Yamada-sensei-ga/ni sono gakusei-ga
Yamada-professor-Nom/Dat that student-Nom
o-wakari-ni-nar-anakat-ta rasi-i
understand (honorific)-Neg-Past seem-Nonpast
'It seems that Professor Yamada didn't understand that student.'

b. *Sono gakusei-ga/ni Yamada-sensei-ga
that student-Nom/Dat Yamada-professor-Nom
o-wakari-ni-nar-anakat-ta rasi-i
understand (honorific)-Neg-Past seem-Nonpast
'It seems that that student didn't understand Prof. Yamada.'

Given that NP, in the NP,ga/ni NP2-ga construction counts as a subject, we can account for the contrast in acceptability between (10a) and (10b). In (10a), the honorific expression o-V ni-nar is interpreted with the subject Yamada-sensei-ga/ni 'Professor Yamada-Nom/Dat'; the result is acceptable. In (10b), on the other hand, the honorific expression cannot be interpreted with the object Yamada-sensei-ga 'Professor Yamada-Nom'. Instead, it must be interpreted with the subject sono gakusei-ga/ni 'that student-Nom/Dat'; it results in a pragmatic anomaly.

To summarize, these facts about reflexivization and subject honorification lead us to conclude that in the NP,ga/ni NP2-ga construction, NP, and NP2 count as a subject and an object respectively, as schematically represented below:

(11) [NP, ga/ni [NP2 ga V]]

For example, the relevant structure of (4) is shown below:

(12) [John-ga/ni [nihongo-ga wakar-u]]
John-Nom/Dat Japanese-Nom understand-Nonpast
rasi-i
seem-Nnpast

The NP,ga/ni NP2-ga a(-ru) construction, the examples of which are shown in (1a-e), is also assigned structure (11). For example, the structure of (1a) is represented below:
Given this structure of the NP1/ga/ni NP2 ga a(-ru) construction, the next section looks at the possibility of extraction out of the complement clause of the head noun of the object NP2.

2. Extraction out of the Complement of the Head Noun of an Object NP

This section investigates the possibility of extraction out of the complement clause of the head noun of NP2 in the NP1/ga/ni NP2 ga a (-ru) construction. It is shown that such an extraction is possible both in the overt and covert components without violating the noun-complement case of the Complex NP Constraint (CNPC).

2.1 Covert Extraction

This section investigates the distribution of negative polarity items (NPIs) in Japanese, arguing that extraction out of the complement clause of the head noun of NP2 in the NP1/ga/ni NP2 ga a (-ru) construction is allowed in the covert component. Before turning to the main subject, let us explicate how NPIs are licensed in Japanese.

An NPI-creating suffix -sika attaches to virtually any maximal projection, and XP suffixed with -sika is interpreted as ‘anyone/anything but XP’ or ‘only XP’ in combination with a negative morpheme. The use of SIKA-NPIs is exemplified in (14):

(14) a. John-sika ringo-o tabe-nakat-ta rasi-i  
    -SIKA apple-Acc eat-Neg-Past seem-Nonpast
    ‘It seems that only John ate apples.’

b. John-ga ringo-sika tabe-nakat-ta rasi-i  
    -Nom apple-SIKA eat-Neg-Past seem-Nonpast
    ‘It seems that John ate only apples.’
In (14a), *John-sika 'John-SIKA' combines with the negation -nakat-, which is an allomorph of -na-, and the combined form means 'only John'. In (14b), *ringo-sika 'apple-SIKA' combines with the negation -nakat-, and the combined form means 'only apples'. Japanese has another NPI-creating suffix, i.e. -mo. -Mo attaches to what Kuroda (1965) calls "indefinite pronouns" (INDs) like *dare 'who' and *nani 'what' and turns them into MO-NPIs. The use of MO-NPIs is exemplified in (15):  

(15)  

a. DaRE-MO ring-o table-nakat-ta rasi-i  
   anyone apple-Acc eat-Neg-Past seem-Nonpast  
   'It seems that no one ate apples.'  

b. John-ga naNI-MO table-nakat-ta rasi-i  
   -Nom anything eat-Neg-Past seem-Nonpast  
   'It seems that John ate nothing.'  

In (15a), daiRE-MO 'anyone' combines with the negation -nakat-, and the combined form means 'no one'. In (15b), naNI-MO 'anything' combines with the negation -nakat-, and the combined form means 'nothing'. Evidence supporting the NPI status of SIKA-NPIs and MO-NPIs comes from the fact that they require the presence of a negative morpheme. Thus, if a SIKA-NPI or a MO-NPI does not co-occur with a negative element, the result is simply unacceptable, as shown in (16) and (17):  

(16)  

a. *John-sika ring-o table-ta rasi-i  
   -SIKA apple-Acc eat-Past seem-Nonpast  
   'It seems that only John ate apples.'  

b. *John-ga ringo-sika table-ta rasi-i  
   -Nom apple-SIKA eat-Past seem-Nonpast  
   'It seems that John ate only apples.'  

(17)  

a. *DaRE-MO ring-o table-ta rasi-i  
   anyone apple-Acc eat-Past seem-Nonpast  
   'It seems that no one ate apples.'  

b. *John-ga naNI-MO table-ta rasi-i  
   -Nom anything eat-Past seem-Nonpast  
   'It seems that John ate nothing.'  

Aoyagi and Ishii (1994a, 1994b) have proposed that SIKA-NPIs are
agreement-inducing elements, and subject to the licensing condition in (18):

(18) A SIKA-NPI is an agreement-inducing element licensed by Spec-head agreement with Neg at LF.

Let us consider (14a) (repeated here as (19)) as an example. Under our analysis, its derivation proceeds as shown in (20):

(19) John-sika ringo-o tabe-na-katta rasi-i
    -SIKA apple-ACC eat-Neg-Past seem-Nonpast
    'It seems that only John ate apples.'

(20) a. Before Spell-Out (in the overt component)
    \[ TP [NegP [VP John-sika ringo-o tabe]-na]-katta] rasi-i \]
    \[ LF \]
    \[ TP [NegP John-sika, [VP t, ringo-o tabe]-na]-katta] rasi-i \]

As indicated in (20a), John-sika 'John-SIKA' stays in the Spec of V before Spell-Out; however, it covertly moves to the Spec of Neg in order to be licensed as an NPI through Spec-head agreement with Neg, as indicated by (20b).

Aoyagi and Ishii have argued that MO-NPIs are not agreement-inducing elements in the same sense that SIKA-NPIs are. We have proposed that the Spec of Neg in Japanese can accommodate a null operator as a licensor for MO-NPIs, and that MO-NPIs are subject to the following licensing condition:

(21) At LF, a MO-NPI must be identified with a phonetically null operator which is base-generated in the Spec of Neg.

We have argued that MO-NPIs must adjoin to the null operator in the Spec of Neg at LF to be identified. Let us consider (15a) (repeated here as (22)) as an example. Under our analysis, its derivation proceeds as shown in (23):

(22) DaRE-MO ringo-o tabe-na-katta rasi-i
    anyone apples-ACC eat-Neg-Past seem-Nonpast
    'It seems that no one ate apples.'

(23) a. Before Spell-Out
    \[ TP [NegP OP [VP daRE-MO ringo-o tabe]-na]-katta] rasi-i \]
b. LF

\[ \text{TP \ [NegP \ [\text{daRE-MO} \ [\text{OP}]] \ [VP \ t \ \text{ringo-o} \ \text{tabe}] \ -na] \ -katta]} \ \text{rasi-i} \]

\text{OP} designates a phonetically null operator. In (23a), \text{OP} resides in the Spec of Neg to license MO-NPIs. In (23b), the MO-NPI \text{daRE-MO} 'anyone' is adjoined to \text{OP} at LF; thus, the licensing condition in (21) is satisfied.

Aoyagi and Ishii have adduced several arguments in favor of licensing conditions (18) and (21), two of which are to be presented below. First, as noted by Kato (1985), although multiple occurrence of MO-NPIs is permissible, that of SIKA-NPIs is not, as indicated in (24):

(24) a. \text{daRE-MO naNI-MO} \ \text{tabe-na-katta} \ \text{rasi-i}

\text{anyone anything eat-Neg-Past seem-Nonpast}

'It seems that no one ate anything.'

b. *\text{John-sika ringo-sika} \ \text{tabe-na-katta} \ \text{rasi-i}

\text{-SIKA apple-SIKA eat-Neg-Past seem-Nonpast}

'It seems that only John ate only apples.'

Since a SPEC-head relation is basically a one-to-one relation, multiple occurrence of SIKA-NPIs with respect to one negative element should be prohibited. A MO-NPI, on the other hand, is not an agreement-inducing element in itself, but is licensed by a null operator, which may accommodate more than one MO-NPIs at LF.

Furthermore, our analysis can correctly predict that co-occurrence of SIKA-NPI and MO-NPI is never permitted, as shown below:\(^{(2)}\)

(25) a. *\text{John-sika naNI-MO} \ \text{tabe-na-katta} \ \text{rasi-i}

\text{-SIKA anything eat-Neg-Past seem-Nonpast}

'It seems that only John ate nothing/everything.'

b. ?*\text{daRE-MO ringo-sika} \ \text{tabe-na-katta} \ \text{rasi-i}

\text{anyone apples-SIKA eat-Neg-Past seem-Nonpast}

'It seems that no one/everyone ate only apples.'

Recall that SIKA-NPI is licensed by Spec-head agreement with Neg, and MO-NPI, by a null operator in the Spec of Neg. Let us assume that a specifier position can accommodate only one element when it induces
agreement with the head. Then, in (25), since the SIKA-NPI in the Spec of Neg induces agreement with Neg, the Spec of Neg cannot accommodate a licenser for the MO-NPI; the deviance of the examples in (25) straightforwardly follows.

Second, our analysis can also account for the fact that “long-distance” NPI-licensing is prohibited in Japanese, as exemplified by (26):\(^{13}\)

(26) a. ??John-ga [Mary-ga **ringo-sika** tabe-ru to]
   -NOM -NOM apple-SIKA eat-NPST C
   iw-ana-katta rasi-i
   say-Neg-Past seem-Nonpast
   ‘It seems that John did not say that Mary would eat anything but apples.’

b. ??John-ga [Mary-ga **naNI-MO** tabe-ru to]
   -NOM -NOM anything eat-NPST C
   iw-ana-katta rasi-i
   say-Neg-Past seem-Nonpast
   ‘It seems that John did not say that Mary would eat anything.’

c. John-ga **Bill-ni-sika/daRE-NI-MO** [Mary-ga ringo-o
   -Nom -to-SIKA/to anyone -Nom apple-Acc tabe-ru to] iw-ana-katta rasi-i
   eat-Nonpast C say-Neg-Past seem-Nonpast
   ‘It seems that John did not say to anyone but Bill/anything that Mary would eat apples.’

(26a, b) are not totally acceptable, which suggests that NPIs in the embedded object positions cannot be licensed by the matrix negative elements. In order to prohibit “long-distance” NPI-licensing, the “clausemate condition” like (27) has been stipulated in the literature (cf. McGloin 1976, Muraki 1978):

(27) An NPI must be a clausemate of Neg.

We have argued, however, that a condition like (27) can be obviated.

Let us first consider the SIKA-NPI in (26a). In order for *ringo-sika*
'apple-SIKA' to be properly licensed, it must move from the embedded object position to the Spec of the matrix Neg. It should be noted that this movement must be mediated by the Spec of C; otherwise, the resultant chain-link would violate the subjacency condition. Let us assume that every position within a maximal projection of a [+L-related] category is identified as [+L-related] in the sense of Mahajan (1990) and Chomsky (1993). Since V raises to T through Neg, every position within TP is [+L-related] in Japanese. Furthermore, the Spec of Neg is also identified as [+L-related]. The Spec of C, however, remains [−L-related] at LF. Hence, if ringo-stika 'apple-SIKA' moves from the embedded object position to the Spec of the embedded C, and then to the Spec of the matrix Neg, the resultant chain is not uniform with respect to L-relatedness, as depicted in (28):

(28)  \[ TP [NegP ringo-sika; [VP [CP t'_i [TP [VP [V' t_i V]]]]]]] \[ +L \] \[ -L \] \[ +L \]

The chain (ringo-sika, t', t) in (28) violates the chain uniformity condition (29), proposed by Chomsky and Lasnik (1993) and Fukui (1993):

(29) Chains must be uniform with respect to L-relatedness.

Turning now to MO-NPI, the ill-formedness of (26b) can be accounted for in a similar fashion. In order for naNI-MO 'anything' to be properly licensed, it must adjoin to the empty operator in the Spec of the matrix Neg. If this movement were not mediated by the Spec of C, it would violate the subjacency condition. If naNI-MO 'anything' moves from the embedded object position to the Spec of the embedded C, and then adjoins to the Spec of the matrix Neg, the resultant chain is not uniform with respect to L-relatedness, as illustrated below:

(30)  \[ TP [NegP [naNI-MOi [OP]] [VP [CP t'_i [TP [VP [V' t_i V]]]]]]] \[ +L \] \[ -L \] \[ +L \]

The chain (naNI-MO, t', t) in (30) violates the chain uniformity condition (29). Hence, the "clausemate condition" on NPI licensing can be subsumed under the theory of movement incorporating the chain uniformity condition (29).

With keeping the discussion above in mind, let us consider the fol-
lowing examples:

(31) a. ??John-ga/ni [[]\text{\texttt{raamen-sika}} ka-u]
\hspace{1cm} \text{Nom/Dat} \quad \text{noodle-SIKA} \quad \text{buy-Nonpast}
yoyuu]-ga \quad \text{na}-i \quad \text{rasi-i}
enough (money)-Nom \quad \text{not-exist-Nonpast} \quad \text{seem-Nonpast}
'It seems that John can buy only noodles.'
b. ??John-ga/ni [[]\text{\texttt{Mary-sika}} yon-da]
\hspace{1cm} \text{Nom/Dat} \quad \text{SIKA} \quad \text{invite-Past}
oboee]-ga \quad \text{na}-i \quad \text{rasi-i}
memory-Nom \quad \text{not-exist-Nonpast} \quad \text{seem-Nonpast}
'It seems that John remembers having invited only Mary.'

(32) a. ??John-ga/ni [[]\text{\texttt{naNI-MO}} ka-u]
\hspace{1cm} \text{Nom/Dat} \quad \text{anything} \quad \text{buy-Nonpast}
yoyuu]-ga \quad \text{na}-i \quad \text{rasi-i}
enough (money)-Nom \quad \text{not-exist-Nonpast} \quad \text{seem-Nonpast}
'It seems that John cannot afford to eat anything.'
b. ??John-ga/ni [[]\text{\texttt{daRE-MO}} yon-da] \quad \text{oboee}-ga
\hspace{1cm} \text{Nom/Dat} \quad \text{anyone} \quad \text{invite-Past} \quad \text{memory-Nom}
\text{na}-i \quad \text{rasi-i}
\text{not-exist-Nonpast} \quad \text{seem-Nonpast}
'It seems that John remembers not having invited anyone.'

We assume the rule of morphological alternation (33) in the PF-component:

(33) a + na-i \longrightarrow na-i
\hspace{1cm} \text{exist} \quad \text{Neg-Nonpast}

Hence, in (31) and (32), the underlying form of the matrix verb is \textit{a-na-i} 'exist-Neg-Nonpast'. In the examples of (31) and (32), although the NPIs \textit{raamen-sika} 'noodle-SIKA', \textit{Mary-sika} 'Mary-SIKA', \textit{daRE-MO} 'anyone', and \textit{naNI-MO} 'anything' are within the complement clause of the noun \textit{yoyuu} 'enough (money)' or \textit{oboee} 'memory', and hence within the complex NPs, the results are not totally unacceptable. (31) and (32) have the same status with (26a, b), where the NPIs appear in the complement
clause of the verb with a negative element.

The examples in (31) and (32) are in contrast with the following examples, which are totally unacceptable:

(34) a. *John-ga [[Mary-ga kono issyuukan raamen-sika
-Nom -Nom in the past week noodle-SIKA
tabe-ru toyuu] uwasa]-o sinzitei-na-i
eat-Nonpast C rumor-Acc believe-Neg-Nonpast
rasi-i
seem-Nonpast
'It seems that John believes the rumor that Mary ate only noodles in the past week.'

b. *John-ga [[Mary-ga paatii-ni Bill-sika yon-da
-Nom -Nom party-Dat -SIKA invite-Past
toyuu] uwasa]-o sinzitei-na-i rasi-i
C rumor-Acc believe-Neg-Nonpast seem-Nonpast
'It seems that John believes the rumor that Mary invited only Bill to the party.'

(35) a. *John-ga [[Mary-ga kono issyuukan naNI-MO
-Nom -Nom in the past week anything
tabe-ru toyuu] uwasa]-o sinzitei-na-i
eat-Nonpast C rumor-Acc believe-Neg-Nonpast
rasi-i
seem-Nonpast
'It seems that John believes the rumor that Mary ate nothing in the past week.'

-Nom -Nom party-Dat anyone invite-Past
toyuu] uwasa]-o sinzitei-na-i rasi-i
C rumor-Acc believe-Neg-Nonpast seem-Nonpast
'It seems that John believes the rumor that Mary invited no one to the party.'

In (34) and (35), the NPIs appear within the Complex NPs; covert movement of the NPI into the Spec of the matrix Neg is blocked by the noun-
complement case of the CNPC. The NPIs are not licensed by the matrix negative element; the ill-formedness of (34) and (35) follows. The question to arise here is why in (31) and (32), covert movement of the NPI into the Spec of the matrix Neg is not totally unacceptable in spite of the fact that it apparently violates the noun-complement case of the CNPC.

One might claim that the difference between (31, 32) and (34, 35) resides in the fact that while the embedded subject is null in the former, it is overt in the latter. The acceptability of examples like (34) and (35), however, does not improve even when the embedded subject is null, as shown below:

(36) a. *Johni-ga [[e}_ i kare-{ni sinraidekiru zyoohoo-sika
-Nom he-Dat reliable information-SIKA
watasi-ta toyuu] uwasao-o sinzitei-na-i
gave-Nonpast C rumor-Acc belive-Neg-Nonpast rasi-i
seem-Nonpast  
'It seems that John, believes the rumor that he/she gave him only reliable information.'

b. *Johni-ga [[e}_ i kare-{ni naNI-MO watasi-ta toyuu]
-Nom he-Dat anything gave-Nonpast C
uwasao-o sinzitei-na-i rasi-i
rumor-Acc belive-Neg-Nonpast seem-Nonpast  
'It seems that John, believes the rumor that he/she gave him nothing.'

It should be noted that in (36), John and the pronoun kare 'him' within the Complex NP are intended to be coreferential with each other. John can only be interpreted as the subject of the matrix clause, but not as the subject of the embedded clause, since, as shown in (37), the pronoun kare 'he' cannot have a coreferential expression within the same clause:

(37) *Johni-ga kare,-ni sinraidekiru zyoohoo-o watasi-ta
-Nom he-Dat reliable information-Acc give-Past rasi-i
seem-Nonpast

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'It seems that John gave him reliable information.'

Hence, in (36), the embedded subject position is null. The above discussion shows that the difference in acceptability between (31, 32) and (34, 35) has nothing to do with whether the embedded subject is overt or null.

To summarize, this section has shown that covert extraction out of the complement clause of the head noun of NP₂ in the NP₁-ga/ni NP₂-ga a(-ru) construction is not totally unacceptable in spite of the fact that it apparently violates the noun-complement case of the CNPC.

2.2 Overt Extraction

This section first explicates three overt movement operations in Japanese, i.e. scrambling, topicalization, and empty operator movement, pointing out that they are subject to the noun-complement case of the CNPC. It is then shown that overt extraction out of the complement clause of the head noun of NP₂ in the NP₁-ga/ni NP₂-ga a(-ru) construction is allowed without violating the noun-complement case of the CNPC.

2.2.1 Overt Movement Operations in Japanese

Let us first consider scrambling. It has been widely assumed (see, among others, Saito (1985)) that the basic word order in Japanese is SOV and scrambling (an overt preposing operation) is responsible for a relatively free word order in Japanese. For example, (38), where the object sono hon-o 'that book-Acc' resides in the sentence-initial position, is derived by scrambling, as shown in (39):

(38) Sono hon-o John-ga kat-ta rasi-i
    that book-Acc -Nom buy-Past seem-Nonpast
    'It seems that John bought that book.'

(39) a. John-ga sono hon-o kat-ta rasi-i
    -Nom that book-Acc buy-Past seem-Nonpast
    — Scrambling →
b. **Sono hon-o,** John-ga *tat-ta rasi-i*
that book-Acc -Nom buy-Past seem-Nonpast

Like English *wh*-movement, Japanese scrambling is unbounded in the sense that it is logically possible that it moves an element across an infinite number of clausal boundaries:

(40) a. John-ga [Mary-ga *sono gakusya-ni*
-Nom -Nom that scholar-Dat
aitagattei-ru to] omottei-ru rasi-i
want to see-Nonpast C think-Nonpast seem-Nonpast
'It seems that John thinks that Mary wants to see that scholar.'

b. **Sono gakusya-ni,** John-ga [Mary-ga *t-i*
that scholar-Dat -Nom -Nom
aitagattei-ru to] omottei-ru rasi-i
want to see-Nonpast C think-Nonpast seem-Nonpast
'It seems that John thinks that Mary wants to see that scholar.'

(41) a. John-ga [Mary-ga *sono hikooki-ni*
-Nom -Nom that airplane-Dat
noritagattei-ru to] omottei-ru rasi-i
want to be on-Nonpast C think-Nonpast seem-Nonpast
'It seems that John thinks that Mary wants to be on that airplane.'

b. **Sono hikooki-ni,** John-ga [Mary-ga *t-i*
that airplane-Dat -Nom -Nom
noritagattei-ru to] omottei-ru rasi-i
want to be on-Nonpast C think-Nonpast seem-Nonpast
'It seems that John thinks that Mary wants to be on that airplane.'

In (40b) and (41b), *sono gakusya-ni* 'that scholar' and *sono hikooki-ni* 'that airplane' scramble to the sentence-initial positions; the results are acceptable.

It has been pointed out by, among others, Saito (1985) that
scrambling is subject to island constraints. Relevant to the present discussion is the fact that scrambling obeys the noun-complement case of the CNPC, as shown below:

(42) a. John-ga [[Mary-ga sono gkusya-\-ni
-Nom -Nom that scholar-Dat
aitagattei-ru toyuu] uwasa\-o sinzitei-ru
want to see-Nonpast C rumor-Acc believe-Nonpast
rasi-i
seem-Nonpast
'It seems that John believes that rumor that Mary wants to see that scholar.'
b. ?Sono gkusya-\-ni, John-ga [[Mary-ga ti,
that scholar-Dat -Nom -Nom
aitagattei-ru toyuu] uwasa\-o sinzitei-ru
want to see-Nonpast C rumor-Acc believe-Nonpast
rasi-i
seem-Nonpast
'It seems that John believes the rumor that Mary wants to see that scholar.'

(43) a. John-ga [[Mary-ga sono hikooki-\-ni
-Nom -Nom that airplane-Dat
noritagattei-ru toyuu] uwasa\-o sinzitei-ru
want to be on-Nonpast C rumor-Acc believe-Nonpast
rasi-i
seem-Nonpast
'It seems that John believes the rumor that Mary wants to be on that airplane.'
b. ?Sono hikooki-\-ni, John-ga [[Mary-ga ti,
that airplane-Dat -Nom -Nom
noritagattei-ru toyuu] uwasa\-o sinzitei-ru
want to be on-Nonpast C rumor-Acc believe-Nonpast
rasi-i
seem-Nonpast
'It seems that John believes the rumor that Mary wants to be on that airplane.'

seem-Nonpast
'It seems that John, believes the rumor that he/she gave him, reliable information.'

b. ?Sinraidekiru zyoohoo-o, John-ri-ga [[e_j kare-r-ni, t_i]
reliable information-Acc -Nom he-Dat watasi-ta toyuu] uwasa]-o sinzitei-ru
gave-Nonpast C rumor-Acc believe-Nonpast rasi-i
seem-Nonpast
'It seems that John, believes the rumor that he/she gave him, reliable information.'

In the (b) examples of (42-44), sono gakusya-ni 'that scholar-Dat,' sono hikooki-ni 'that airplane-Dat,' and sinraidekiru zyoohoo-o 'reliable information-Acc' are scrambled out of the complement clause of the noun uwasa 'rumor'; the results are deviant. Note in passing that the CNPC effects emerge whether the embedded subject is overt as in (42b) and (43b) or null as in (44b).

Let us next consider topicalization in Japanese, which Saito (1985) and Hoji (1990) claim may be derived by overt movement. Topicalization in Japanese can be classified into two types; NP-topicalization (45) and PP-topicalization (46):

(45) Tookyoo-wa John-ga nandomo it-ta Tokyo-Top -Nom many times go-Past
'John has been to Tokyo many times.'

(46) Tookyoo-ni-wa John-ga nandomo it-ta Tokyo-Dat-Top -Nom many times go-Past
'John has been to Tokyo many times.'

Saito and Hoji argue that PP-topicalization can only be derived by overt movement. (46), for example, is derived as shown in (47):

(47) a. John-ga Tookyo-*ni-wa* nandomo it-ta
-Nom Tokyo-Dat-Top many times go-Past
— Topicalization →

b. *Tookyoo-*ni-wa, John-ga *t,* nandomo it-ta
Tokyo-Dat-Top -Nom many times go-Past

In (47), the PP-topic *Tookyoo-*ni-wa 'Tokyo-Dat-Top' overtly moves from its original position to the sentence-initial position in terms of topicalization. NP-topicalization, on the other hand, can be derived by either overt movement or base-generation. (45), for example, can be derived in either of the following ways:

(48) a. John-ga Tookyo-*wa* nandomo it-ta
-Nom Tokyo-Top many times go-Past
— Topicalization →

b. Tookyo-*wa,* John-ga *t,* nandomo it-ta
Tokyo-Dat-Top -Nom many times go-Past

(49) Tookyo-*wa,* John-ga *pro,* nandomo it-ta
Tokyo-Top -Nom many times go-Past

'John has been to Tokyo many times.'

In (48), the NP-topic Tookyo-*wa* 'Tokyo-Top' overtly moves from its original position to the sentence-initial position in terms of topicalization. In (49), on the other hand, the NP-topic Tookyo-*wa* 'Tokyo-Top' is base-generated in the sentence-initial position, and the empty pronoun *pro* appears within the comment clause. The NP-topic is associated with the following clause including the empty pronoun *pro* by means of what Kuno (1973) and Saito (1985) call "the aboutness relation."

Saito (1985) and Hoji (1990) argue that there is a difference between NP-topicalization and PP-topicalization regarding the island constraints, which presents evidence for their analysis. Both NP-topicalization and PP-topicalization are "unbounded," as shown below:
(50) a. **Tookyoo-wa**, John-ga [Bill-ga nandomo \( e_i \) it-ta Tokyo-Top -Nom -Nom many times go-Past to] omottei-ru
   C think-Nonpast
   ‘John thinks that Bill has been to Tokyo many times.’

   b. **Tookyoo-ni-wa**, John-ga [Bill-ga nandomo \( e_i \) it-ta Tokyo-Dat-Top -Nom -Nom many times go-Past to] omottei-ru
   C think-Nonpast
   ‘John thinks that Bill has been to Tokyo many times.’

In (50), the NP-topic **Tookyoo-wa** ‘Tokyo-Top’ and the PP-topic **Tookyoo-ni-wa** ‘Tokyo-Dat-Top’ undergo topicalization out of the complement clauses; the results are acceptable. The difference between NP-topicalization and PP-topicalization comes from the fact that only the latter, but not the former, is subject to the island constraints. Among the island constraints, let us consider the noun complement case of the CNPC, which is relevant to the present discussion:

(51) a. **Sono gakusya-wa**, John-ga [[Mary-ga \( e_i \) that scholar-Top -Nom -Nom aitagattei-ru toyuu] uwasa]-o sinzitei-ru
   want to see-Nonpast C rumor-Acc believe-Nonpast
   ‘John believes the rumor that Mary wants to see that scholar.’

   b. **Sono hikooki-wa**, John-ga [[Mary-ga \( e_i \) that airplane-Top -Nom -Nom noritagattei-ru toyuu] uwasa]-o sinzitei-ru
   want to be on-Nonpast C rumor-Acc believe-Nonpast
   ‘John believes the rumor that Mary wants to be on that airplane.’

   c. **Sono supai-wa**, John,-ga [[\( e_k \) \( e_i \) kare]-o that spy-Top -Nom he-Acc ut-ta toyuu] uwasa]-o sinzitei-ru
   betray-Past C rumor-Acc believe-Nonpast
'John believes the rumor that he/she sold him to that spy.'

(52) a. *?Sono gakusya-ni-wa John-ga [[Mary-ga tₐ
 that scholar-Dat-Top -Nom -Nom
 aitagattein-ru toyyu] uwasa]-o sinzitei-ru
 want to see-Nonpast C rumor-Acc believe-Nonpast
 'John believes the rumor that Mary wants to see that scholar.'

b. *?Sono hikoki-ni-wa John-ga [[Mary-ga tₐ
 that airplane-Dat-Top -Nom -Nom
 noritagattein-ru toyyu] uwasa]-o sinzitei-ru
 want to be on-Nonpast C rumor-Acc believe-Nonpast
 'John believes the rumor that Mary wants to be on that airplane.'

c. *?Sono supai-ni-wa John-ga [[eₖ tₐ kare]-o
 that spy-Dat-Top -Nom he-Acc
 ut-ta toyyu] uwasa]-o sinzitei-ru
 sell-Past C rumor-Acc believe-Nonpast
 'John believes the rumor that he/she sold him to that spy.'

In (51), the NP topics sono gakusya-wa 'that scholar-Top,' sono hikoki-wa 'that airplane-Top,' and sono supai-wa 'that spy-Top' are topicalized out of the complement clause of the noun uwasa 'rumor'; the results are acceptable. In (52), the PP topics sono gakusya-ni-wa 'that scholar-Dat-Top,' sono hikoki-ni-wa 'that airplane-Dat-Top,' and sono supai-ni-wa 'that spy-Dat-Top' are topicalized out of the complement of the noun uwasa 'rumor'; the results are deviant. The difference in acceptability between (51) and (52) can be accounted for by the widely-accepted assumption that only movement is subject to the island constraints including the CNPC. Recall that PP-topicalization can only be derived by movement. It is always subject to the CNPC; (52a-c) are deviant. NP-topicalization, on the other hand, can be derived by either movement or base-generation, the latter of which is not subject to the island
constraints. Hence, (51a-c) can be derived by the base-generation of the NP topic without violating the CNPC. The following discussion only takes PP-topicalization but not NP-topicalization as an example in order to exclude the possibility of the base-generation of a topic phrase. Note in passing that the CNPC effects emerge whether the embedded subject is overt as in (52a, b) or null as in (52c).

Finally, there are several constructions in Japanese involving empty operator movement in the overt component, only one of which is to be discussed below, i.e. the cleft construction (though arguments of the same type can be constructed with other constructions involving empty operator movement like the comparative deletion construction and the tough construction). Hoji (1990) argues that the cleft construction in Japanese may involve empty operator movement. In the cleft construction in Japanese, an NP, a Case-marked NP, and a PP may appear in focus positions, as exemplified below:

(53) a. John-ga yon-da no wa sono hon da
   -Nom read-Past C Top that book be
   'It is that book that John read.'

b. John-ga yon-da no wa sono hon-o da
   -Nom read-Past C Top that book-Acc be
   'It is that book that John read.'

c. John-ga it-ta no wa Tookyoo-ni da
   -Nom go-Past C Top Tokyo-Dat be
   'It is to Tokyo that John went.'

Hoji argues that the cleft construction with a Case-marked NP focus or a PP focus necessarily involves empty operator movement. Under his analysis, therefore, (53b) and (53c), which have a Case-marked NP focus and a PP focus respectively, are assigned structures in (55):

(54) a. [Op$_i$ [John-ga $t_i$ yon-da] no]-wa sono hon-o$_i$ da
    -Nom read-Past C Top that book-Acc be

b. [Op$_i$ [John-ga $t_i$ it-ta] no]-wa Tookyoo-ni$_i$ da
    -Nom go-Past C Top Tokyo-Dat be

In (54a) and (b), the empty operators move from their original positions
to the Specifiers of C and then are associated with the Case-marked NP focus *sono hon-o* 'that book-Acc' and the PP focus *Tookyou-ni* 'to Tokyo' respectively through predication.

The cleft construction with an NP focus, on the other hand, involves either empty operator movement or an empty pronoun. Hence, (55a), which has an NP focus, is assigned either (55a) or (55b) depending on which strategy is employed:

(55) a. \([Op, [John-ga t, itta] no]-wa Tookyoo, da\)
   b. \([[John-ga pro, itta] no]-wa Tookyoo, da\)

In (55a), the empty operator OP moves to the Spec of C and is then associated with the NP focus *Tookyou* ‘Tokyo’ through predication. In (55b), the empty pronoun pro is base-generated and associated with the NP focus *Tookyou* ‘Tokyo’ through the aboutness relation advocated by Kuno (1973) and Saito (1985).

Hoji (1990) argues that his analysis receives support from island effects. The cleft construction is “unbounded,” as shown below:

(56) a. \([John-ga [Bill-ga e, yon-da to] omottei-ru -Nom -Nom read-Past C think-Nonpast no]-wa sono hon, da\)
   C Top that book be
   ‘It is that book that John thinks that Bill read.’
   b. \([John-ga [Bill-ga e, yon-da to] omottei-ru -Nom -Nom read-Past C think-Nonpast no]-wa sono hon-o, da\)
   C Top that book-Acc be
   ‘It is that book that John thinks that Bill read.’
   c. \([John-ga [Bill-ga e, it-ta to] omottei-ru -Nom -Nom go-Past C think-Nonpast no]-wa Tookyoo-ni, da\)
   C Top Tokyo-Dat be
   ‘It is to Tokyo that John thinks that Bill went.’

In (56), the NP-focus *sono hon* ‘that book’, the Case-marked NP-focus *sono hon-o* ‘that book-Acc’, and the PP-focus *Tookyou-ni* ‘Tokyo-Dat’
undergo clefting out of the complement clauses; the results are acceptable. The difference between the cleft construction with an NP-focus, on the one hand, and the one with a Case-marked NP-focus or a PP-focus, on the other, comes from the fact that only the latter, but not the former, is subject to the island constraints. Among the island constraints, let us consider the noun complement case of the CNPC, which is relevant to the present discussion:

(57) The Cleft Construction with an NP-focus

\[ \text{[John-ga } [[\text{Bill-ga } e_i \text{ yon-da toyuu} ] \text{ uwasa}] -o } \]
\[-\text{Nom} \quad -\text{Nom} \text{ read-Past C rumor-Acc} \]
\[-\text{sinzitei-ru no]-wa } \text{sono hon}_i \text{ da} \]
\[-\text{believe-Nonpast C Top that book be} \]
'It is that book that John believes the rumor Bill read.'

(58) The Cleft Construction with a Case-marked NP-focus

a.*?[John-ga \[ [\text{Bill-ga } t_i \text{ yon-da toyuu} ] \text{ uwasa}] -o } \]
\[-\text{Nom} \quad -\text{Nom} \text{ read-Past C rumor-Acc} \]
\[-\text{sinzitei-ru no]-wa } \text{sono hon-o}_i \text{ da} \]
\[-\text{believe-Nonpast C Top that book be} \]
'It is that book that John believes the rumor Bill read.

b.*?[John_j-ga \[ [e_k \text{ kare}_j -ni wairotsite } t_i \text{ watasi-ta } \]
\[-\text{Nom} \quad \text{he-Dat as a bribe give-Past} \]
\[-\text{toyuu} ] \text{ uwasa}] -o \quad \text{sinzitei-ru no]-wa} \]
\[-\text{C rumor-Acc believe-Nonpast C Top} \]
\[-\text{sono hon-o}_i \text{ da} \]
'that book be' \]
'It is that book that John_j believes the rumor he_k/she_k gave him_j as a bribe.'

(59) The Cleft Construction with a PP-focus

a.*?[John-ga \[ [\text{Bill-ga } t_i \text{ it-ta toyuu} ] \text{ uwasa}] -o } \]
\[-\text{Nom} \quad -\text{Nom} \text{ go-Past C rumor-Acc} \]
\[-\text{sinzitei-ru no]-wa } \text{Tokyo-ni}_i \text{ da} \]
\[-\text{believe-Nonpast C Top Tokyo-Dat be} \]
'It is to Tokyo that John believes the rumor Bill went.'
b.*?[John$_r$-ga, [[e$_k$ t$_i$ kare$_r$-o ut-ta toyuu]
-Nom he-Acc betray-Past C
uwasa]-o sinzitei-ru no]-wa sono supai-ni, da rumor-Acc believe-Nonpast C Top that spy-Dat be 'It is that spy that John$_i$ believes the rumor he/she$_k$ sold him$_j$ to that spy.'

In (57), the NP-focus *sono hon* 'that book' undergoes clefting out of the complement clause of the noun *uwasa* 'rumor'; the results is acceptable. In (58), the Case-marked NP focus *sono hon-o* 'that book-Acc' undergoes clefting out of the noun complement; the result is deviant. In (59), the PP-foci *Tookyou-ni* 'Tokyo-Dat' and *sono supai-ni* 'that spy-Dat' undergo clefting out of the noun complement; the results are deviant. The difference in acceptability between (57) and (58, 59) can be accounted for by the widely-accepted assumption that only movement is subject to the island constraints including the CNPC. Recall that the construction with a Case-marked NP focus or a PP-focus can only be derived by movement. It is always subject to the CNPC; (58-59) are deviant. The cleft construction with an NP-focus, on the other hand, can be derived by either movement or base-generation, the latter of which is not subject to the island constraints. Hence, (57) can be derived by the base-generation of the NP topic without violating the CNPC. The following discussion only takes the cleft construction with a Case-marked NP focus and the one with a PP-focus as examples in order to exclude the possibility of the base-generation of the focused element. Note in passing that the CNPC effects emerge whether the embedded subject is overt as in the (a) examples of (58, 59) or null as in the (b) examples of (58, 59).

### 2.2.2 Overt Extraction out of the Complement of the Head Noun of an Object NP

The last subsection has shown that scrambling, PP-topicalization, and the cleft construction with a Case-marked NP focus or a PP focus unambiguously involve overt movement operations. It was shown that
these overt movement operations are subject to the noun-complement case of the CNPC. As shown in (60-63), however, these overt movement operations can extract an element out of the complement clause of the head noun of NP₂ in the NP₁-ga/ni NP₂-ga a(-ru) construction without violating the noun-complement case of the CNPC. Let us first consider scrambling facts:

(60) a. John₁-ga/ni [([e, keizaigaku-no siken-ni 
   -Nom/Dat economics-Gen examination-Dat 
gookaku su-ru] kanoosei]-ga a-ru 
   pass-Nonpast chance-Nom exist-Nonpast 
rasi-i 
   seem-Nonpast 
   'It seems that there is a chance that John will pass the examination in economics.'

b. Keizaigaku-no siken-ni₁ John₁-ga/ni [([e, t₁ 
   economics-Gen examination-Dat -Nom/Dat 
gookaku su-ru] kanoosei]-ga a-ru 
   pass-Nonpast chance-Nom exist-Nonpast 
rasi-i 
   seem-Nonpast 
   'It seems that there is a chance that John will pass the examination in economics.'

(61) a. John₁-ga/ni [([e, sono hikooki-ni not-ta] 
   John-Nom/Dat that airplane-Dat be-Past 
keiken]-ga a-ru rasi-i 
   experience-Nom exist-Nonpast seem-Nonpast 
   'It seems that John has been on that airplane.'

b. Sono hikooki-ni₁ John₁-ga/ni [([e, t₁ not-ta] 
   that airplane-Dat John-Nom/Dat be-Past 
keiken]-ga a-ru rasi-i 
   experience-Nom exist-Nonpast seem-Nonpast 
   'It seems that John has been on that airplane.'

In the (b) examples of (60-61), *keizaigaku-no siken-ni* 'economics-Gen
examination-Dat' and *hikooki-ni* 'airplane-Dat' are scrambled out of the complement clauses of the head nouns *kanoosei* 'chance' and *keiken* 'experience' respectively; the results are acceptable. As exemplified by (62a, b), PP-topicalization can also extract an element out of the complement of a head noun:

(62) a. Keizaigaku-no siken-ni-wa, John,ga/ni [[eJti economics-Gen examination-Dat-Top -Nom/Dat gookaku su-ru] kanoosei]-ga a-ru pass-Nonpast chance-Nom exist-Nonpast 'There is a chance that John will pass the examination in economics.'

b. Sono hikooki-ni-wa, John,ga/ni [[eJti not-ta] that airplane-Dat-Top John-Nom/Dat be-Past keiken]-ga a-ru experience-Nom exist-Nonpast 'John has been on that airplane.'

The same pattern can be observed with the cleft construction with a Case-marked NP focus and the one with a PP-focus, as shown below:

(63) The Cleft Construction with a Case-marked NP-focus

a. [Op, [John,ga/ni [[eJti kizitu-madeni -Nom/Dat deadline-by yomiowa-ru] kanoosei]-ga aru] no]-wa finish-reading-Nonpast chance-Nom exist C Top sono hon-o, da that book-Acc be Lit: 'It is that book that there is a chance that John will finish reading by the deadline.'

b. [Op, [John,ga/ni [[eJti hii-ta] keiken] ga -Nom/Dat play-Past experience-Nom aru] no]-wa kono orugan-o, da exist C Top this organ-Acc be 'It is this organ that John has played.'
A question arises why overt extraction out of the complement clause of the head noun of NP\(_2\) in the NP\(_1\)-ga/ni NP\(_2\)-ga a(-ru) construction is allowed without violating the noun-complement case of the CNPC.

### 3. Covert Noun-incorporation

The last section has investigated the NPI, scrambling, topicalization and cleft facts in Japanese, arguing that overt/covert extraction out of the complement clause of the head noun of NP\(_2\) in the NP\(_1\)-ga/ni NP\(_2\)-ga a(-ru) construction does not obey the noun-complement case of the CNPC. In this section, I propose that the head noun of NP\(_2\) should covertly undergo incorporation into the light verb a(-ru) 'exist (-Nonpast)' in the sense of Baker (1988), arguing that it accounts for the hitherto unexplained transparency effects of the complement clause of the head noun of NP\(_2\) regarding overt/covert extraction.

Before turning to an analysis of the transparency effects of the complement clause of the head noun of NP\(_2\) regarding overt/covert extraction, let us explicate incorporation proposed by Baker (1988). Incorporation is a process by which one semantically independent word comes to be inside another word. As a result, grammatical function chaining, i.e. the alternation in the grammatical encoding of referential expressions,
occurs. Let us look at noun incorporation in Mohawk (Baker 1988: 20):

(65) a. Ka-rakv ne sawatis hrao-nuhs-a?
   3N-be white Det John 3M-house-Suf
   ‘John’s house is white.’

b. Hrao-nuhs-rakv ne sawatis
   3M-house-be white Det John
   ‘John’s house is white.’

M and N represent masculine and neuter genders respectively. Suf represents a nominal inflectional suffix. (65a) has an independent verb root -rakv ‘be white’ and noun root -nuhs- ‘house’. In (65b), these two words are combined with each other to form the larger verb form (= the complex predicate) -nuhs-rakv ‘house-be white’. Baker argues that (65a) and (65b) have the same underlying structure, and the head noun of the direct object nuhs ‘house’ is incorporated into the verb -rakv ‘be white’, as schematically represented below:

(66) a. \[
\text{[TP e [VP [V be white] [NP [NP John] [N house]]]]}
\]
   -Noun Incorporation-

b. \[
\text{[TP e [VP [V [N house] [V be white]]] [NP [NP John] [N t]]]}
\]

According to Baker’s analysis, Possessor Raising takes place between (65a) and (65b), i.e. sawatis ‘John’ changes from the possessor to the object of the verb. In (65a), the verb -rakv ‘be white’ has the neuter agreement marker ka-, which matches its object -nuhs- ‘house’. In (65b), on the other hand, the verb -rakv ‘be white’ has the masculine agreement marker hrao-, which matches the possessor of its object sawatis ‘John’. Given that a verb can only agree with its object in Mohawk, this agreement shift suggests that the possessor of its object sawatis ‘John’ comes to have the canonical property of its object.

I argue that the head noun of NP₂ in the NP₁-ga/ni NP₂-ga a(-ru) construction in Japanese is also incorporated into the light verb a(-ru) ‘exist(-Nonpast)’. The difference between Mohawk and Japanese resides in the fact that noun incorporation takes place overtly in Mohawk whereas it takes place covertly in Japanese. Let us consider (6a, b) (repeated here as (67)) as an example:
The derivation of (67) proceeds as follows:

(68) a. John-ga/ni [VP [NP [N yuuki]]-ga [V a]]-ru rasi-i

— Noun Incorporation →

b. John-ga/ni [VP [NP [N yuuki]]-ga [V [N yuuki] [V a]]]-ru rasi-i

— Spell-Out →

c. PF

John-ga/ni yuuki-ga a-ru rasi-i

d. LF

John-ga/ni [VP [NP [N yuuki]]-ga [V [N yuuki] [V a]]]-ru rasi-i

As shown in (68a) and (68b), the head noun yuuki 'courage' is incorporated into the light verb a(-ru) 'exist(-Nonpast)' before Spell-Out, forming the complex verb form [V [N yuuki] [V a]] 'courage-exist'. Following Chomsky (1993, 1995, 2000, 2001a, 2001b), the present study assumes the copy theory of movement, which claims that movement leaves a copy of a moved element. After noun incorporation takes place, the head noun yuuki 'courage' remains in the original and moved positions, as shown in pre-Spell-Out structure (68b) and LF representation (68d). I argue that noun incorporation of the head noun into the light verb a(-ru) 'exist (-Nonpast)' is a covert category movement operation in the sense of Pesetsky (2000) that the copy in the head position of a chain is unpronounced while the one in its trace position is pronounced in the PF component. Hence, as shown in PF representation (68c), the head noun yuuki 'courage' is pronounced in its original position, but unpronounced in its moved position.

I argue that noun incorporation of the head noun of NP₂ in the NP₁-ga/ni NP₂-ga a(-ru) construction also takes place when the head noun of NP₂ takes a complement clause. Let us consider (1a) (repeated here as (69)) as an example:
(69) Johni-ga/ni [[e, genkin-de kuruma-o ka-u]
John-Nom/Dat for-cash car-Acc buy-Nonpast yoyuu]-ga a-ru rasi-i
enough (money)-Nom exist-Nonpast seem-Nonpast
'It seems that John can buy a car for cash.'

The derivation of (69) proceeds as follows:

(70) a. Johni-ga/ni [VP [NP [e, genkin-de kuruma-o ka-u]]
[N yoyuu]-ga [V a]]-ru rasi-i
→ Noun Incorporation →

b. Johni-ga/ni [VP [NP [e, genkin-de kuruma-o ka-u]]
[N yoyuu]-ga [V [N yoyuu] [V a]]]-ru rasi-i
→ Spell-Out →

c. PF
Johni-ga/ni genkin-de kuruma-o ka-u yoyuu-ga a-ru rasi-i

d. LF
Johni-ga/ni [VP [NP [e, genkin-de kuruma-o ka-u]]
[N yoyuu]-ga [V [N yoyuu] [V a]]]-ru rasi-i

As shown in (70a) and (70b), the head noun yoyuu 'enough (money)' is incorporated into the light verb a(-ru) 'exist(-Nonpast)' before Spell-Out, forming the complex verb form [V [N yoyuu] [V a]] 'enough (money)-exist'. Recall that noun incorporation of the head noun into the light verb a(-ru) 'exist(-Nonpast)' is a covert category movement operation. It is reasonable to claim that exactly like overt noun incorporation in Mohawk, covert noun incorporation in (70) leads to grammatical function changing. Specifically, [e, genkin-de kuruma-o ka-u] 'e buy a car for cash' changes from the complement clause of the head noun yoyuu 'enough (money)' to the complement of the light verb a(-ru) 'exist(-Nonpast)', into which the head noun yoyuu 'enough (money)' is incorporated. If we adopt this covert noun incorporation analysis, we can account for the transparency effects of the complement of the head noun of NP2 in the NP1-ga/ni NP2-ga a(-ru) construction regarding overt/covert extraction.

Let us first consider covert extraction, taking (31a) (repeated here...
as (71)) again as an example:

(71) ??Johni-ga/ni [[e, raamen-sika ka-u] 
-Nom/Dat noodle-SIKA buy-Nonpast
yoyuu]-ga na-i rasi-i

enough (money)-Nom not-exist-Nonpast seem-Nonpast

'It seems that John can buy only noodles.'

Recall that examples like (71) have the same status with (26a, b), where the NPIs appear in the complement clause of the verb with a negative element. The base structure of (71) is as follows:

(72) Johni-ga/ni [[e, raamen-sika ka-u] yoyuu]-ga a-na-i rasi-i

Noun incorporation takes place before Spell-Out, moving the head noun yoyuu 'enough (money)' into the light verb a(-ru) 'exist(-Nonpast)', forming the complex verb [v [N yoyuu] [v a]] 'enough (money)-exist', as represented below:

(73) Johni-ga/ni [[e, raamen-sika ka-u] yoyuu]-ga [v [N yoyuu] 
[v a]].na-i rasi-i

Due to noun incorporation, [e, raamen-sika ka-u] 'e buy noodle-SIKA' changes from the complement clause of the head noun yoyuu 'enough (money)' to the complement clause of the light verb a(-ru) 'exist (-Nonpast)'. Hence, covert extraction of the SIKA-NPI raamen-sika 'noodle-SIKA' to the Spec of the matrix Neg does not violate the noun-complement case of the CNPC. Rather, the SIKA-NPI raamen-sika 'noodle-SIKA' is extracted out of the complement clause of the light verb a(-ru) 'exist(-Nonpast)'. This accounts for the fact that examples like (71) have the same status with (26a, b), where the NPIs are extracted out of the complement clause of a verb with a negative element. The LF representation of (71) is as follows:

(74) Johni-ga/ni [raamen-sika [[e, raamen-sika ka-u] yoyuu]-ga 
[v [N yoyuu] [v a]].na]-i rasi-i

In (74), the SIKA-NPI raamen-sika 'noodle-SIKA' moves to the Spec of the matrix Neg, leaving its copy in its original position. Since movement of the SIKA-NPI raamen-sika 'noodle-SIKA' to the Spec of the matrix Neg and noun incorporation of the head noun yoyuu 'enough
(money)' both count as covert category movement operations, they are
unpronounced in their moved positions and pronounced in their original
positions. Recall that a-na-i 'exist-Neg-Nonpast' changes into na-i in the
PF-component in terms of the rule of morphological alternation (33).
This results in the following PF representation:

\[
(75) \text{John}_i \text{-ga/ni raamen-sika ka-u yoyuu-ga na-i rasi-i}
\]

(31b) and (32a, b) can be accounted for in the same way.

Let us next consider the transparency effects of the complement of
the head noun of NP_2 in the NP_1-ga/ni NP_2-ga a(-ru) construction regard-
ing overt extraction, taking the scrambling case (60b) (repeated here as
(76)) as an example:

\[
(76) \text{Keizaigaku-no siken-ni, John}_i \text{-ga/ni } [e, t, i \\
\text{economics-Gen examination-Dat } \text{-Nom/Dat}
\text{gookaku su-ru] kanoosei]-ga a-ru rasi-i}
\text{pass-Nonpast chance-Nom exist-Nonpast seem-Nonpast}
\text{It seems that there is a chance that John will pass the exami-
nation in economics.}
\]

The basic structure of (76) is as follows:

\[
(77) \text{John}_i \text{-ga/ni } [[e, i \text{ keizaigaku-no siken-ni gookaku su-ru}]
\text{kanoosei]-ga [v} [N kanoosei][v} a]] \text{-ru rasi-i}
\]

Under our analysis, the head noun kanoosei 'chance' is covertly incorpo-
rated into the light verb a(-ru) 'exist(-Nonpast)', forming the complex
verb [v} [N kanoosei][v} a]] 'chance-exist', as represented below:

\[
(78) \text{John}_i \text{-ga/ni } [[e, i \text{ keizaigaku-no siken-ni gookaku su-ru}]
\text{kanoosei]-ga [v} [N kanoosei]}[v} a]]-ru rasi-i
\]

Due to covert noun incorporation, [e, i \text{ keizaigaku-no siken-ni gookaku}
\text{su-ru}] 'e will pass the examination in economics' changes from the com-
plement clause of the head noun kanoosei 'chance' to that of the light
verb a(-ru) 'exist(-Nonpast)'. Then, scrambling takes place, moving
\text{keizaigaku-no siken-ni} 'economics-Gen examination-Dat' to the sentence-
initial position without violating the noun-complement case of the
CNPC:
(79) keizaigaku-no siken-ni [Johni-ga/ni [[e; keizaigaku-no siken-ni gookaku su-ru] kanoosei]-ga [v [N kanoosei][v a]]-ru] rasi-i

Since scrambling out of the complement clause of a verb is allowed as in (40b) and (41b), we can correctly predict that scrambling in (79) is acceptable. Recall that since noun incorporation of the head noun kanoosei ‘chance’ is covert, it is pronounced in its original position and unpronounced in its moved position. Since scrambling is an overt movement operation, on the other hand, the scrambled phrase keizaigaku-no siken-ni ‘economics-Gen examination-Dat’ is pronounced in its moved position and unpronounced in its original position. This results in the following PF representation:

(80) Keizaigaku-no siken-ni Johni-ga/ni gookaku su-ru kanoosei-ga a-ru rasi-i

(61b) can be accounted for in the same way. The transparency effects of the complement of the head noun of NP\textsubscript{2} in the NP\textsubscript{1}-ga/ni NP\textsubscript{2}-ga a(-ru) construction regarding PP-topicalization and the cleft construction with a Case-marked NP focus or a PP-focus can be accounted for in a similar way.

4. Conclusion

This paper has proposed the covert incorporation analysis of the NP\textsubscript{1}-ga/ni NP\textsubscript{2}-ga a(-ru) construction in Japanese, arguing that the head noun of NP\textsubscript{2} undergoes covert incorporation into the light verb a(-ru) ‘exist(-Nonpast)’. It was shown that our covert incorporation analysis can account for the transparency effects of the complement clause of the head noun of NP\textsubscript{2} regarding overt/covert extraction if we assume that covert noun incorporation is a covert category movement operation in the sense of Pesetsky (2000), which assumes single-output syntax.

It should be noted that the other analyses of “covert movement” phenomena cannot accommodate the transparency effects of the complement clause of the head noun of NP\textsubscript{2}. Under Chomsky’s (1993, 2001b)
analysis, where “covert movement” phenomena should be captured by category movement after Spell-Out (in the covert component), we cannot account for the fact that overt extraction out of the complement clause of the head noun of NP₂ is allowed in scrambling, PP-topicalization, and the cleft construction with a Case-marked NP-focus or a PP-focus. This is because covert noun incorporation would take place after Spell-Out, and thus should not affect pre-Spell-Out syntactic operations; it would wrongly predict that overt extraction out of the complement clause of the head noun of NP₂ is not allowed. Chomsky’s (1995) analysis, where “covert movement” phenomena should be captured by feature movement after Spell-Out, cannot account for the transparency effects with overt extraction, either. This is because exactly like Chomsky’s (1993, 2001b) analysis, covert noun incorporation, i.e. feature movement, would take place after Spell-Out, and thus should not affect pre-Spell-Out syntactic operations. Under Chomsky’s (2000, 2001a) analysis, where “covert movement” phenomena are captured by Agree before Spell-Out, covert noun incorporation would only result in feature deletion or feature valuation before Spell-Out and thus would not lead to grammatical function changing, which is crucial for our account of the transparency effects. Hence, if our analysis is on the right track, it presents evidence in favor of single-output syntax advocated by, among others, Bobaljik (1995), Brody (1995), and Pesetsky (2000), where Spell-Out applies after covert operations.

Notes

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(1) Japanese is a pitch-accent language and an accent falls on the last syllable of a stretch of high-pitch tones (cf. McCawley 1968). Although INDs are inherently accented, e.g. DA’re ‘who’ and NA’ni ‘what’, the NPI-creating -mo deaccentuates the stem; hence, dāRE-MO (no accent) ‘anyone’ and naNI-MO (no accent) ‘anything’. Here and in the relevant examples to follow, high-pitch tones are indicated by the upper case, and low-pitch
tones, by the lowercase. Note that the universally-quantified particle -mo, though isomorphic, must be distinguished from this NPI-creating suffix in that the former maintains the accent of the stem; DA're-mo-ga 'everyone-NOM' remains as accented as DA're.

(2) For some speakers, (25b) is marginally acceptable under the interpretation where daRE-MO 'anyone' is construed as a universal quantifier.

(3) "Long-distance" NPI licensing seems to be less restricted if we use omow 'think' as the matrix verb, as shown below:

(i) a. ?John-ga [Mary-ga ringo-sika tabe-ru to]
   -NOM -NOM apples-SIKA eat-Nonpast C
   omow-ana-katta rasi-i
   think-Neg-Past seem-Nonpast
   'It seems that John did not think that Mary would eat anything but apples.'

b. ?John-ga [Mary-ga naNI-MO tabe-ru to]
   -Nom -Nom anything eat-Nonpast C
   omow-ana-katta rasi-i
   think-Neg-Past seem-Nonpast
   'It seems that John did not think that Mary would eat anything.'

It is still true, however, that there is a contrast in acceptability between examples like (ia, b) and those like (26c).

(4) The choice between overt and covert V-raising is irrelevant here.

(5) Since we would not want to permit deletion of the intermediate trace in the Spec of the embedded C to satisfy (29), which is allowed by Chomsky and Lasnik (1991), but not by Fukui (1993), the latter should be preferred over the former in the present discussion.

(6) Note that Aoyagi and Ishii's analysis also obviates the binding requirement, proposed by, among others, Progovac (1988), that NPIs are subject to Condition A of the binding theory.

References


