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東西言語文化の類型論特別プロジェクト

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筑波大学東西言語文化の類型論
特別プロジェクト研究組織

CONTROL IN COMPLEX PREDICATES*

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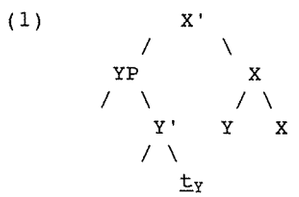
1. INTRODUCTION

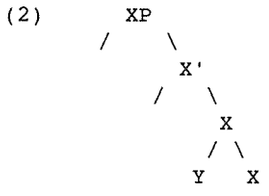
It has been assumed in the literature that there are two ways to form complex predicates, i.e. by word-formation in the lexicon and by syntactic incorporation. In the latter case, the lower head projects, taking its arguments, and then, adjoins to the higher head, as in (1).

(1)



In this paper, we will suggest that there is a third way to form complex predicates. More specifically, we will argue that complex predicates can be formed in the syntax by directly adjoining one head to another before either head is projected. This is illustrated in (2).

(2)



In the following section, we will briefly discuss and extend the analysis of the Japanese light verb construction proposed in Saito and Hoshi 1998. This is to set the stage for our main proposal. As will be clear, our analysis implies that the complex predicate formation illustrated in (2) should be possible. In Section 3, we will consider a certain type of nominative object construction in Japanese, and review the standard analysis in Tada 1993 and Koizumi 1995. Then, in Section 4, we will present and argue for our alternative, where complex predicates are formed as in (2). We will show there that our analysis provides supporting evidence for the derivational definition of c-command proposed by Epstein, et al. (1998). Finally, in Section 5, we will extend our

analysis to the Japanese "restructuring construction" discussed by Miyagawa (1986).

2. COVERT HEAD ADJUNCTION IN JAPANESE

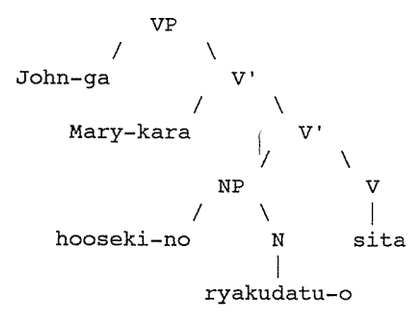
We take as the starting point the covert incorporation analysis of the Japanese light verb construction presented in Saito and Hoshi 1998. In this section, we will briefly illustrate this analysis, and extend it to a similar construction with control predicates, discussed by Grimshaw and Mester (1988) and Matsumoto (1996). The purpose here is to examine the effects of head-adjunction on thematic relations.

2.1. The Light Verb Construction

An example of the light verb construction is shown in (3) with its rough structure in (4).

(3) John-ga Mary-kara [NP hooseki-no ryakudatu]-o si-ta
-NOM -from jewelry-GEN plunderage-ACC did
'John stole jewelry from Mary' (*sita* = *su* 'do' + *ta* 'past')

(4)



As discussed in detail in Grimshaw and Mester 1988, this construction is peculiar in a few respects. First, it exhibits a case of "syntax-semantics mismatch." In (3), the three arguments are arguments of the noun *ryakudatu* 'plunderage', and the verb *su* 'do' is more like an expletive, playing no role in the compositional semantics. Yet, two of the three arguments, *John-ga* and *Mary-kara*, appear not within the NP headed by *ryakudatu* but in positions that are normally occupied by the arguments of the verb. Further, there are interesting restrictions on this construction. For example, it is not that the arguments of the theta-role assigning noun can freely be placed either inside or outside the NP headed by the noun. In (3), the agent and the source arguments are outside the NP, and the theme argument appears inside. It is also possible to construct examples where all arguments are outside the NP. Thus, (5) is marginally allowed.[1]

(5)??John-ga Mary-kara hooseki-o [NP ryakudatu]-o si-ta
-NOM -from jewelry-ACC plunderage-ACC did
'John stole jewelry from Mary'

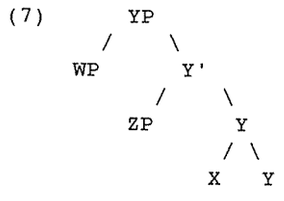
However, when we place the source argument inside the NP and the theme argument ouside, the result is hopeless as shown in (6).

(6) *John-ga hooseki-o [NP Mary-kara-no ryakudatu]-o si-ta
-NOM jewelry-ACC -from-GEN plunderage-ACC did
'John stole jewelry from Mary'

As Grimshaw and Mester note, this shows that the hierarchical relation of the thematic roles (agent > source > theme) has to be represented structurally even when the arguments appear in projections of different heads.

Considering the facts in (3)-(6) and others, we proposed a covert incorporation analysis for the light verb construction in Saito and Hoshi 1998. According to this analysis, the head noun *ryakudatu* in (3) discharges its theme role inside the NP, and then incorporates into the verb *su* in the covert component to assign its source and agent roles to *Mary-kara* and *John-ga* respectively. This analysis straightforwardly explains the basic properties of the construction. For example, (6), as opposed to (3), is ruled out since the head noun must discharge the source role before the theme role, contradicting the thematic hierarchy. If this analysis is correct, it provides direct evidence against D-structure as the pure representation of the thematic structures and also the Projection Principle, since in (3) the source role and the agent role are assigned only in the covert component. And more specifically, it implies that the head X can assign theta-roles to ZP and WP in the structure (7).

(7)



2.2. Covert Incorporation into Control Predicates

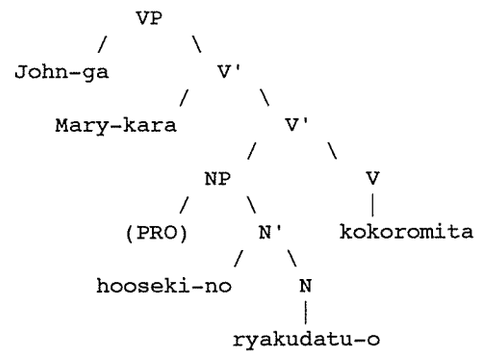
Interestingly, as noted in Grimshaw and Mester 1988 and discussed extensively in Matsumoto 1996, examples like (3) remain grammatical even when we substitute a control verb, such as *kokoromi* 'attempt', for the light verb *su*. Thus, (8) is perfectly fine.

(8) John-ga Mary-kara [NP hooseki-no ryakudatu]-o kokoromi-ta
-NOM -from jewelry-GEN plunderage-ACC attempted
'John attempted to steal jewelry from Mary'

Among the control verbs that can appear in this construction are *hazime* 'start', *oe* 'finish', and *tuduke* 'continue'. Since (8) is virtually identical to (3) in structure, it is only natural to suppose that it is subject to a similar analysis. Note that *Mary-kara* is the source argument of the noun *ryakudatu* in (8) exactly as in (3).

However, the application of our covert incorporation analysis to (8) is not straightforward. The rough structure of (8) is shown in (9).

(9)



Here, the noun *ryakudatu* assigns the theme role to *hooseki-o* within the NP. Then, after it adjoins covertly to V, it discharges its source role to *Mary-kara*. But a problem arises with respect to the agent role of the noun. In the case of (3), the subject *John-ga* could receive the theta-role since the light verb *su* does not assign any role to this NP. In (8), on the other hand, *John-ga* is the agent argument of the verb *kokoromi* 'attempt'. So, it is not clear that the NP can receive the agent role from *ryakudatu*. Note that it would not help even if PRO is placed in NP Spec for this theta-role. If *ryakudatu* assigns the agent role to PRO within the NP, and then, discharges the source role to *Mary-kara*, this would not be consistent with the thematic hierarchy, and hence, we should expect the example to be out exactly as (6).

There are a few possible solutions to the problem noted above. The first, which is the most straightforward, says that *ryakudatu* need not discharge its external agent role since it is a noun. Then, *John-ga* in (9) simply receives the agent role from the verb *kokoromi*, and there is no need to assume PRO in NP Spec. The second is that after *ryakudatu* incorporates into the verb, it jointly assigns the agent role to *John-ga* with the verb. This also avoids the postulation of PRO in NP Spec. The third possibility, which is somewhat similar to the second, is that after the incorporation, the agent role of the noun is merged with or absorbed by the agent role of the verb through the relation of

control. This would be the most complicated solution, but it is not totally unlikely. We know on independent grounds that control can relate thematic roles of distinct predicates without the mediation of PRO. Williams (1987) discusses the following examples to illustrate this point:[2]

(10)a. John performed an operation on Harry
b. John performed Mary's operation

In (10a), *John* is the agent of *operation*. Here, we could say that *John* controls a PRO in the Spec position of the NP headed by *operation*. However, this control relation is unaffected even when there is a genitive phrase in NP Spec, excluding PRO in this position, as in (10b). This example shows that control can identify the agent roles of the verb *perform* and the noun *operation* without the mediation of PRO. Thus, it seems that control can operate directly on the thematic structures of predicates.

Among the three possible solutions to the problem posed by (8), there is in fact evidence in favor of the third one. Again, as noted in Grimshaw and Mester 1988 and discussed in detail in Matsumoto 1996, there are control verbs that are not allowed in examples like (8). Thus, (11b), as opposed to (11a), is totally ungrammatical.

(11)a. John-ga Bill-to [NP kaidan]-o kokoromi-ta
-NOM -with meeting-ACC attempted
'John attempted at a meeting with Bill'

b. *John-ga Bill-to [NP kaidan]-o wasure-ta
-NOM -with meeting-ACC forgot
'John forgot about his meeting with Bill'

Here, what distinguishes between verbs like *kokoromi* 'attempt' and those like *wasure* 'forget' seems to be whether they trigger obligatory control or not. (12a) and (13a) do not allow distinct embedded subjects, but (12b) and (13b) do.

(12)a. John-ga [(*Mary-no) Bill-to -no kaidan]-o kokoromi-ta
-NOM -GEN -with-GEN meeting-ACC attempted
'John attempted at a meeting with Bill'

b. John-ga [(Mary-no) Bill-to -no kaidan]-o wasure-ta
-NOM -GEN -with-GEN meeting-ACC forgot
'John forgot about his (Mary's) meeting with Bill'

(13)a. John-ga [(*Mary-ga) Bill-to kaidansu-ru koto]-o kokoromi-ta
-NOM -NOM -with meet N -ACC attempted
'John attempted to have a meeting with Bill'

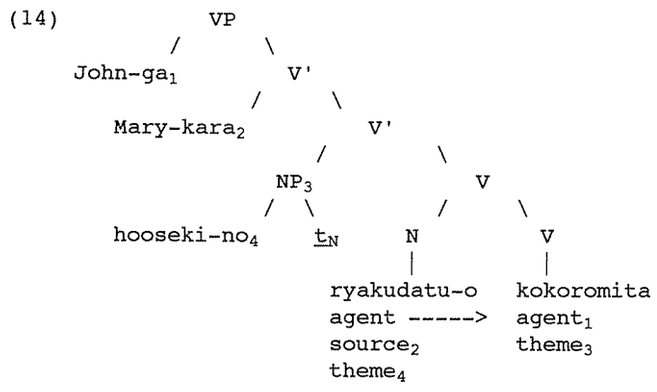
b. John-ga [(Mary-ga) Bill-to kaidansu-ru koto]-o wasure-ta
-NOM -NOM -with meet N -ACC forgot
'John forgot that he (Mary) was having a meeting with Bill'

It seems then that only obligatory control verbs are allowed in the construction exemplified by (8).

The contrast between (11a) and (11b) is unexpected if the external theta-role of the noun *kaidan* 'meeting' is "inactive" and can remain unassigned. In both examples, the noun can discharge its internal theta-role to *Bill-to* after its covert incorporation, and the verb can assign its external theta-role to *John-ga*. There would be nothing wrong with either (11a) or (11b). Similarly, if *kaidan*, after covert incorporation, could assign its external theta-role to *John-ga* jointly with the verb, there would be no way to distinguish between (11a) and (11b). On the other hand, if control, or more specifically, obligatory control plays a crucial role in examples like (8), the contrast between (11a) and (11b) is not surprising. Suppose that the external agent role of *kaidan* is "active." In the case of (11a), when the noun adjoins to the verb *kokoromi* 'attempt', the theta-role is merged with or absorbed by the agent role of the verb through the relation of obligatory control. In (11b), however, since *wasure* 'forget' is not an obligatory control verb, this "merger" or "absorption" does not take place. Then, the agent role of *kaidan* must be discharged, but it is not. The example is thus correctly ruled out.

If the above reasoning is on the right track, then examples like (8) and (11a) show that incorporation into an obligatory control verb can result in "merger" or "absorption" of the controlled theta-role of the adjoined head. According to this hypothesis, the LF of (8), for example, is as in (14).

(14)

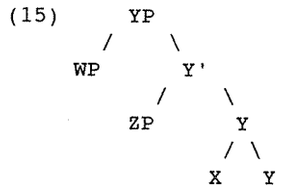


Here, just for convenience, the theta-role assignment relation is indicated by coindexation, and the theta-role "absorption" is shown by an arrow.

3. COMPLEX PREDICATES WITH NOMINATIVE OBJECTS

We argued in the preceding section that in the structure shown in (15), WP and ZP can receive theta-roles from either X or Y.

(15)



In addition, when Y is an obligatory control verb, the controlled theta-role carried by X can be "absorbed" so that it need not be assigned to any argument. We will be using these results crucially when we present our analysis of the complex predicate construction with nominative objects in Section 4. But before we present our analysis, we will discuss the basic properties of this construction, and review Tada (1993) and Koizumi's (1995) standard analysis in this section.

3.1. The Tada-Koizumi Analysis

In Japanese, "non-stative" predicates take accusative objects but "stative" predicates take nominative objects. The examples in (16) illustrate this generalization.

(16)a. John-ga rosiago-o /*-ga yom-u (non-stative)
-NOM Russian-ACC/ -NOM read
'John reads Russian'

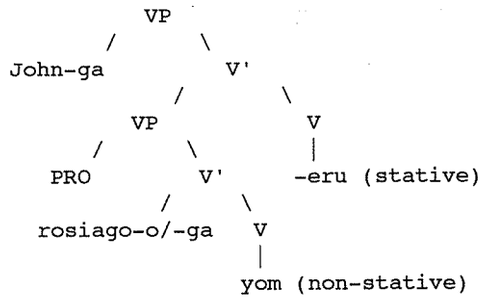
b. John-ga rosiago-ga /*-o wakar-u (stative)
-NOM Russian-NOM/ -ACC understand
'John understands Russian'

Interestingly, when the predicate is complex and composed of a non-stative root and a stative suffix, the Case of the object can be either accusative or nominative. The verb in (17) consists of *yom* 'read', *-e* 'can', and the non-past tense marker *-ru*.[3]

(17) John-ga rosiago-o /-ga yom-e-ru
-NOM Russian-ACC/-NOM read-can
'John can read Russian'

It has been assumed that examples like (17) have a complex structure as in (18), at least at some point of the derivation.

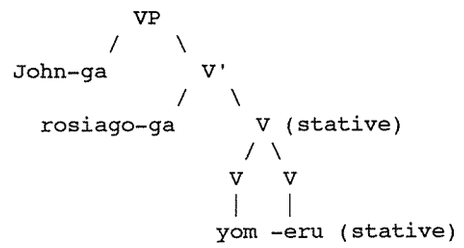
(18)



This structure represents the thematic relations in the most straightforward way; *rosiago-o/-ga*, for example, is clearly the theme argument of *yom* 'read'. It also captures the fact that the object NP can appear in accusative, since *yom* is a non-stative verb. What is surprising is that this NP can appear in nominative as well. The higher verb *-e(ru)* must be reasponsible for this despite the fact that it does not assign any theta-role to the NP.

Sugioka (1984) assumes that the D-structure of (17) has a complex structure as in (18), and proposes that when the object NP appears in nominative, "restructuring" applies to yield a structure like (19).[4]

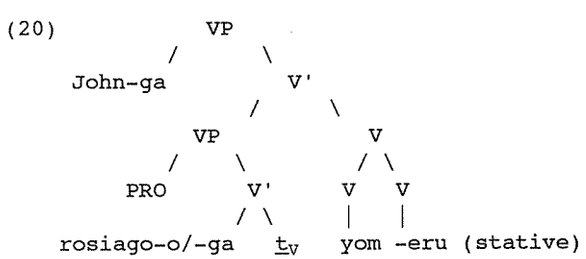
(19)



In this structure, *rosiago-ga* is in the object position of a stative predicate, and hence, we expect it to take nominative Case.

Terada (1990), on the other hand, proposes an analysis based on Baker's (1988) government transparency corollary. Given the D-structure in (18), the incorporation of *yom* into *-e(ru)* results in the S-structure in (20).

(20)



Baker's theory implies that the government domain of *-e(ru)* extends into the lower VP in

this incorporation structure. Thus, the verb can assign nominative Case to the object NP under government. This analysis is more principled as it does not appeal to the apparently ad hoc mechanism of restructuring.

Tada (1993), however, presents clear evidence against Terada's analysis. The crucial piece of data, which is originally due to Sano (1985), is shown in (21).

(21)a. John-ga migime -dake-o tumur-e-ru
-NOM right eye-only-ACC close-can
'John can close only his right eye'
(A) can > only (John can wink his right eye)
(B)?*only > can (It is only his right eye that John can close)

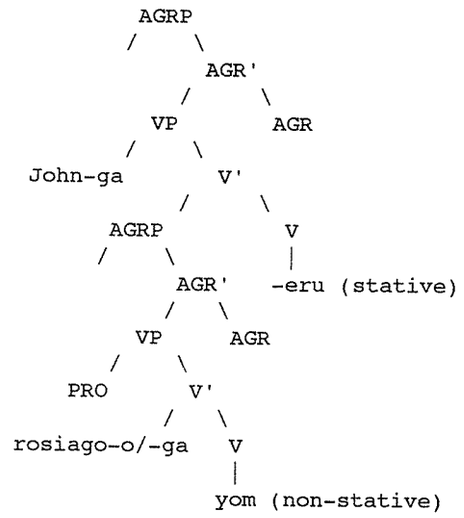
b. John-ga migime -dake-ga tumur-e-ru
-NOM right eye-only-NOM close-can
'John can close only his right eye'
(A) *can > only (John can wink his right eye)
(B) only > can (It is only his right eye that John can close)

Since *tumure(ru)* is a complex predicate composed of *tumur* 'close' and *-e(ru)* 'can', its object can be assigned either accusative or nominative Case. However, when the object contains a scope-taking element such as *-dake* 'only', the choice of the Case affects the interpretation. When the object is in accusative, it takes narrow scope with respect to the higher predicate *-e(ru)*, as shown in (21a). On the other hand, (21b) indicates that when it is in nominative, it takes scope over *-e(ru)*.[5]

The interpretive difference between (21a) and (21b) is unexpected under Terada's account. According to her, the object NP occupies the same structural position regardless of whether it is in accusative or nominative. It is thus difficult to explain why Case affects the scope of the NP. As Tada notes, the scope fact in (21b), in particular, indicates that when the object NP is in nominative, it is not within the embedded VP but rather is in a higher position. (21a-b) may then provide support for Sugioka's structure in (19), and her restructuring analysis.

Tada (1993), however, goes on to seek a more principled account, and proposes a new analysis adopting the AGR-based Case theory. It is suggested in Chomsky 1991 that structural Case is checked uniformly in AGR Spec. This implies that the structure in (18) should be revised as in (22).

(22)



Here, the verb *yom* raises to the lower AGR head, and checks accusative Case at the AGR Spec position. Similarly, *-e(ru)* raises to the higher AGR head, and chacks nominative at the higher AGR Spec. Given this Case checking mechanism, the scope facts in (21) can be explained as follows. When the object is in accusative, it raises to the lower AGR Spec for Case checking. This position is asymmetrically c-commanded by *-e(ru)*. Hence, we have the narrow scope reading of the object. But when the object is accompanied by nominative Case, it must move to the higher AGR Spec. Then, it asymmetrically c-commands *-e(ru)*, and the wide scope reading of the object is obtained.

Tada, thus, argues that the data in (21) constitute supporting evidence for the AGR-based Case theory. This analysis is developed and made more precise, with a detailed examination of its theoretical consequences, in Koizumi 1995.

3.2. Evidence against the Complex Structure

Although the Tada-Koizumi analysis is quite elegant, it has some unsolved problems. The first is noted explicitly in Koizumi 1995. We know on independent grounds that movement often induces a scope ambiguity. Thus, we have the "quantifier lowering" fact discussed in May 1977.

(23) Someone$_i$ is likely [t_i to win]

In (23), *someone* is moved from a position c-commanded by *likely* to a position c-commanding it. The example exhibits a scope ambiguity between these two elements: It can mean that 'there is a person who is likely to win' or that 'there is likely to be a winner'.

Given this fact, let us reconsider the structure in (22). The nominative object *rosiago-ga*, according to the Tada-Koizumi analysis, is moved from a position c-commanded by *-e(ru)* to the higher AGR Spec position, which c-commands the verb. It is then not clear that we should expect only the wide scope reading of the object in (21b). If the scope facts pattern alike in English and Japanese, we should instead expect a scope ambiguity.

Noting this problem, Koizumi (1995) discusses examples like (24).

(24) Emi-dake-ga ringo-o tabe-sugi-ta
-only-NOM apple-ACC eat-happened too much
'Only Emi ate apples too much'

The complex verb in this example is composed of *tabe* 'eat', *-sugi* 'happen too much', and the past tense *-ta*. Koizumi shows that the suffixal verb *-sugi* triggers raising of the embedded subject, and reports that (24) is unambiguous. According to him, the example can mean that 'Emi is the only person who ate apples too much', but not that 'the state of affairs that only Emi ate apples obtained too much (or lasted too long)'. That is, for him, *-dake* necessarily takes wide scope over *-sugi* in this example. If this judgement is correct, it is consistent with the Tada-Koizumi analysis of (21b). In (24), *Emi-dake-ga* is raised from a position c-commanded by *-sugi* to a position c-commanding it. However, to our ear, (24) sounds ambiguous. Our judgement indicates that Japanese shows the same scope pattern as English with respect to examples like (23), and hence, poses a serious problem for the Tada-Koizumi analysis of (21b).[6] If it is correct, the non-ambiguity of (21b) should be taken as evidence that the nominative object in this example was never in the embedded VP, but was inserted directly into the projection of the verb *-e(ru)*.

Another problem arises when we consider the scope of phrases other than the object. According to the Tada-Koizumi analysis, the nominative object in (21b) takes scope over *-e(ru)* because it raises out of the embedded VP (and the embedded AGRP) to have its Case checked. This analysis predicts that those phrases in the embedded VP that need not raise for Case-checking should take narrow scope with respect to *-e(ru)*. But as far as we can tell, the prediction is not borne out. Compare (25a) with (25b).

(25)a. Taroo-wa me -o 0.001-byoo -dake ake-rare-ru
-TOP eye-ACC -second-only open-can

b. Taroo-wa me -ga 0.001-byoo -dake ake-rare-ru
-TOP eye-NOM -second-only open-can

'Taroo can open his eyes only for 0.001 seconds'

(25a) has an accusative object while (25b) contains a nominative object. The examples are both grammatical, but there is an interpretive difference between (25a) and (25b), which seems to parallel to the one observed between (21a) and (21b). (25a) can mean that 'Taroo has a special ability to open his eyes for a very short period of time, i.e., 0.001 seconds'. So, it makes sense when we have a somewhat strange contest where people compete on how quickly they can open their eyes and close them again. This reading obtains when *0.001-byoo-dake* 'only 0.001 seconds' takes narrow scope with respect to *-rare(ru)* 'can'. (25b), on the other hand, does not have this reading. It means that 'it is only for 0.001 seconds that Taroo can open his eyes'. It is appropriate, for example, if Taroo's eyes are extremely sensitive to ultraviolet rays, and he cannot open his eyes longer than 0.001 seconds. In (25b), then, *0.001-byoo-dake* must take wide scope over *-rare(ru)*.

Tada and Koizumi's Case theoretic account for (21) does not extend to (25). In (25b), it is the nominative object *me-ga* that must raise to a position asymmetrically c-commanding *-rare(ru)* to have its Case checked. And nothing forces the adverbial *0.001-byoo-dake*, which does not carry any Case, to raise to a higher position. So, the analysis predicts, contrary to the fact, that there should be no interpretive difference between (25a) and (25b).

Comparing (21b) with the "quantifier lowering" examples, we argued above that when a complex predicate sentence contains a nominative object, the object is not raised out of the embedded VP, but is inserted directly into the projection of the stative suffixal verb. (25b) shows that this is true not only of the nominative object itself, but of other phrases as well. The fact that *0.001-byoo-dake* necessarily takes wide scope over the higher predicate *-rare(ru)* indicates that it c-commands the predicate throughout the derivation. This in turn implies that complex predicate sentences with nominative objects do not have real complex structures with full VPs embedded. If all the arguments and adjuncts that have thematic or modification relations with the lower verb are generated in the projection of the higher verb, the structure of those sentences cannot be as in (18) or (22), but must be more like (19), which Sugioka (1984) attributes to restructuring.

In the following section, we will propose a way to derive the structure in (19) without restructuring. Our analysis is in accord with Chomsky's (1994) Bare Phrase Structure theory, and relies on the conclusions obtained through the examination of the Japanese light verb construction in Section 2.

4. SIMPLE STRUCTURES WITH COMPLEX PREDICATES

We argued in the preceding section that in the complex predicate sentences with

nominative objects, all the arguments and adjuncts appear in the projection of the higher predicate. As noted there, this indicates that those sentences have a structure like (19). This structure readily explains why the object appears in nominative and not in accusative. Given the discussion so far, it may be suggested that the complex predicates in those sentences are formed in the lexicon. Then, we would expect them to project a structure like (19). But Koizumi (1995) argues persuasively against this possibility. The following example provides further support for his conclusion:

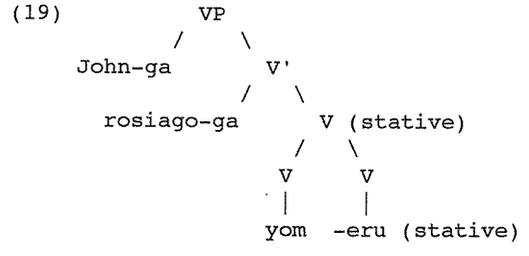
(26) John-ga Mary-ni Bill-ni hon -ga yom-ase-sase-rare-ru
-NOM -DAT -DAT book-NOM read-cause-cause-can
'John can make Mary make Bill read a book'

If the complex predicates that we have examined can take nominative objects because they are formed in the lexicon, the same should hold for *yomasesaserare(ru)* in (26). In this complex predicate, *yom* 'read' is followed by two instances of the causative suffixal verb, and then, by *-rare(ru)*. Note here that in this sentence, both *Mary-ni* and *Bill-ni* assume the causee role. So, if the complex predicate is associated with a single theta-grid, the grid must include two instances of the same theta-role. This is, to say the least, unlikely. What (26) suggests, then, is that even when a complex predicate appears with a nominative object, each verb within the complex predicate has its own theta-grid.

We thus face a very interesting question: How can (17) with nominative on the object have a structure like (19), when both *yom* 'read' and *-e(ru)* 'can' have independent thematic structures? The examples (17) and (19) are repeated below.

(17) John-ga rosiago-o /-ga yom-e-ru
-NOM Russian-ACC/-NOM read-can
'John can read Russian'

(19)



In Section 4.1, we will show that a structure that is very close to (19) should be allowed, given our conclusions in Section 2. Then, in Section 4.2, we will suggest that (19) is itself a possible structure (without restructuring) and investigate the consequences of this suggestion.

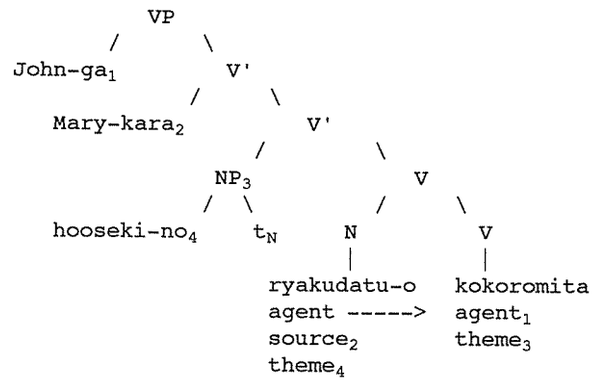
4.1. VP Complements with Bare Verbs

First, recall the analysis of (8), repeated in (27), from Section 2.

(27) John-ga Mary-kara [$_{NP}$ hooseki-no ryakudatu]-o kokoromi-ta
-NOM -from jewelry-GEN plunderage-ACC attempted
'John attempted to steal jewelry from Mary'

We assigned the LF in (28) to this example.

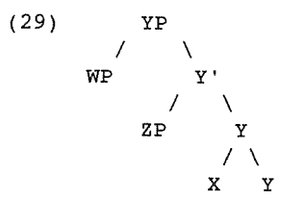
(28)



The noun *ryakudatu* assigns its theme role to *hooseki-no*, and then, in covert syntax, incorporates into the verb *kokoromi(ta)*. At this point, the obligatory control verb *kokoromi(ta)* absorbs the agent role of the noun. The noun finally discharges its source role to *Mary-kara*.

This analysis, as discussed in Section 2, is based on two fundamental proposals. The first is that X can assign theta-roles to ZP and WP in the structure in (29).

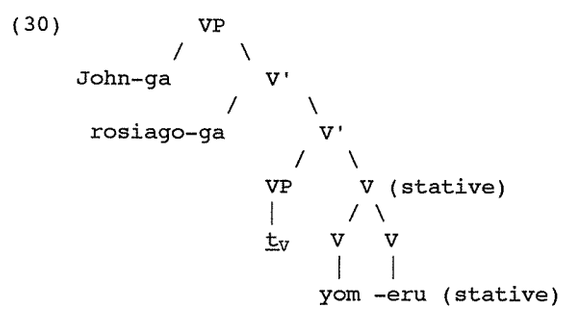
(29)



This receives independent motivation from our analysis of the light verb construction. The second is that when a theta-role assigning head is adjoined to a verb, the verb can absorb a theta-role of the adjoined head through the relation of obligatory control.

If these proposals are correct, then nothing seems to prevent (17), with nominative object, from having the structure in (30).

(30)



Here, *-e(ru)* takes a VP complement, and assigns its external theta-role to *John-ga*. The issue is the theta-role assignment of the verb *yom*, which has agent and theme roles. Given our proposals, the theme role can successfully be assigned to *rosiago-ga* after *yom* incorporates into the higher verb *-e(ru)*. Further, it is quite reasonable to suppose that *-e(ru)* triggers obligatory control: Even when the object is accusative, the subject of the embedded VP cannot be distinct from the matrix subject. And if *-e(ru)* is in fact an obligatory control verb, it should be able to absorb the agent role of the adjoined head, exactly like *kokoromi(ta)* in (27). Thus, (30) should be allowed to the extent that (28) is. The only difference between (28) and (30) is that the incorporation is covert in (28) while it is overt in (30).

The structure (30), like (19), straightforwardly accommodates the fact that the object appears in nominative, since the NP is in the projection of the stative verbal suffix. And the analysis readily extends to other stative suffixes, such as *-ta(i)* 'want' in (31), that allow nominative objects.

(31) Boku-wa sono hon -o /-ga yomi-ta-i
I -TOP that book-ACC/-NOM read-want
'I want to read that book'

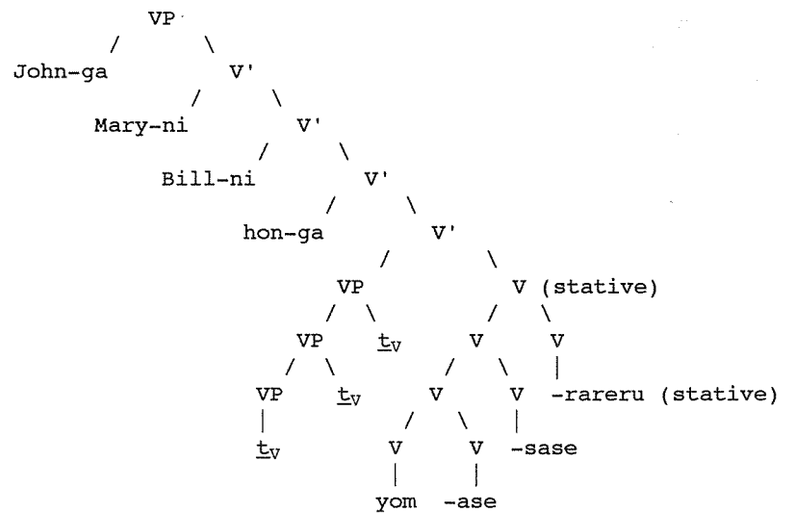
Unlike *-e(ru)*, *-ta(i)* is an adjective, and hence, the form of the tense marker is different. But like *-e(ru)*, it can reasonably be considered an obligatory control predicate. As far as we know, this is true of all stative affixes that allow nominative objects.

This analysis accommodates as well the complicated example in (26), repeated in (32).

(32) John-ga Mary-ni Bill-ni hon -ga yom-ase-sase-rare-ru
-NOM -DAT -DAT book-NOM read-cause-cause-can
'John can make Mary make Bill read a book'

The structure of this example will be as in (33).

(33)



Here, first, *yom* adjoins from the most deeply embedded VP to *-ase*, forming the complex predicate *yomase*. Next, this complex predicate adjoins to *-sase*, creating *yomasesase*. Finally, this double-causative predicate incorporates into the stative *-rare(ru)*. In the resulting structure, the agent roles of the three lower verbs can be absorbed since both the causative suffix and *-rare(ru)* are obligatory control predicates. The lowest verb *yom* assigns the theme role to *hon-ga* in its final position, and *-ase* and *-sase* assign their causee roles to *Bill-ni* and *Mary-ni* respectively. The subject *John-ga* receives the external theta-role from *-rare(ru)*.

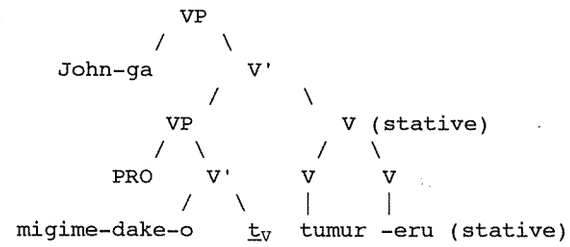
The analysis also explains Sano's scope facts without any situpulation. His examples (21a-b) are repeated in (34a-b).

(34)a. John-ga migime -dake-o tumur-e-ru
-NOM right eye-only-ACC close-can
'John can close only his right eye'
(A) can > only (John can wink his right eye)
(B)?*only > can (It is only his right eye that John can close)

b. John-ga migime -dake-ga tumur-e-ru
-NOM right eye-only-NOM close-can
'John can close only his right eye'
(A) *can > only (John can wink his right eye)
(B) only > can (It is only his right eye that John can close)

The structure of (34a) is as in (35), since it has an accusative object.

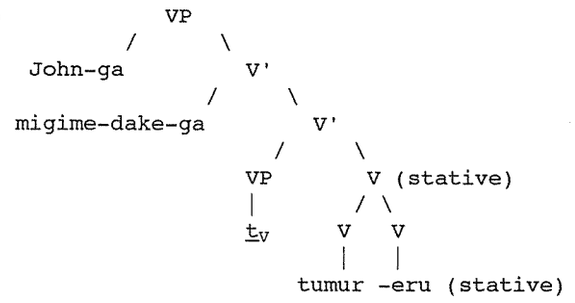
(35)



Here, the complex verb headed by *-e(ru)* asymmetrically c-commands the accusative object *migime-dake-o*. Consequently, it necessarily takes scope over this NP.

(34b), on the other hand, has a nominative object, and hence, by hypothesis, has the structure in (36).

(36)



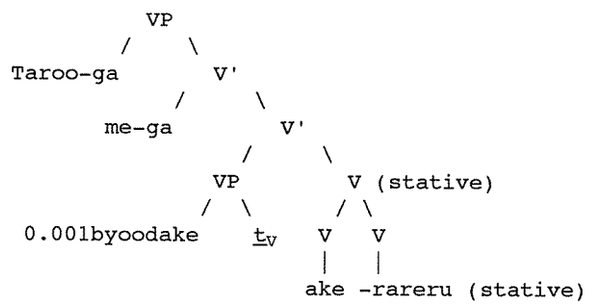
After the incorporation of the embedded verb *tumur* into *-e(ru)*, the agent role of the verb is absorbed, and its theme role is assigned to the object *migime-dake-ga*. Since the object appears in the projection of *-e(ru)* to begin with, it is marked with nominative. Further, since it asymmetrically c-commands *-e(ru)* throughout the derivation, it necessarily takes wide scope over this verb. Thus, the interpretive difference between (34a) and (34b) is successfully explained.[7]

Let us finally consider how our analysis fares with (25b), repeated below in (37).

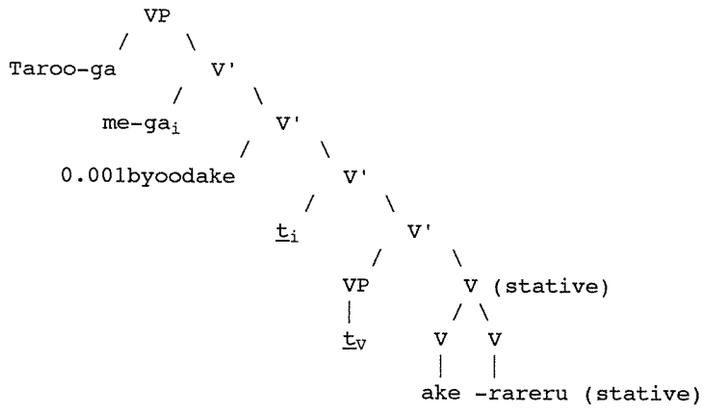
(37) Taroo-wa me -ga 0.001-byoo -dake ake-rare-ru
-TOP eye-NOM -second-only open-can
'Taroo can open his eyes only for 0.001 seconds'
(It is only for 0.001 seconds that Taroo can open his eyes)

As noted above, the adverbial *0.001-byoo-dake* 'only 0.001 seconds' takes scope over *-rare(ru)* 'can' in this nominative object example. Two possible structures of this example are shown in (38) and (39).

(38)



(39)



In both (38) and (39), the nominative object *me-ga* is in the projection of the stative verb *-rare(ru)*, as required by our analysis. In (38), the adverbial is in a position lower than the nominative object; it is within the complement VP. If this structure is possible, we should predict, contrary to the fact, that the adverbial can take narrow scope with respect to *-rare(ru)*. In (39), on the other hand, the adverbial is higher in the structure than the nominative object, and hence, is in the projection of *-rare(ru)*. The object is scrambled over the adverbial, which accounts for the surface word-order. This structure does explain the wide scope reading of the adverbial in (37). Thus, if the adverbial must occupy a position higher than the nominative object, the scope fact in (37) follows. This will block the structure in (38), and force the adverbial to be in the projection of *-rare(ru)* as in (39).

And there is in fact good reason to suppose that an adverbial must be in a position higher than the object. Recall the discussion on the light verb example (6), repeated below in (40).

(40) *John-ga hooseki-o [NP Mary-kara-no ryakudatu]-o si-ta
-NOM jewelry-ACC -from-GEN plunderage-ACC did
'John stole jewelry from Mary'

We argued that this example is ruled out because the noun *ryakudatu* assigns its theta-roles in a way inconsistent with the thematic hierarchy. It discharges its source role to *Mary-kara*, and only after its covert incorporation into *si(ta)*, it assigns the theme role to *hooseki-o*. Here, it seems that (38) induces the same kind of violation. Although it is not clear that adverbials take part in the thematic hierarchy, they participate in compositional semantics. So, it is standardly assumed that VP-adverbs, such as those for duration, can be interpreted in the structure only after the object (if any) is combined with the verb. This means that the adverbial in (37) can be interpreted as a modifier only after the verb *ake* 'open' assigns its theme role to the nominative object. This forces the adverbial to be in a position higher than the nominative object, and hence, blocks the structure in (38).

4.2. Embedding without VP Complementation

In the preceding subsection, we proposed to analyze nominative object examples like (41) in the same way as the control verb example in (27), repeated below in (42).

(41) John-ga rosiago-ga yom-e-ru
-NOM Russian-NOM read-can
'John can read Russian'

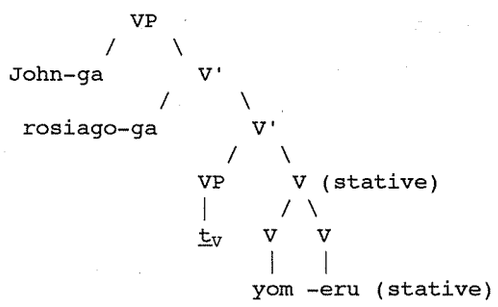
(42) John-ga Mary-kara [NP hooseki-no ryakudatu]-o kokoromi-ta
-NOM -from jewelry-GEN plunderage-ACC attempted
'John attempted to steal jewelry from Mary'

In both examples, the embedded theta-role assigning head incorporates into the higher predicate, and then discharges its theta-role. We showed that this analysis not only accounts for the nominative Case on the object without restructuring, but also explains the relevant scope facts successfully. If our proposal is tenable, it means that a complex predicate can be formed by syntactic incorporation before any argument is introduced into the structure.

We stated above that the only major difference between (41) and (42) is the point at which the incorporation applies. It is overt in (41), but covert in (42). However, exactly because the incorporation is overt in (41), a simpler analysis seems possible for examples of this kind. In this subsection, we will present the simpler analysis, and explore its consequences.

We proposed above that *-e(ru)* in (41) takes a VP complement as in (43).

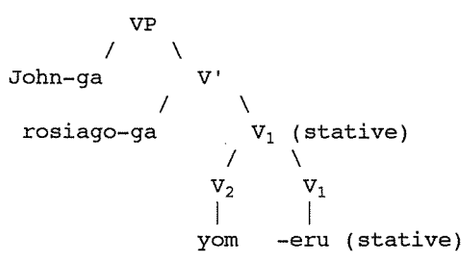
(43)



This was to make the analysis of (41) parallel to that of (42). In the latter, the theta-role assigning noun *ryakudatu* clearly projects an NP, which is in the complement position of the verb *kokoromi(ta)*. However, in the case of (41), there is no clear evidence that *yom* heads a maximal projection. First, since it incorporates overtly into the higher verb, there is no morphological evidence for complementation parallel to the accusative Case marker in (42). Secondly, even if there is a VP complement, it cannot contain any argument NP. This is so, since the nominative object appears in the projection of the higher verb, and the thematic hierarchy forces all other arguments to be in positions higher than the object. Further, if the discussion on adverbials in the preceding subsection is on the right track, they cannot be in the complement VP either as they too must appear in positions higher than the object. Thus, the VP complement, even if it exists, can contain only the trace of its head.

The second point above implies that the lower verb in examples like (41) does all its work, theta-role assignment and adverb licensing, after it adjoins to the higher head. Thus, nothing seems to go wrong even if we adjoin the verb directly to the higher predicate, i.e. without VP complementation, as we construct the phrase structure. This derivation is illustrated in (44).

(44)



Here, *yom* adjoins to *-e(ru)* at the initial point of the derivation, and then, *rosiago-ga* and *John-ga* enter the structure with the operation Merge. Even with this simple structure, theta-role assignment and Case licensing can take place exactly as we proposed for (43).

If (44) is indeed a possible structure for (41), as it seems to be, then it may exclude (43) due to Economy: The VP-complement in (43) is totally redundant.[8] In this case, (44) will be the only possible structure for (41). Note also that (44) is identical to (19), the structure that Sugioka (1984) postulated as the output of restructuring. Thus, our proposal here is that Sugioka's structure accounts not only for Case licensing but also for theta-role assignment, and hence, can be generated directly without the operation of restructuring.

The structure in (44), however, raises an interesting problem for the analysis of the scope facts discussed above. Recall once more Sano's (1985) examples in (34), repeated below in (45).

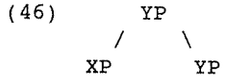
(45)a. John-ga migime -dake-o tumur-e-ru
-NOM right eye-only-ACC close-can
'John can close only his right eye'
(A) can > only (John can wink his right eye)
(B)?*only > can (It is only his right eye that John can close)

b. John-ga migime -dake-ga tumur-e-ru
-NOM right eye-only-NOM close-can
'John can close only his right eye'
(A) *can > only (John can wink his right eye)
(B) only > can (It is only his right eye that John can close)

(45b) shows that the nominative object, when accompanied by *-dake* 'only', takes wide scope with respect to *-e(ru)*. But it is not clear that this fact receives a straightforward account with the structure in (44). If we take the two-segment category V_1 as relevant for the determination of the scope of *-e(ru)*, then we would expect a scope ambiguity. The category V_1 and the nominative object c-command each other in (44).

Given (44), we must then calculate the scope of *-e(ru)* refering not to the two-segment category V_1, but to the lower segment of V_1. If we define 'domination' so that the two-segment category V_1 dominates its lower segment, the nominative object asymmetrically c-commands the lower segment of V_1. So, we can successfully account for (45b). This analysis is not implausible. Developing Kayne's (1994) LCA, Chomsky (1995) proposes that XP asymmetrically c-commands the lower segment of YP in the adjunction structure (46) basically in this way.

(46)

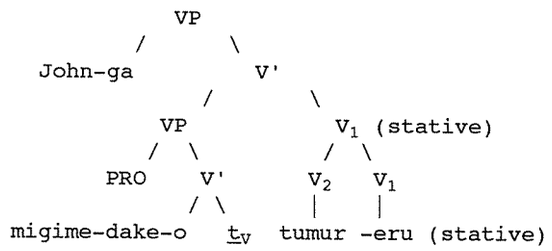


The lower segment, as opposed to the higher segment, of YP is a term, and hence, has an

independent status in this structure. The two-segment category YP dominates its lower segment, but not XP. Hence, XP asymmetrically c-commands the lower segment of YP, and given the LCA, must precede it.

The account for (45b) proposed above, interestingly, faces a problem with (45a). This example has an accusative object, and by hypothesis, has the structure in (47).

(47)



As Sano points out, the accusative object takes narrow scope with respect to *-e(ru)*. But if the scope of *-e(ru)* is calculated refering to the lower segment of V_1, and the two-segment category V_1 dominates its lower segment, as assumed above, then it is not clear why *-e(ru)* must take scope over the accusative object. The lower segment of V_1 does not c-command the accusative object in (47) for the same reason that it does not c-command the nominative object in (44).

What we need then is a definition of c-command that makes the lower segment of V_1 c-command the object in (47), but not in (44). And the definition proposed by Epstein, Groat, Kawashima and Kitahara (1998) has exactly the desired effect. They argue on both conceptual and empirical grounds for a strong derivational model, where c-command itself is defined "derivationally." Their definition is shown in (48).

(48) Derivational C-Command

X *c-commands* all and only the terms of the category Y with which X was paired/concatenated by Merge or by Move in the course of the derivation. (p.32)

Given this definition, the lower segment of V_1 in (47), as a term, c-commands the accusative object. It was merged with the embedded VP, which contains the accusative object, before V_2 adjoined to it. The c-command relation is established at this point. The accusative object, on the other hand, does not c-command the lower segment of V_1, since it was never paired with a category of which the lower segment of V_1 is a term.

The definition in (48) also yields the desired result for (44). In this example, the two-segment category V_1 was created first, and then, it was paired with the nominative object. That is, the nominative object was merged with the two-segment category V_1, of

which the lower segment V_1 is a term. Hence, the nominative object c-commands the lower segment of V_1. But the lower segment V_1 does not c-command the nominative object, since it was never paired with this NP or any phrase that contains it.

We argued in this subsection that the structure (44) should be allowed for examples like (45b). This proposal is more radical than the one argued for in the preceding subsection. It implies that a complex predicate can be formed in overt syntax by the direct pairing of two verbal heads (adjunction), and hence, without "incorporation" in the standard sense. Further, we showed that Epstein et al.'s derivational definition of c-command, as opposed to the standard representational definition, successfully explains Sano's scope facts with this structure. Hence, if (44) is indeed a possible structure, as we argued, then we have direct evidence for the derivational definition of c-command.

5. Miyagawa's Restructuring Constructions

As noted above, the structure in (44) was already assumed in Sugioka 1984, but she appealed to restructuring to derive it. As we proposed a way to generate the structure directly, it would be interesting to see how our analysis fares with other constructions for which restructuring has been assumed. In this section, we will suggest that our analysis extends to the cases of "restructuring" discussed in Miyagawa 1986.

Miyagawa (1986) presents very clear data, and argues that restructuring, as proposed in Rizzi 1978, takes place in Japanese. Let us first consider the examples in (49).

(49)a. Taroo-ga Kanda-ni [PRO hon -o kai-ni] it-ta
-NOM -to book-ACC buy-to went

b. Taroo-ga [PRO hon -o kai-ni] Kanda-ni it-ta
-NOM book-ACC buy-to -to went

'Taroo went to Kanda to buy a book'

These examples show that the order between the locative goal *Kanda-ni* 'to Kanda' and the purpose clause is free, as expected in "free word-order languages" such as Japanese. However, Miyagawa points out that this difference in word-order has surprising ramifications. More specifically, he shows that when the purpose clause is adjacent to the matrix verb as in (49a), the sentence can have a simple structure with the complex verb *kai-ni ik(u)* 'go to buy'.

Miyagawa's first evidence has to do with the positioning of adverbial PPs. As shown in (50), a matrix adverbial cannot appear within the embedded purpose clause.

(50)a. Taroo-ga zitensya-de [PRO hon -o kai-ni] Kanda-ni it-ta
-NOM bicycle -by book-ACC buy-to -to went

b. *Taroo-ga [PRO hon -o zitensya-de kai-ni] Kanda-ni it-ta
-NOM book-ACC bicycle -by buy-to -to went

'Taroo went to Kanda by bicycle to buy a book'

But surprisingly, (50b) becomes grammatical when *kai-ni* 'to buy' is placed adjacent to *it(ta)* 'went' as in (51).

(51) Taroo-ga Kanda-ni [PRO hon -o zitensya-de kai-ni] it-ta
-NOM -to book-ACC bicycle -by buy-to went

This suggests that (51) does not contain an embedded clause, but instead, has a simple structure with the verb *kai-ni it(ta)* 'went to buy'.

Miyagawa's examples in (52) point to the same conclusion.

(52)a. Taroo-ga [PRO eiga -o /*-ga mi -ni] Sinzyuku-ni it-ta
-NOM movie-ACC/ -NOM watch-to -to went
'Taroo went to Shinjuku to watch a movie'

b. Taroo-ga [PRO eiga -o /*-ga mi -ni] Sinzyuku-ni ik-e-ru
-NOM movie-ACC/ -NOM watch-to -to go-can
'Taroo can go to Shinjuku to watch a movie'

c. Taroo-ga Sinzyuku-ni [PRO eiga -o /-ga mi -ni] ik-e-ru
-NOM -to movie-ACC/-NOM watch-to] go-can

In the purpose clause in (52a), *eiga* 'movie' must be in accusative since it is the object of the non-stative verb *mi* 'watch'. In (52b), the stative verbal suffix *-e(ru)* 'can' is attached to the matrix verb. This does not affect the Case of *eiga*, since the NP is the embedded object. However, as shown in (52c), when *mi-ni* 'to watch' is adjacent to *ike(ru)* 'can go', the NP can appear in nominative. The only possible explanation for this seems to be that *mi-ni ike(ru)* 'can go to watch' can be a single complex verb in this example.

Rizzi (1978) points out that restructuring in Italian is observed typically with modals, aspectuals, and verbs of motion. Miyagawa shows that the phenomena in (51) and (52c) obtain when the matrix verb is a verb of motion of the type 'come' and 'go', and proposes to extend Rizzi's analysis to these cases.

Given our analysis of stative complex predicates, it is quite tempting to apply it to Miyagawa's data. The similarity between Sugioka's analysis of stative complex predicates and Miyagawa's analysis of (52c) is striking. They both appeal to restructuring to produce a simple structure out of a complex one so that the occurrence of nominative objects can be explained. The similarity between the two constructions goes

further. As noted above, those stative verbal suffixes that make nominative objects possible in examples like (53) are obligatory control predicates.

(53) John-ga rosiago-ga yom-e-ru
-NOM Russian-NOM read-can
'John can read Russian'

Similarly, the examples that are subject to Miyagawa's restructuring involve obligatory control. Thus, (49a), for example, becomes hopeless when the subject of the purpose clause is overtly expressed, as shown in (54).

(54) *Taroo-ga Kanda-ni [Hanako-ga hon -o kai-ni] it-ta
-NOM -to -NOM book-ACC buy-to went
'Taroo went to Kanda so that Hanako can buy a book'

In addition, Sano's scope facts are observed also with Miyagawa's restructuring examples. (55a) and (55b) are not identical in interpretation.

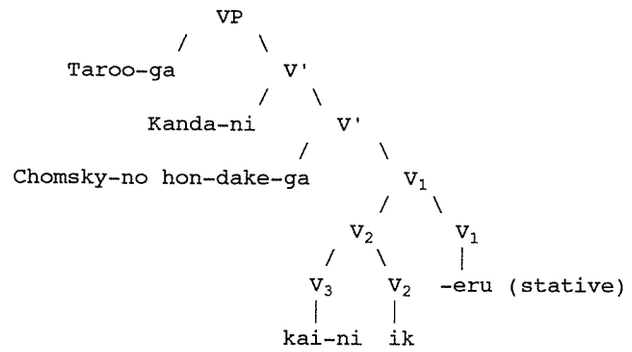
(55)a. Taroo-ga Kanda-ni [Chomsky-no hon -dake-o kai-ni] ik-e-ru
-NOM -to -GEN book-only-ACC buy-to go-can
'Taroo can go (all the way) to Kanda just to buy Chomsky's books'

b. Taroo-ga Kanda-ni [Chomsky-no hon -dake-ga kai-ni] ik-e-ru
-NOM -to -GEN book-only-NOM buy-to go-can
'It is only Chomsky's books that Taroo can go to Kanda to buy'

As indicated in the translation, the dominant interpretation for (55a) is the one in which *-e(ru)* 'can' takes wide scope over *-dake* 'only'.[9] The example contrasts sharply with (55b), where *-dake* takes scope over *-e(ru)*. Thus, (55a-b) parallel Sano's (45a-b) in scope interpretation.

As far as we can see, the analysis we presented in the preceding section, in fact, straightforwardly applies to Miyagawa's examples. The structure of (55b), for example, will be as in (56).[10]

(56)



The highest verb *-e(ru)* assigns its external theta-role to *Taroo-ga*, and absorbs the external agent role of *ik* 'go' through the relation of obligatory control. The second verb *ik* takes *Kanda-ni* as the locative goal, and absorbs the external agent role of *kai-ni* 'to buy', again, through the obligatory control relation. Finally, *kai-ni* assigns its internal theme role to the object NP *Chomsky-no hon-dake-ga* 'only Chomsky's books'. The object takes nominative Case because it is in the projection of the stative *-e(ru)*. Further, it takes scope over *-e(ru)* since it asymmetrically c-commands the lower segment of V_1.

If we consider the verbs that trigger Miyagawa's restructuring, and those verbal suffixes that license nominative objects in example like (57), it would not be surprising that they can be analyzed in the same way.

(57)a. John-ga rosiago-ga yom-e-ru
-NOM Russian-NOM read-can
'John can read Russian'

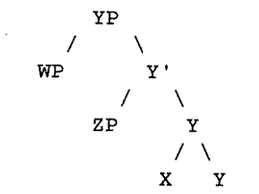
b. Boku-wa sono hon -ga yomi-ta-i
I -TOP that book-NOM read-want
'I want to read that book'

As mentioned above, Rizzi (1978) observes that modals, aspectuals, and verbs of motion typically trigger restructuring in Italian. Miyagawa (1986) explicitly notes that his Japanese reconstruction examples involve verbs of motion. And "meaning-wise," the verbal suffixes in (57), i.e. 'can' and 'want', are also among the restructuring verbs in Italian. So, Sugioka's (1984) restructuring analysis of (57), too, was motivated on typological grounds. What we have proposed in this paper, then, can be viewed as an analysis of the restructuring phenomenon in general. We have shown that the analysis is successful for Japanese, but it remains to be seen whether it can be adopted for other languages.[11]

6. Summary and Conclusion

We have examined the complex predicate sentences with nominative objects in Japanese, and proposed that complex predicates can be formed in the syntax by directly adjoining one verbal head to another. We first discussed the Japanese light verb construction, and obtained the conclusions in (58).

(58) Given the structure below,

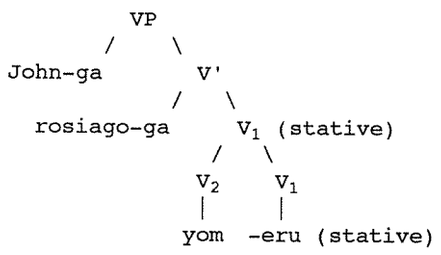


a. X can assign theta-roles to ZP and WP, and
b. Y can absorb a theta-role of X through the relation of obligatory control.

Then, we showed that given (58a-b), we should be able to generate examples such as (59) directly with the structure in (60).

(59) John-ga rosiago-ga yom-e-ru
-NOM Russian-NOM read-can
'John can read Russian'

(60)



We also discussed Sano's (1985) generalization on the scope relation of the object and the verbal suffix *-e(ru)* 'can'. We argued that if (60) is indeed the correct structure, Sano's generalization provides supporting evidence for Epstein, et al.'s (1998) derivational definition of c-command. Finally, we extended our analysis to Miyagawa's (1986) restructuring examples in Japanese. We speculated that our analysis may be adopted for the restructuring phenomenon in general.

NOTES

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1. The example is marginal because of the so-called "double-*o* effect," which is observed when a simple sentence contains more than one *o*-marked NPs. See Sells 1988, and Saito and Hoshi 1998 for more detailed discussion on this point.

2. See also Jackendoff 1974 for much relevant discussion.

3. The verbal suffix *-e* 'can' is realized as *-rare* when the root terminates in a vowel. Actual examples will come up later in the text.

4. Sugioka's restructuring analysis is a more modern version of the standard analysis of the 1970's, which appeals to predicate raising and tree-pruning. For the latter, see Kuno 1973, for example.

5. As Koizumi (1995) reports, (21a) is scopally ambiguous for some speakers, and further, it is ambiguous for all if the object is stressed. We follow him and assume that this is due to scrambling/focusing, and has nothing to do with the syntactic representation of the predicate-argument relations. This disclaimer applies also to other similar examples that are discussed later in the text.

6. As Kuroda (1971) and Kuno (1973) showed, movement clearly induces scope ambiguity between two NPs in Japanese. The language exhibits scope-rigidity. Thus, when XP asymmetrically c-commands YP as in (i), the former takes scope over the latter.

(i) ... XP [... YP ...] ...

(ii) ... YP_i [... XP [... t_i ...] ...] ...

However, when YP is moved to a position c-commanding XP, as in (ii), either by clause-internal scrambling or passive, a clear scope ambiguity emerges. See Hoji 1985, Oka 1989, and Tada 1993 for more detailed discussion.

7. If nominative and accusative are licensed in the projections of stative and non-stative predicates, respectively, then the structure (35) is forced on (34a), and (36) is the only possible structure for (34b). One might consider the possibility that a nominative object appears in the structure in (35), and then, is raised to the projection of the higher predicate to have its Case licensed. But we assume that this possibility is excluded by the Last Resort: The raising of the object would be from a position where an accusative is licensed.

8. Boskovic (1996) presents a formulation of the Economy Condition that has this effect. See also Murasugi 1991 for relevant evidence from acquisition.

The only way that we can think of to exclude (44) in favor of (43) is to rely on the fact that *-e(ru)* selects for a projection of V. If we assume that this selectional requirement can be satisfied only by Merge, and not by adjunction, then we must have the structure in (43). However, we will not pursue this possibility here, as we are aware of no clear evidence for the assumption.

9. (55a), as opposed to (55b), is ambiguous for some. See Footnote 5 above.

10. *Kai-ni* 'to buy' in (56) may not be a simple verb, but may have a more complex structure. For example, *kai* 'buy' may be the verb, and *-ni* 'to' may be a postposition. But as far as we can see, the issue does not affect the discussion in the text.

11. See Cinque 1997 for a more recent discussion on restructuring in Italian. For an extensive discussion on the restructuring phenomenon in Romance and Germanic languages, see Wurmbrand 1998.

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