秋　田　大　学
教養基礎教育研究年報
47 － 63　（2013）

A Parsing-based Analysis of Light Verb Constructions

Hiroto Hoshi

1. Introduction

Saito and Hoshi (2000) propose an analysis which captures the properties of Japanese light verb constructions in terms of complex predicate formation, and argue that a predicate can assign theta roles even after undergoing movement (contra. Chomsky's 1995 configurational theta theory; cf. Grimshaw and Mester 1988, Terada 1990, Kageyama 1993, Sato 1993, Matsumoto 1996, among others). In the following section of this paper, I review Saito and Hoshi's incorporation analysis of Japanese light verb constructions briefly. In Section 3, I point out potential problems for the incorporation analysis. In Section 4, I attempt to suggest an alternative analysis which accounts for the nature of light verb constructions not in terms of complex predicate formation (Saito and Hoshi 2000, among others), but in terms of the left to right processing of the sequence of words (cf. Kempson et al. 2001, Cann et al. 2005, among others). In particular, here, I try to argue that the dynamics of language together with Case and Tense might play significant roles in the formation of light verb constructions. Unlike Saito and Hoshi's (2000) analysis, the suggested parsing-based analysis is consistent with Chomsky's (1995) configurational theta theory, and it accounts for a wider range of data. Section 5 concludes the discussion of this paper with some remarks on the dynamics of the language faculty (Kempson et al. 2001, Cann et al. 2005, Cann et al. 2009, Kempson and Kiaer 2009, Kempson and Kurosawa 2009, among others).

2. Light Verb Constructions: Saito and Hoshi's (2000) Incorporation Analysis

Martin (1975), Kageyama (1993), among others, call predicates such as *ryakudatu* 'plunderage' 'verbal nouns,' and those predicates display the properties of V and/or N, depending on structural environments.[1] Consider example (1).

(1) [**John-no Mary-kara-no hooseki-no** ryakudatu] -o …..
[John-Gen Mary-from-Gen jewelry-Gen plunderage]-Acc …..
'….. John's pluderage of jewelry from Mary …..'

In (1), the predicate *ryakudatu* seems to be N, since the theme argument, *hooseki* 'jewelry,' the source argument *Mary-kara* 'from Mary,' and the agent argument *John* are all attached by the Genitive Case marker *-no*.

Consider next light verb constructions in (2a-b), where the verbal noun *ryakudatu* is attached to the Accusative Case marker-*o*, and is selected by the light verb *si*, presumably a verb without any semantic content. (2a-b) are semantically equivalent.

(2)a.? **John-ga Mary-kara hooseki-o** ryakudatu-o si-ta.
John-Nom Mary-from jewelry-Acc plunderage-Acc do-Pst
'John stole jewelry from Mary.'

b. **John-ga Mary-kara hooseki-no** ryakudatu-o si-ta.
John-Nom Mary-from jewelry-Gen plunderage-Acc do-Pst
'John stole jewelry from Mary.'

In contrast with *ryakudatu* in (1), the 'verbal noun' *ryakudatu* in (2a) appears to be V. This is so, because in (2a),

none of the arguments of the predicate is attached with the Genitive Case particle *-no*. Instead, the theme argument *hooseki* is attached by the Accusative Case marker *-o*, the source argument *Mary-kara* surfaces without any case particle, and the agent argument *John* is attached by the Nominative Case marker *-ga*. The predicate *ryakudatu* in (2b), on the other hand, appears to be N, since the theme argument *hooseki* is attached by the Genitive Case marker *-no*, as in (1). *Ryakudatu* in (2b), however, seems to be V at the same time, for the source argument *Mary-kara* and the agent argument *John* surface without the Genitive Case particle *-no* in (2b), exactly as in (2a).

Examine now example (3), where the predicate *ryakudatu* is attached to the light verb *si*. (3) appears to be semantically equivalent to (2a-b).

(3) **John-ga Mary-kara hooseki-o** ryakudatu-si-ta.
John-Nom Mary-from jewelry-Acc plunderage-do-Pst
'John stole jewelry from Mary.'

Here, all the arguments of the predicate *ryakudatu* appear to be verbal arguments, for they are not marked by Genitive Case *-no*. The theme argument *hooseki* is marked by Accusative Case *-o*, the source argument *Mary-kara* appears without any case particle, and the agent argument *John* is marked by Nominative Case *-ga*, as in (2a). Light verb construction (3) is grammatical, while (2a) is marginally ungrammatical. This is because not (3) but (2a) is in violation of a surface filter in Japanese, i.e. the surface double-*o* constraint, which prohibits more than one *-o* marked phrase within a single sentence in Japanese.[2)]

Consider finally Grimshaw and Mester's (1988) observation that light verb constructions such as (4) are ill-formed.

(4) ***John-ga hooseki-o Mary-kara-no** ryakudatu-o si-ta. (cf. 2b)
John-Nom jewelry-Acc Mary-from-Gen plunderage-Acc do-Pst
'John stole jewelry from Mary.'

In (4), the source argument *Mary-kara* is attached by Genitive Case *-no*, whereas the theme argument *hooseki* is marked by Accusative Case *-o* and the agent *John* is marked by Nominative Case *-ga*. As Grimshaw and Mester point out, there is a sharp contrast between (2b) and (4). Not (2b) but (4) violates the above mentioned surface double-*o* constraint in the same way as (2a). However, example (4) is much worse than (2a). This implies that the ill-formedness of (4) cannot be explained only in terms of the surface double-*o* constraint.[3)]

To capture the above mentioned properties of a 'verbal noun,' Saito and Hoshi (2000) argue that 1) there is nothing lexically special about 'verbal nouns,' and a 'verbal noun' is simply N with its argument structure; 2) the mixed [V+N] properties of 'verbal nouns' should be accounted for derivationally by means of incorporation. That is, being N, a 'verbal noun' functions as N in its base position. At some point of the derivation, a 'verbal noun' incorporates into the light verb *si*, and becomes a part of the complex verb. As a result, a 'verbal noun' theta-marks as V at the sentential level. The structures that Saito and Hoshi (2000) propose for (1), (2a-b), (3) and (4) are given below.

Saito and Hoshi (2000) assign structure (5) to example (1).

(5) $[_{NP}$ **John^3-no Mary-kara^2-no hooseki^1-no** $[_N$ ryakudatu]]-o ….. (for 1)
(agent^3(source^2(theme^1)))

Here, the nominal predicate *ryakudatu* assigns theta roles to all of its arguments as N in its base position, and thus, all the arguments are marked by the Genitive Case marker *-no* within the N projection of *ryakudatu* (cf. Saito 1982, Murasugi 1991).[4)]

Saito and Hoshi (2000) propose derivation (6a-b) for light verb construction (2a).

(6)a. ?$[_{TP}$**John-ga Mary-kara hooseki-o** $[_{NP}[_N$ ryakudatu]-o] $[_V$ si] ta]. (syntax) (for 2a)
(agent(source(theme)))

b. $[_{TP}$**John^3-ga Mary-kara^2 hooseki^1-o** $[_{NP}$ *t* $_N]$ $[_V$ $[_N$ ryakudatu]-o si] ta]. (LF)
(agent^3(source^2(theme^1)))

As shown in (6a), the nominal predicate *ryakudatu* first projects NP in its base position, but does not assign any theta role within its N projection in syntax. As illustrated in (6b), *ryakudatu* undergoes movement, and incorporates into the light verb *si* in the LF component, forming the complex predicate [$_V$ [$_N$ *ryakudatu*]-*o si*]. In LF, being a part of the complex verb, *ryakudatu* assigns theta roles to its arguments as V at the sentential level. Hence, in (6b), there is no NP which immediately dominates any of the arguments, and none of the arguments is marked by the Genitive Case marker *-no*. Instead, the theme argument *hooseki* is attached by the Accusative Case maker *-o*, the source argument *Mary-kara* is not attached by any case particle, and the agent *John* is marked by Nominative Case *-ga*. The marginal ungrammaticality of (2a) is accounted for by the surface double-*o* constraint, which prohibits more than one *-o* marked element within a sentence in Japanese (cf. Grimshaw and Mester 1988, among others).

Saito and Hoshi (2000) propose the following derivation for light verb construction (2b):

(7)a. [$_{TP}$ **John-ga Mary-kara** [$_{NP}$ **hooseki^1-no** [$_N$ ryakudatu]-o] [$_V$ si] ta]. (syntax) (for 2b)
(agent(source(theme^1)))

b. [$_{TP}$ **John^3-ga Mary-kara^2** [$_{NP}$ **hooseki^1-no** *t* $_N$] [$_V$ [$_N$ ryakudatu]-o si] ta]. (LF)
(agent^3(source^2(theme^1)))

As illustrated in (7a), at the initial point of the derivation, the nominal predicate *ryakudatu* theta-marks the theme argument within its N projection at the base position. Hence, *hooseki* is marked by Genitive Case *-no* within the NP. As shown in (7b), in the LF component, *ryakudatu* incorporates into the light verb *si*, and forms the complex predicate [$_V$ [$_N$ *ryakudatu*]-*o si*]. Consequently, being a part of the complex verb, the predicate *ryakudatu* theta-marks the source argument and the agent argument as a verbal predicate at the sentential level. Thus, the source *Mary-kara* is not marked by any case particle, and the agent *John* is marked by Nominative Case *-ga*. Significantly, under Saito and Hoshi's incorporation analysis, the dual [V+N] properties of a 'verbal noun' follows straightforwardly from the proposal that a verbal noun itself is N, but after incorporating into the light verb *si*, a verbal noun becomes a part of the complex V, assigning theta roles as V.

The following derivation is assigned to light verb construction (3) by Saito and Hoshi (2000):

(8)a. [$_{TP}$ **John-ga Mary-kara hooseki-o** [$_{NP}$ [$_N$ ryakudatu]] [$_V$ si] ta]. (syntax) (for 3)
(agent(source(theme)))

b. [$_{TP}$ **John^3-ga Mary-kara^2 hooseki^1-o** [$_{NP}$ *t* $_N$] [$_V$ [$_N$ ryakudatu]-si] ta]. (syntax)
(agent^3(source^2(theme^1)))

In (8a), the nominal predicate *ryakudatu* projects in its base position, but does not assign any theta role within the N projection (cf. 6a). Here, *ryakudatu* undergoes head movement, and incorporates into the light verb *-si* in syntax, forming the complex predicate [$_V$ [$_N$ *ryakudatu*]-*si*]. Being a part of the complex verb, the nominal predicate theta-marks all the arguments as V at the sentential level. Hence, the theme *hooseki* is attached by Accusative Case *-o*, the source *Mary-kara* surfaces without any case particle, and the agent *John* is marked by Nominative Case *-ga* (cf. 2a, 6a-b).

Finally, examine Saito and Hoshi's (2000) derivation for illicit light verb construction (4), discovered by Grimshaw and Mester (1988).

(9)a. *[$_{TP}$ **John-ga hooseki-o** [$_{NP}$ **Mary-kara^1-no** [$_N$ ryakudatu]-o] [$_V$ si] ta]. (syntax) (for 4; cf. 7a-b)
(agent(source^1(theme)))

b. *[$_{TP}$ **John^3-ga hooseki^2-o** [$_{NP}$ **Mary-kara^1-no** *t* $_N$] [$_V$ [$_N$ ryakudatu]-o si] ta]. (LF)
(agent^3(source^1(theme^2)))

As shown in (9a), the nominal predicate *ryakudatu* projects its NP in its base position, and assigns a source theta role to *Mary-kara* within the NP. The source argument *Mary-kara* is thus attached by the Genitive Case marker *-no* within the N projection. As illustrated in (9b), *ryakudatu* undergoes movement and adjoins to the light verb *si* in LF, forming the complex predicate [$_V$ [$_N$ *ryakudatu*]-*o si*]. Consequently, *ryakudatu* assigns as V a theme theta role

to *hooseki* and an agent theta role to *John* at the sentential level. Accordingly, *hooseki* is attached by the Accusative Case marker *-o* and *John* by the Nominative Case marker *-ga*. The derivation of (9a-b) for (4) is, however, illicit, because the predicate *ryakudatu* does not assign theta roles bottom-up in accordance with its argument structure. In the derivation in (9a-b), *ryakudatu* discharges its source theta role before undergoing head movement to discharge its theme theta role, in contradiction with the argument structure. Notice that in (5), (6a-b), (7a-b) and (8a-b), the nominal predicate *ryakudatu* assigns its theme theta role before assigning its source theta role in accordance with the argument structure.

To summarize, Saito and Hoshi (2000) propose that there is nothing lexically special about 'verbal nouns,' and a 'verbal noun' is simply N with its own argument structure. Hence, a 'verbal noun' functions as N in its base position. However, after incorporating into the light verb (-)*si* at some point of the derivation, a 'verbal noun' becomes a part of the complex verb, consequently behaving as V. The dual [V+N] characteristics of a 'verbal noun' in Japanese is thus accounted for derivationally under the proposal. Significantly, if Saito and Hoshi's analysis is correct, a predicate should be able to assign theta roles to its arguments even after movement operations, and theta relatedness is not a base property (contra. Baker 1988, Chomsky 1995, among others.) That is, Theta Theory interacts with Movement Theory.

3. Potential Problems for Saito and Hoshi's (2000) Incorporation Analysis

As I have shown above, Saito and Hoshi (2000) provide a straightforward way to account for the mixed [V+N] properties of a 'verbal noun' derivationally by means of head movement, and argue that a predicate may assign theta roles even after movement operations. Although the proposal accounts for all the data in the previous section, the proposed incorporation analysis does not appear to be free from problems. Below, I will point out potential problems for Saito and Hoshi's (2000) proposal.

The first potential problem is a theoretical one which concerns the nature of Saito and Hoshi's (2000) LF representations. Recall that Japanese light verb constructions such as (2a-b) are semantically equivalent (Grimshaw and Meter 1988, Saito and Hoshi 2000, among others). Under Saito and Hoshi's (2000) incorporation analysis, however, they are assigned quite different LF representations. Namely, under Saito and Hoshi's (2000) analysis, light verb constructions (2a) and (2b) are assigned LF structures in (6b) and in (7b), respectively. The Japanese light verb constructions in (2a-b) are repeated below as (10a-b):

(10)a. ?**John-ga Mary-kara hooseki-o** ryakudatu-o si-ta. (=2a)
John-Nom Mary-from jewelry-Acc plunderage-Acc do-Pst
'John stole jewelry from Mary.'

b. **John-ga Mary-kara hooseki-no** ryakudatu-o si-ta. (=2b)
John-Nom Mary-from jewelry-Gen plunderage-Acc do-Pst
'John stole jewelry from Mary.'

The LF representations in (6b) and (7b) Saito and Hoshi (2000) propose for (10a-b) are repeated here as (11a) and (11b), respectively.

(11)a. $[_{TP}$ **John-ga Mary-kara hooseki-o** $[_{NP}\ t_{N}]$ $[_{V}$ $[_{N}$ ryakudatu]-o si] ta]. (LF for 10a) (=6b)

b. $[_{TP}$ **John-ga Mary-kara** $[_{NP}$ **hooseki-no** $t_{N}]$ $[_{V}$ $[_{N}$ ryakudatu]-o si] ta]. (LF for 10b) (=7b)

In (11a), the nominal predicate *ryakudatu* does not assign any of its theta roles within its own N projection. Only after incorporating into the light verb *si* in LF and forming the complex predicate $[_{V}$ $[_{N}$ *ryakudatu*]-*o si*], the nominal predicate assigns, as a verb, theta roles to the theme *hooseki*, the source *Mary-kara*, and the agent *John* at the sentential level. In (11b), on the other hand, *ryakudatu* assigns a theme theta role to *hooseki* within its own NP. After adjoining to *si* in LF and forming the complex predicate $[_{V}$ $[_{N}$ *ryakudatu*]-*o si*], the nominal predicate theta-marks as V the source *Mary-kara* and the agent *John* at the sentential level. Hence, semantically equivalent

light verb constructions (10a) and (10b) have distinct LF representations under Saito and Hoshi's (2000) analysis. Consequently, it is not entirely obvious how we can read off the semantic equivalence of examples (10a-b), just given those two different LF representations, (11a) and (11b).

We can make basically the same point on the basis of a single example which is unambiguous. As an example, let me take light verb construction (2b), repeated above as (10b). According to Saito and Hoshi's (2000) proposal, crucially, a predicate can assign theta roles even after movement. Hence, strictly speaking, example (10b) can be assigned a variety of LF representations all of which must be semantically equivalent. For instance, under Saito and Hoshi's (2000) analysis, (10b) may be assigned LF structure below:

(12) $[_{TP}\,[_{VP}$ **John-ga Mary-kara** $[_{NP}$ **hooseki-no** $t_N]\,[_V\,[_N$ ryakudatu]-o si]] ta]. (LF for 10b)

Here, the nominal predicate *ryakudatu* assigns a theme theta role to *hooseki* within its own NP. After incorporating into the light verb *si* in LF, the predicate becomes a part of the complex verb $[_V\,[_N$ *ryakudatu*]-*o si*], assigning theta roles to *Mary-kara* and *John* within the VP.

(10b) might be given the following LF representation:

(13) $[_{TP}$ **John-ga** $[_{VP}$ **Mary-kara** $[_{NP}$ **hooseki-no** $t_N]\,t_V]\,[_T\,[_V\,[_N$ ryakudatu]-o si]] ta]]. (LF' for 10b)

In (13), the predicate *ryakudatu* assigns a theta role to the theme *hooseki* within its own N projection. After adjoining to the light verb *si* in LF and forming the complex predicate $[_V\,[_N$ *ryakudatu*]-*o si*], *ryakudatu* assigns a theta role to the source *Mary-kara* within the VP. By the subsequent head movement, the complex predicate $[_V\,[_N$ *ryakudatu*]-*o si*] incorporates into the tense marker $[_T$ *ta*], and assigns a theta role to the agent argument *John* within the TP.

Japanese light verb construction (10b) can also be assigned the LF representation in (14) under Saito and Hoshi's (2000) account:

(14) $[_{TP}$ **John-ga Mary-kara** $[_{VP}\,[_{NP}$ **hooseki-no** $t_N]\,t_V]\,[_T\,[_V\,[_N$ ryakudatu]-o si] ta]]. (LF'' for 10b)

Here as well, the nominal predicate *ryakudatu* assigns a theta role to the theme *hooseki* within its own N projection. After incorporating into the light verb *si* in LF and forming the complex predicate $[_V\,[_N$ *ryakudatu*]-*o si*], *ryakudatu* does not assign any of its theta roles within the VP. After the subsequent head movement to $[_T$ *ta*], the complex predicate $[_V\,[_N$ *ryakudatu*]-*o si*] assigns a source theta role to *Mary-kara* and an agent theta role to *John* within the domain of the TP. As illustrated here, under Saito and Hoshi's proposal, even a single light verb construction (10b), which is semantically unambiguous, can thus be given quite different LF representations, e.g. (12), (13) and (14). Apparently, here as well, it is not entirely clear how we can account for the unambiguity of (10b), if we are just given those distinct LF representations, (12), (13), and (14).

As Kuroda (2003) points out, to avoid having this type of problem with respect to the nature of the proposed LF representations, Saito and Hoshi (2000) imply that we need not only LF representation, but also the argument structure of each predicate, to successfully calculate the interpretation of each sentence. Accordingly, Saito and Hoshi (2000) assign (15) to light verb construction (10a), and assign (16) to light verb construction (10b).

(15) $[_{TP}$ **John^3-ga Mary-kara^2 hooseki^1-o** $[_{NP}\,t_N]\,[_V\,[_N$ ryakudatu]-o si] ta]. (LF for 10a) (=6b)

(agent^3(source^2(theme^1)))

(16) $[_{TP}$ **John^3-ga Mary-kara^2** $[_{NP}$ **hooseki^1-no** $t_N]\,[_V\,[_N$ ryakudatu]-o si] ta]. (LF for 10b) (=7b)

(agent^3(source^2(theme^1)))

Notice that (15) and (16) both involve two independent representations, i.e. the LF representation and the argument structure of the 'verbal noun' *ryakudatu*. To capture the correspondence between the LF representation and the argument structure in (15) and (16), Saito and Hoshi (2000) have to stipulate by superscripts the theta relations between syntactic arguments and theta roles within the argument structure.

Under Saito and Hoshi's analysis, exactly for the same reason, Japanese light verb constructions such as (10b) must also be given the argument structure of the 'verbal noun' as well as a variety of LF representations, in order to calculate the final semantic interpretation. This is shown below:

(17) $[_{TP}\ [_{VP}$ **John^3-ga Mary-kara^2** $[_{NP}$ **hooseki^1-no** $t_N]$ $[_V\ [_N$ ryakudatu]-o si]] ta]. (LF for 10b; =12)
(agent^3(source^2(theme^1)))

(18) $[_{TP}$ **John^3-ga** $[_{VP}$ **Mary-kara^2** $[_{NP}$ **hooseki^1-no** $t_N]$ $t_V\ ]$ $[_T\ [_V\ [_N$ ryakudatu]-o si]] ta]]. (LF' for 10b; =13)
(agent^3(source^2(theme^1)))

(19) $[_{TP}$ **John^3-ga Mary-kara^2** $[_{VP}\ [_{NP}$ **hooseki^1-no** $t_N]$ $t_V\ ]$ $[_T\ [_V\ [_N$ ryakudatu]-o si] ta]]. (LF'' for 10b; =14)
(agent^3(source^2(theme^1)))

In summary, under Saito and Hoshi's (2000) proposal, the semantic equivalence among constructions such as (10a-b) cannot be captured by LF representations such as (11a) and (11b) directly. Crucially, as Kuroda (2003) points out, the semantic equivalence of (10a-b) must be calculated based on both the LF representation and the argument structure of the 'verbal noun' in (15) and (16). This is because for Saito and Hoshi (2000), the LF representation is not the final semantic representation for a linguistic expression. However, Saito and Hoshi (2000) do not show formally what the final semantic representation of (15) and (16) is, or do not spell out how we can construct the identical semantic representation for (10a-b) based on (15) and (16), to capture the semantic equivalence of (10a-b). Similarly, Saito and Hoshi (2000) do not clarify, either, how we can calculate the identical semantic interpretation based on the LF representation and the argument structure in (17), (18) and (19). One might thus consider this to be a potential theoretical problem for Saito and Hoshi's (2000) proposal.

The second potential problem for Saito and Hoshi (2000) is an empirical one. Compare now light verb construction (20) with (21).

(20) ?**John-ga Mary-kara hooseki-**o ryakudatu-o si-ta. (=10a)
John-Nom Mary-from jewelry-Acc plunderage-Acc do-Pst
'John stole jewelry from Mary.'

(21) **John-ga Mary-kara hooseki-o** ryakudatu-si-ta. (=3)
John-Nom Mary-from jewelry-Acc plunderage-do-Pst
'John stole jewelry from Mary.'

In (20), the predicate *ryakudatu* is attached by Accusative Case *-o*. In (21), on the other hand, *ryakudatu* is attached by the light verb *-si*.

Saito and Hoshi (2000) assign structures (22) and (23) to light verb constructions (20) and (21), respectively, as illustrated below:

(22) $[_{TP}$ **John-ga Mary-kara hooseki-o** $[_{NP}\ t_N]$ $[_V\ [_N$ ryakudatu]-o si] ta]. (LF for 20) (=11a)

(23) $[_{TP}$ **John-ga Mary-kara hooseki-o** $[_{NP}\ t_N]$ $[_V\ [_N$ ryakudatu]-si] ta]. (syntax/LF for 21) (=8b)

In (22), the predicate *ryakudatu* incorporates into the light verb *si* in the LF component and forms the complex predicate $[_V\ [_N$ *ryakudatu*]-*o si*], assigning all of its theta roles at the sentential level. In (23), on the other hand, *ryakudatu* incorporates into the light verb in overt syntax and forms the complex predicate $[_V\ [_N$ *ryakudatu*]-*si*], carrying out theta-marking only at the sentential level. In this way, Saito and Hoshi (2000) analyze light verb constructions (20) and (21) in a uniform way, and argue that the only difference between (20) and (21) is whether the predicate *ryakudatu* incorporates into the light verb in LF or in syntax. In other words, in both (20) and (21), a complex predicate is formed. In (20), the complex predicate $[_V\ [_N$ *ryakudatu*]-*o si*] is formed in LF. In (21), the complex predicate $[_V\ [_N$ *ryakudatu*]-*si*] is formed in overt syntax.

This uniform 'complex predicate' analysis of (20) and (21), however, seems to be problematic, because there is a fundamental difference between the two types of light verb construction, (20) and (21). Consider the following sharp contrast:

(24) **John-ga Mary-kara hooseki-no** ryakudatu-o si-ta. (=10b)
John-Nom Mary-from jewelry-Gen plunderage-Acc do-Pst
'John stole jewelry from Mary.'

(25) ***John-ga Mary-kara hooseki-no** ryakudatu-si-ta.
John-Nom Mary-from jewelry-Gen plunderage-do-Pst
'John stole jewelry from Mary.'

Japanese light verb construction (24) is grammatical, whereas (25) is totally ungrammatical.

As I have explained above, Saito and Hoshi (2000) can straightforwardly account for the grammaticality of (24). This is so, because under Saito and Hoshi's (2000) structure (26) for (24),

(26) [$_{TP}$ **John-ga Mary-kara** [$_{NP}$ **hooseki-no** t_N] [$_V$ [$_N$ ryakudatu]-o si] ta]. (LF for 24) (=11b)

the nominal predicate *ryakudatu* first projects its N projection, where it assigns a theta role to the theme *hooseki*. The theme argument is thus successfully marked by Genitive Case *-no* within the NP. After incorporating into the light verb *si* in the LF component and forming the complex predicate [$_V$ [$_N$ *ryakudatu*]-*o si*], the predicate *ryakudatu* assigns theta roles to the source *Mary-kara* and the agent *John* as part of the complex verb at the sentential level.

Significantly, however, the ungrammaticality of example (25) is not expected by Saito and Hoshi's (2000) analysis. This is because under Saito and Hoshi's uniform 'complex predicate' analysis, example (25) should be given structure (27), exactly in parallel to structure (26):

(27) [$_{TP}$ **John-ga Mary-kara** [$_{NP}$ **hooseki-no** t_N] [$_V$ [$_N$ ryakudatu]-si] ta]. (syntax/LF for 25) (cf. 26)

In (27), the nominal predicate *ryakudatu* assigns a theta role to the theme *hooseki* within its own N projection. In syntax, *ryakudatu* undergoes head movement and forms with the the light verb *si* the complex predicate [$_V$ [$_N$ *ryakudatu*]-*si*], assigning theta roles to the source *Mary-kara* and the agent *John* (cf. 26). Hence, as in (26), there should be nothing wrong in structure (27), and example (25) is expected to be as grammatical as (24). In particular, the Genitive Case marked theme argument, *hooseki-no*, should be properly licensed within the NP in (27), exactly as in (26). However, (25) is ungrammatical in sharp contrast with (24). The ungrammaticality of example (25) thus poses a problem for Saito and Hoshi's (2000) uniform treatment of the two types of Japanese light verb construction, (20) and (21).

The last potential problem for Saito and Hoshi's (2000) incorporation analysis I wish to point out here is also an empirical one. Sato (1993) and others observe the grammaticality of light verb constructions such as the ones below:

(28)a. ?**Mary-kara hooseki-o** ryakudatu-o-sae, John-ga si-ta.
Mary-from jewelry-Acc plunderage-Acc-even, John-Nom do-Pst
'Even steal jewelry from Mary, John did.'

b. **Mary-kara hooseki-no** ryakudatu-o, John-ga si-ta.
Mary-from jewelry-Gen plunderage-Acc, John-Nom do-Pst
'Steal jewelry from Mary, John did.'

(28a) sounds slightly odd, because there is more than one *-o* marked phrase in the sentence (Harada 1973, Kuroda 1978, Saito 1985, among others). Putting aside this surface double-*o* constraint violation, (28a) seems to be as grammatical as (28b).

Importantly, Japanese light verb constructions such as (28a-b) appear to pose another potential problem for Saito and Hoshi's (2000) incorporation analysis. This is because (28a-b) are based on (29a-b), which do not involve 'predicate fronting.'

(29)a. ?**John-ga Mary-kara hooseki-o** ryakudatu-o-sae si-ta. (cf. 10a)
John-Nom Mary-from jewelry-Acc plunderage-Acc-even do-Pst
'John even stole jewelry from Mary.'

b. **John-ga Mary-kara hooseki-no** ryakudatu-o si-ta. (=10b)
John-Nom Mary-from jewelry-Gen plunderage-Acc do-Pst
'John stole jewelry from Mary.'

As explained above, Saito and Hoshi (2000) propose LF representations (30a-b) for constructions such as (29a-b),

respectively.

(30)a. [$_{TP}$ **John-ga Mary-kara hooseki-o** [$_{NP}$ t_N] [$_V$ [$_N$ ryakudatu]-o-sae si] ta]. (LF for 29a) (cf. 11a)

b. [$_{TP}$ **John-ga Mary-kara** [$_{NP}$ **hooseki-no** t_N] [$_V$ [$_N$ ryakudatu]-o si] ta]. (LF for 29b) (=11b)

Notice that in derivation (30a), the 'verbal noun' *ryakudatu* never forms a constituent together with the theme *hooseki-o* and the source *Mary-kara* at any point of the derivation. However, predicate fronting in (28a) implies that [***Mary-kara hooseki-o*** *ryakudatu*]-*o-sae* is, in fact, a constituent. Notice also that in (30b), there is no point in the computation, either, where [***Mary-kara***] forms a constituent with [***hooseki-no*** *ryakudatu*]-*o*. Nonetheless, predicate fronting in (28b) suggests that [***Mary-kara hooseki-no*** *ryakudatu*]-*o* does, indeed, form a constituent.

Finally, observe below that the 'verbal noun' can never be fronted alone:

(31) *[ryakudatu-o-sae]$_i$, John-ga Mary-kara hooseki-o t_i si-ta.
plunderage-Acc-even, John-Nom Mary-from jewelry-Acc do-Pst

The ill-formedness of (31) reinforces the hypothesis that the 'verbal noun' *ryakudatu* is indeed fronted to the sentence initial position together with the internal arguments, the theme and the source, in (28a-b). Namely, in (28a), [***Mary-kara hooseki-o*** *ryakudatu*]-*o-sae* is a fronted constituent. In (28b), [***Mary-kara hooseki-no*** *ryakudatu*]-*o* is a preposed constituent.

In conclusion, I have pointed out above three potential problems for Saito and Hoshi's (2000) incorporation analysis of Japanese light verb constructions. The first one concerns Saito and Hoshi's (2000) proposal that a predicate can assign theta roles even after undergoing movement operations. In particular, the first problem is related to the nature of LF representations proposed by Saito and Hoshi (2000). The second and third problems are empirical ones. More specifically, the second potential problem concerns the difference between the two types of light verb construction, (20) and (21). The third one is related to predicate fronting and constituents in Japanese light verb constructions such as (28a-b).

Here, taking the above mentioned problems as non-trivial ones, I wish to suggest a novel analysis which might provide more adequate a way to capture the mixed [V+N] properties of a 'verbal noun' from a radically different perspective, crucially adopting the 'dynamic' view of the language faculty (cf. Kempson, et al. 2001, Cann et al. 2005, Cann et al. 2009, among others).

4. An Alternative: A Dynamic Property of Language

Given a recent development of Dynamic Syntax, which characterizes structural properties of language in terms of the left-right incremental process of building up interpretation from the sequence of words (Kempson et al. 2001, Cann et al. 2005, Cann et al. 2009, Kempson and Kiaer 2009, Kempson and Kurosawa 2009, among others), I try to suggest a new analysis of 'verbal nouns' in this section. To be more precise, here, I aim to suggest an analysis which might provide a more promising way to capture the dual [V+N] characteristics of 'verbal nouns' with special attention to the dynamics of the language faculty.

To attain this aim, I suggest (32) and (33a-b). Consider assumption (32) first.

(32) The categorial status of 'verbal nouns' in Japanese is unspecified in the lexicon, and thus, that of 'verbal nouns' must be determined by structural environments/context in the course of the left to right incremental processing.

Recall that Saito and Hoshi (2000) argue that a 'verbal noun' is inherently N with its argument structure, and that after incorporating into the light verb *si* and forming the complex verb, a 'verbal noun' functions as V at the sentential level. In contrast with this 'fixed' view of 'verbal nouns,' here, (32) is suggested in line with the assumption that the nature of lexical items is very often not completely fixed in the lexicon, and is determined step by step in the course of the left to right incremental processing of words (Kempson et al. 2001, Cann et al. 2005, Cann et al. 2009, among others; cf. Yumoto 2011). In the spirit of this 'dynamnic' view of lexical items, (32) claims that the categorial status of a 'verbal noun' is, in fact, not fixed in the lexicon, and thus, that of a 'verbal noun' must be determined

contextually step by step in the course of the left to right parsing.

Consider next the assumptions in (33a-b) below:

(33)a. At the time when a case marker (henceforth, K) merges a projection of a 'verbal noun' in the course of the left to right processing, the projection of the 'verbal noun' merged by K is licensed as an N projection.

b. At the time when a tense marker (henceforth, T) merges a projection of a 'verbal noun' in the course of the left to right processing, the projection of the 'verbal noun' merged by T is licensed as a V projection.

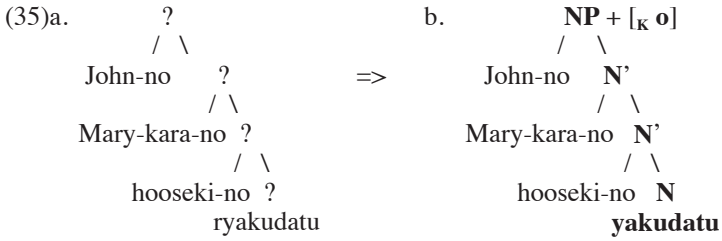
(33a-b) are suggested in line with the assumption that particles, e.g. case particles and tense particles, play significant roles in the left to right processing of the sequence of words in Japanese (Kempson et al. 2001, Cann et al. 2005, Kempson and Kiaer 2009, among others). According to (33a), once a projection of a 'verbal noun' is morphologically merged by K in the course of the left to right parsing, the projection of the 'verbal noun' is identified as an N projection. According to (33b), once a projection of a 'verbal noun' is merged by T in the course of the left to right parsing, the projection of the 'verbal noun' is fixed as a V projection. Both (33a) and (33b) seem to me to be natural, for case markers and tense makers have close relationships with Ns and Vs, respectively.

Below, I attempt to show that the dynamics of language together with assumptions (32) and (33a-b) could yield an account for all the data in Sections 2 and 3. In particular, I try to demonstrate here that the suggested processing-based analysis might provide a better way to account for the dual [V+N] characteristics of 'verbal nouns.' Consider first example (1), repeated here as (34).

(34) [**John-no Mary-kara-no hooseki-no** ryakudatu] -o ….. (=1)
[John-Gen Mary-from-Gen jewelry-Gen plunderage]-Acc …..
'….. John's pluderage of jewelry from Mary …..'

When we have parsed from *John-no* to *ryakudatu* in (34), we construct representation (35a).

(35)a.

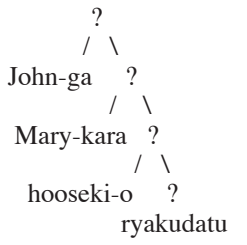


In (35a), the categorial status of *ryakudatu* is not specified at all, because 'verbal nouns' such as *ryakudatu* lack categorial features due to assumption (32). In example (34), the case particle [$_K$ *o*] is attached to the 'verbal noun' *ryakudatu*. Immediately after parsing the case particle [$_K$ *o*], we can merge [$_K$ *o*] with any part of the projection of *ryakudatu*. As illustrated in (35b), if we merge the case particle [$_K$ *o*] with the highest projection of *ryakudatu*, the whole projection of *ryakudatu* is licensed top to bottom as an N projection due to assumption (33a). Consequently, the Genitive Case marked arguments, *John-no*, *Mary-kara-no* and *hooseki-no*, are all properly licensed within the N projection of *ryakudatu* (cf. 5; cf. Saito 1982, Murasugi 1991, among others).

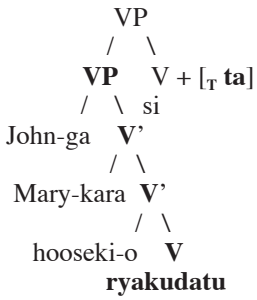
Examine next example (3), repeated here as (36).

(36) **John-ga Mary-kara hooseki-o** ryakudatu-si-ta. (=3)
John-Nom Mary-from jewelry-Acc plunderage-do-Pst
'John stole jewelry from Mary.'

When we have finished parsing from *John-ga* to *ryakudatu* in (36), we build up representation (37a), exactly as in (35a).

(37)a.


=>

b.


In representation (37a) as well, the categorial nature of the projection of the verbal noun *ryakudatu* is unspecified due to assumption (32). After parsing -[$_V$ *si*]-[$_T$ *ta*], we construct structure (37b). In (37b), this time, the tense marker [$_T$ *ta*] together with -[$_V$ *si*] merges the highest projection of *ryakudatu* in (37a). Subsequently, in accordance with assumption (33b), the tense marker [$_T$ *ta*] licenses, top to bottom, the entire projection of *ryakudatu* as a V projection. Accordingly, the agent *John* is marked by Nominative Case *-ga*, the source is not attached by any case marker, and the theme *hooseki* is marked by Accusative Case *-o*. Notice that in (37b), none of the arguments of the predicate *ryakudatu* can be attached by Genitive Case *-no*, because there is no NP which immediately dominates any of the arguments (cf. 35b).

Significantly, the parsing-based analysis based on (32) and (33a-b) straightforwardly accounts for the ungrammaticality of example (25), repeated here as (38), which is problematic for Saito and Hoshi's (2000) incorporation analysis.

(38) ***John-ga Mary-kara hooseki-no*** ryakudatu-si-ta. (=25)
John-Nom Mary-from jewelry-Gen plunderage-do-Pst
'John stole jewelry from Mary.'

Saito and Hoshi's (2000) structure for (38) is given in (39), and the proposed processing-based structure for (38) is in (40)

(39) [$_{TP}$ **John-ga Mary-kara** [$_{\underline{NP}}$ **hooseki-no** t_N] [$_V$ [$_{\underline{N}}$ ryakudatu]-si] ta]. (=27) (Saito and Hoshi 2000)

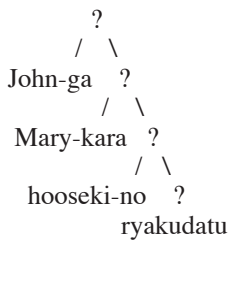
(40) *[[$_{\underline{VP}}$ **John-ga** [$_{\underline{V'}}$ **Mary-kara** [$_{\underline{V'}}$ **hooseki-no** [$_{\underline{V}}$ ryakudatu]]]] -si-**ta**]

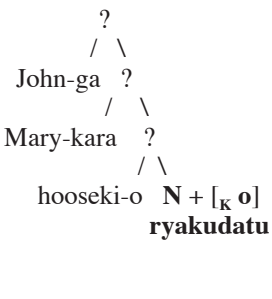
Under Saito and Hoshi's (2000) analysis, the verbal noun *ryakudatu* in (39) is assumed to be inherently N. Accordingly, there should be an NP which immediately dominates the theme argument *hooseki-no*, as illustrated in (39). However, (38) is ungrammatical, which implies that there is something wrong about Saito and Hoshi's (2000) structure (39) for (38). Under the suggested parsing-based analysis, on the other hand, the ill-formedness of (38) is straightforwardly accounted for. This is so, because in (38), no case particle is attached to the verbal noun *ryakudatu*, and thus, no part of the projection of *ryakudatu* is licensed as N as illustrated in (40). At the time when the tense marker [$_T$ *ta*] together with the light verb *-si* merges the highest projection of the verbal noun *ryakudatu*, [$_T$ *ta*] licenses the whole projection of *ryakudatu* top to bottom as a V projection due to assumption (33b), as shown in (40). Consequently, there should be no NP which immediately dominates and Case-licenses the theme argument attached by Genitive Case, *hooseki-no*, as illustrated in (40). The ungrammaticality of (38) is thus accounted for as desired, under the suggested processing-based analysis together with assumptions (32) and (33a-b).

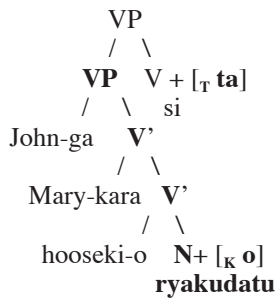
Consider next example (2a), repeated here as (41). (41) is slightly odd, because it violates the surface double-*o* constraint.

(41) ?***John-ga Mary-kara hooseki-o*** ryakudatu-o si-ta. (=2a)
John-Nom Mary-from jewelry-Acc plunderage-Acc do-Pst
'John stole jewelry from Mary.'

The parsing process I propose for example (41) is given below. Having parsed from *John-ga* to *ryakudatu*, we build up structure (42a), exactly as before.

(42)a.


=>
b.


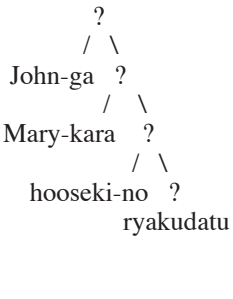
=>
c.


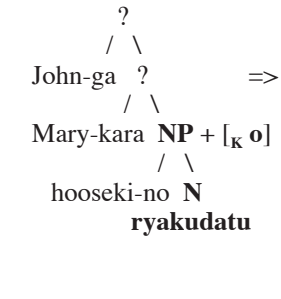
Then, the accusative case particle [$_K$ *o*] is parsed. Unlike in (35b), this time, the case particle [$_K$ *o*] morphologically merges the lowest projection of *ryakudatu*, licensing it as N in accordance with assumption (33a). This is shown in (42b). Finally, after parsing [$_V$ *si*]-[$_T$ *ta*], we construct representation (42c), where [$_T$ *ta*] together with the light verb [$_V$ *si*] merges the highest projection of *ryakudatu*, licensing the unspecified projection of *ryakudatu* top to bottom as a V projection in accordance with (33b). As shown in (42c), here, all the arguments appear within the V projection of *ryakudatu*. As a result, in (42c), the agent *John* is marked by Nominative Case *-ga*, the source *Mary-kara* appears without any case marker, and the theme *hooseki* is marked by Accusative Case *-o*.

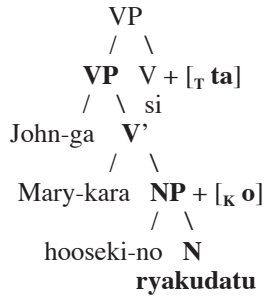
Consider now light verb construction (2b), repeated here as (43).

(43) **John-ga Mary-kara hooseki-no** ryakudatu-o si-ta. (=2b)
John-Nom Mary-from jewelry-Gen plunderage-Acc do-Pst
'John stole jewelry from Mary.'

At some point of our parsing example (43) from left to right, we build up structure (44a), exactly as before.

(44)a.


=>
b.


=>
c.


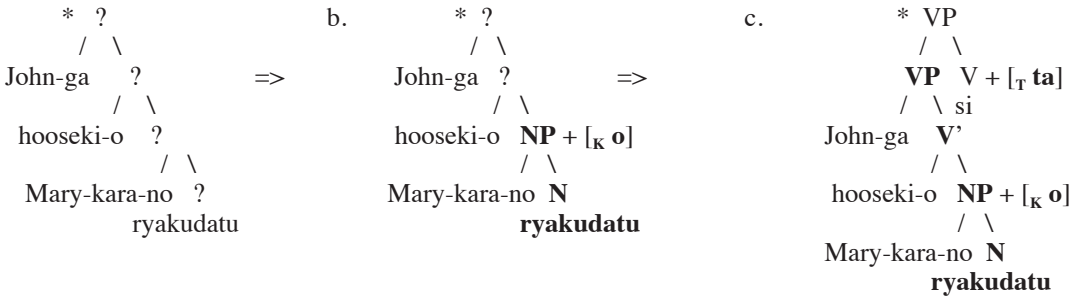
In (44a), the categorial status of the verbal noun *ryakudatu* is unspecified, given assumption (32). Then, in (44b), the accusative case particle [$_K$ *o*] is morphologically merged with the second lowest projection of *ryakudatu*, licensing the projection top to bottom as an N projection in accordance with assumption (33a). Hence, as in (44b), the theme argument *hooseki* is successfully marked by Genitive Case *-no* within the N projection of *ryakudatu*. Finally, [$_T$ *ta*] together with [$_V$ *si*] merges the highest projection of *ryakudatu*, licensing the unspecified projection of *ryakudatu* top to bottom as a V projection due to (33b), as illustrated in (44c). Consequently, the agent *John-ga* and the source *Mary-kara* are properly licensed within the V projection of *ryakudatu*.

Examine next ungrammatical light verb construction (4) discovered by Grimshaw and Mester (1988), repeated here as (45). Like (41), (45) violates the surface double-*o* constraint, but (45) is much worse than (41).

(45) ***John-ga hooseki-o Mary-kara-no** ryakudatu-o si-ta. (=4)
John-Nom jewelry-Acc Mary-from-Gen plunderage-Acc do-Pst
'John stole jewelry from Mary.'

We parse a string of words in (45), exactly in the same way as we parse the words in example (43). This is illustrated in (46a-c).

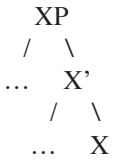
(46)a. b. c.



Unlike structures such as (44a-c), structures in (46a-c) are ruled out in a straightforward manner by the assumption that the theme argument must be always positioned in the closest complement position of a predicate in accordance with Chomsky's (1995) configurational theta theory (contra. Saito and Hoshi 2000). In (46a-c), not the theme argument *hooseki* but the source argument *Mary-kara* is generated in the closest complement position.[5)]

Notice here the importance of 'mixed category' projections in (42c) and (44c). These are the crucial structures that the left to right parsing-based analysis generates quite naturally, but a standard 'static' syntactic theory, which ignores the dynamic nature of language, cannot generate. This is because some type of X' Theory is assumed under a standard syntactic theory, and every category must project bottom-up based on the nature of a head, strictly in accordance with the X' schema in (47), irrespective of structural environments or irrespective of how the left to right processing of a string of words proceeds (Chomsky 1970, 1986a-b, 1995, among others):

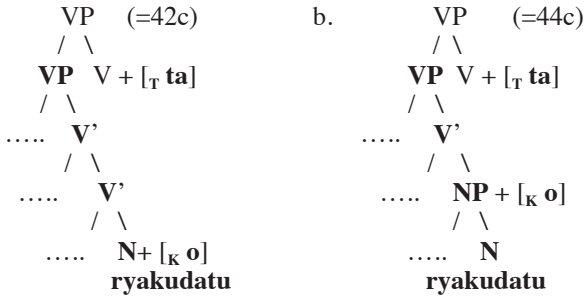
(47)



Under X' Theory, as in (47), the categorial status of X determines that of an intermediate projection, X', and that of a maximal projection, XP. In other words, the categorial status of intermediate and maximal projections must be based strictly on that of a head. This type of X' requirement, thus, necessarily bans 'mixed category' projections such as (42c) and (44c), where a certain category X changes its categorial status in the course of its projection.

Given this, examine again the simplified 'mixed category' projections in (42c) and (44c), repeated here as (48a) and (48b):

(48)a. b.



Representations (48a) and (48b) are both illicit under X' Theory, because in both of these structures, the N projection turns into the V projection in the course of its projection in contradiction with the X' schema in (47). On the other hand, under the suggested analysis, 'mixed category' projections such as (48a-b) are just natural consequences of the dynamics of language together with (32) and (33a-b).

To repeat, under the parsing-based account, the categorial status of 'verbal nouns' is unspecified in the lexicon, and thus, must be fixed in accordance with structural context in the course of the left to right incremental processing due to (32). As shown in (48a), at the time when the case particle [$_K$ *o*] morphologically attaches to the lowest projection of *ryakudatu*, the K licenses the projection as N due to (33a). In the same way, as illustrated in (48b), at the time when the case particle [$_K$ *o*] attaches to the second lowest projection of *ryakudatu*, the K licenses the projection top to bottom as an N projection due to (33a). At a later point of the parsing in (48a), the tense particle [$_T$

ta] together with V merges the whole projection of *ryakudatu*. Consequently, in (48a), the T licenses the upper part of the remaining projection of *ryakudatu* top to bottom as a V projection due to (33b). Similarly, at a later point of the processing in (48b), the tense marker [$_{T}$ *ta*] together with V merges the entire projection of *ryakudatu*. As in (48b), the T licenses the upper part of the unspecified projection of *ryakudatu* top to bottom as a V projection due to (33b). In this way, 'mixed category' projections are naturally constructed by the suggested parsing-based analysis in the course of the left to right processing without any stipulation. Under a standard syntactic theory, on the other hand, 'mixed category' projections such as (48a-b) cannot be generated because structure must be built bottom-up strictly in accordance with the nature of a head.

Significantly, 'mixed category' projections such as (48a-b), which are problematic for a standard syntactic theory, yield two pleasing consequences. First, 'mixed category' projections provide a straightforward way to account for predicate fronting data in (28a-b) discovered by Sato (1993) and others. (28a-b) are repeated here as (49a-b), respectively.

(49)a. ?**Mary-kara hooseki-o** ryakudatu-o-sae, John-ga si-ta. (=28a)
Mary-from jewelry-Acc plunderage-Acc-even, John-Nom do-Pst
'Even steal jewelry from Mary, John did.'

b. **Mary-kara hooseki-no** ryakudatu-o, John-ga si-ta. (=28b)
Mary-from jewelry-Gen plunderage-Acc, John-Nom do-Pst
'Steal jewelry from Mary, John did.'

As discussed in the previous section, the well-formedness of (49a-b) implies that in (50a), [***Mary-kara hooseki-o*** *ryakudatu*]-*o-sae* forms a constituent, and that in (50b), [***Mary-kara hooseki-no*** *ryakudatu*]-*o* is a constituent.

(50)a. ? **John-ga** [**Mary-kara hooseki-o** ryakudatu]- o-sae si-ta. (cf. 2a)
John-Nom Mary-from jewelry-Acc plunderage –Acc-even do-Pst
'John stole jewelry from Mary.'

b. **John-ga** [**Mary-kara hooseki-no** ryakudatu]-o si-ta. (=2b)
John-Nom Mary-from jewelry-Gen plunderage-Acc do-Pst
'John stole jewelry from Mary.'

Recall that Saito and Hoshi's (2000) incorporation structure (51a) for (50a) do not involve the constituent [***Mary-kara hooseki-o*** *ryakudatu*]-*o-sae* at any point of the derivation. Saito and Hoshi's (2000) head-movement structure (51b) for (50b) do not contain the constituent [***Mary-kara hooseki-no*** *ryakudatu*]-*o* at any point of the computation, either.

(51)a. [$_{TP}$ John-ga **Mary-kara hooseki-o** [$_{NP}$ t_{N}] [$_{V}$ [$_{N}$ **ryakudatu**]**-o-sae** si] ta]. (LF for 50a) (cf. 11a)

b. [$_{TP}$ John-ga **Mary-kara** [$_{NP}$ **hooseki-no** t_{N}] [$_{V}$ [$_{N}$ **ryakudatu**]**-o** si] ta]. (LF for 50b) (=11b)

(Saito and Hoshi 2000)

Importantly, however, the suggested parsing-based alternative does indeed involve such constituents, thanks to the availability of 'mixed category' projections.

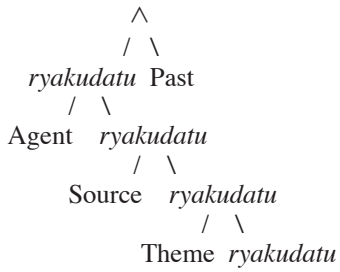
(52)a. [[$_{\underline{\underline{VP}}}$ John-ga [$_{\underline{\underline{V'}}}$**Mary-kara** [$_{\underline{\underline{V'}}}$**hooseki-o** [$_{\underline{N}}$ **ryakudatu**] -[$_{K}$ **o**]**-sae**]]] si-[$_{T}$ **ta**]] (for 50a)

b. [[$_{\underline{\underline{VP}}}$ John-ga [$_{\underline{\underline{V'}}}$**Mary-kara** [$_{\underline{\underline{NP}}}$ **hooseki-no** [$_{\underline{N}}$ **ryakudatu**]]-[$_{K}$ **o**]]] si-[$_{T}$ **ta**]] (for 50b)

As illustrated in (52a), under the suggested parsing-based analysis, [***Mary-kara hooseki-o*** *ryakudatu*]-*o-sae* is indeed a part of the 'mixed category' projection [$_{\underline{\underline{VP}}}$ *John-ga* [$_{\underline{\underline{V'}}}$ ***Mary-kara*** [$_{\underline{\underline{V'}}}$***hooseki-o*** [$_{\underline{N}}$ ***ryakudatu***]-[$_{K}$ *o*]-*sae*]]]. As shown in (52b), [***Mary-kara hooseki-no*** *ryakudatu*]-*o* does also form a constituent thanks to the 'mixed category' projection [$_{\underline{\underline{VP}}}$ *John-ga* [$_{\underline{\underline{V'}}}$ ***Mary-kara*** [$_{\underline{\underline{NP}}}$ ***hooseki-no*** [$_{\underline{N}}$ ***ryakudatu***]]-[$_{K}$ *o*]]].

Second, the availability of a variety of 'mixed category' projections seems to provide a direct way to capture the semantic equivalence of light verb constructions, i.e. (36), (41), and (43), strictly configurationally, as desired. This is because under the processing-based alternative, structure (37b) for (36), structure (42c) for (41), and structure (44c) for (43) are all configurationally the same as in (53), if we eliminate syntactic features such as Case features from (37b), (42c), and (44c).

(53)



'Mixed category' projections in (42c/48a) and (44c/48b) are particularly important, because they do involve different types of 'mixed category' projections, but they are indeed configurationally identical as illustrated in (53) (cf. Saito and Hoshi 2000). Significantly, representation (53) is consistent with Chomsky's (1995) configurational theta theory, where Theta Theory and Movement Theory do not interact (contra Saito and Hoshi 2000), and (53) also provides a natural account for the following data:

Examine the dialogue between speakers A and B in (54), which involves ellipsis.

(54)A: (anata-wa) moo **Mary-kara hooseki-no** ryakudatu-o si-ta-no.
(you-Top) yet Mary-from jewerlry-Gen plunderage-Acc do-Pst-Q
'Have you stolen jewelry from Mary yet?'

B: mada [*e*] si-te i-na-i.
yet do- -Neg-Prs
'No, I haven't.'

Under the parsing-based analysis which naturally generates 'mixed category' projections, the elliptical site [*e*] in (54) is simply a 'constituent' gap (cf. Abe and Hoshi 1997, Saito and Hoshi 2000). Furthermore, given proposal (53), it is correctly predicted that the elliptical site can be filled by semantically equivalent expressions such as (55a), (55b), or (55c).

(55)a. [$_{\underline{\underline{VP}}}$ **Mary-kara** [$_{\underline{\underline{NP}}}$ **hooseki-no** [$_{\underline{N}}$ ryakudatu]]-o]
Mary-from jewelry-Gen plunderage-Acc

b. ?[$_{\underline{\underline{VP}}}$ **Mary-kara** [$_{\underline{\underline{V'}}}$ **hooseki-o** [$_{\underline{N}}$ ryakudatu]-o]]
Mary-from jewerlry-Acc plunderage-Acc

c. [$_{VP}$ **Mary-kara** [$_{V'}$ **hooseki-o** [$_{V}$ ryakudatu]]]
Mary -from jewelry -Acc plunderage

Importantly, (55a) and (55b) are both 'mixed category' constituents, and the availability of (55b-c) for the elliptical site in (54) implies that ellipsis does require an identical semantic content rather than an identical string of words in the given context (see 53; cf. Kempson 1977, Kempson et al. 2001, Cann et al. 2005, Cann et al. 2009, among others). Notice that neither ?[$_{\underline{\underline{VP}}}$ ***Mary-kara*** [$_{\underline{\underline{V'}}}$ ***hooseki-o*** [$_{\underline{N}}$ *ryakudatu*]-*o*]] in (55b) nor [$_{VP}$ ***Mary-kara*** [$_{V'}$ ***hooseki-o*** [$_{V}$ *ryakudatu*]]] in (55c) exists in speaker A's utterance in (54). Only the 'mixed category' projection [$_{\underline{\underline{VP}}}$ ***Mary-kara*** [$_{\underline{\underline{NP}}}$ ***hooseki-no*** [$_{\underline{N}}$ *ryakudatu*]]-*o*] in (55a) is present in speaker A's utterance in (54).

Now, consider *-kata* 'way' constructions below:

(56)a. [$_{V}$ tabe]-kata
eat –way
'the way to eat'

b. [$_{V}$ [$_{V}$ tabe]-[$_{V}$ sase]]-kata
eat-make-way
'the way to make someone to eat'

As shown above, in the *-kata* 'way' construction in Japanese, the nominal suffix *-kata* attaches to V (Kageyama 1993,

Ito and Sugioka 2002, among others). In (56a), the nominal suffix *-kata* is attached to the verb *tabe* 'eat.' In (56b), the suffix *-kata* is attached to the complex verb [$_V$ [$_V$ *tabe*]-[$_V$ *sase*]] 'eat-make.'

Consider, finally, the following examples, all of which involve the 'verbal noun' *ryakudatu*:

(57)a. ryakudatu-si-**ta**.
plunderage-do-Pst
'Someone stole something.'

b. ryakudatu-**no** si-kata
plunderage-Gen do-way
'the way to steal something'

c. *ryakudatu-si -kata
plunderage-do-way
'the way to steal something'

Kageyama (1993), Sells (2002), among others, observe that there is a sharp contrast between (57a) and (57b), one the one hand, and (57c), on the other. A question thus arises as to why there is such a contrast in (57a-c). This contrast is in fact predicted by the suggested processing-based analysis. This is because in (57a), the tense marker -[$_T$ *ta*] together with the light verb -[$_V$ *si*] merges the projection of the 'verbal noun,' licensing the projection of the 'verbal noun' *ryakudatu* as V, due to assumption (33b). In (57b), the Genitive Case particle -[$_K$ *no*] merges the projection of the verbal noun *ryakudatu*, licensing the projection of the verbal noun as N, due to assumption (33a). (57c), on the other hand, is ruled out, because in (57c), neither T nor K merges the projection of the 'verbal noun' *ryakudatu*. As a consequence, the 'verbal noun' in (57c) cannot be licensed categorially in any way, and turns out to be an 'unusable' lexical item for the language faculty. If this account for (57a-c) is indeed correct, it provides further evidence for assumptions (32) and (33a-b) and consequently, for the suggested new analysis under which the dynamics of language together with (32) and (33a-b) play significant roles in the formation of Japanese light verb constructions.

5. Conclusion

In this paper, I have pointed out three potential problems for Saito and Hoshi's (2000) incorporation analysis of Japanese light verb constructions, in particular for their treatment of the mixed [V+N] properties of 'verbal nouns.' Taking those problems as non-trivial ones, I have attempted to suggest an alternative analysis by adopting the dynamic view of the language faculty (Kempson et al. 2001, Cann et al. 2005, among others). More precisely, here, I have aimed to argue that we should explain the nature of Japanese light verb constructions, not in terms of complex predicate formation (Saito and Hoshi 2000, among others), but in terms of the left to right processing of the sequence of words together with assumptions (32) and (33a-b). In particular, I have attempted to argue that it is the dynamics of language together with Case and Tense that display the dual [V+N] characteristics of 'verbal nouns.' In so doing, I have shown that, to capture the properties of Japanese light verb constructions adequately, we have to hypothesize 'mixed category' projections, which the suggested processing-based account naturally generates but a standard syntactic theory, where structure must be built bottom-up strictly based on the nature of a head, cannot generate. I have also demonstrated that the suggested parsing-based analysis is consistent with Chomsky's (1995) configurational theta theory, and it accounts for a wider range of data than Saito and Hoshi's (2000) incorporation analysis.

If the suggested parsing-based analysis is indeed on the right track, it implies that a standard 'static' syntactic theory is problematic, which does not take the left to right processing of the sequence of words into any consideration. Furthermore, if correct, the suggested processing-based analysis implies that we need to reconsider a widely accepted Chomsky's (1965) dichotomy between competence and performance, and it seems very much worth while attempting to examine the nature of natural language from the perspectives of Dynamic Syntax, proposed by Kempson et al. (2001), Cann et al. (2005), Cann et al. (2009), Kempson and Kiaer (2009), Kempson and Kurosawa (2009), among others.

Notes

1. See Martin (1975) and Kageyama (1993) for more detailed discussion of 'verbal nouns' in Japanese.
2. The reader is referred to Harada (1973), Kuroda (1978), Saito (1985), among others, for detailed discussion of the surface double-*o* constraint in Japanese.
3. The following 'light verb' construction in Japanese is totally ungrammatical:

   (i) *[$_{NP}$ John-no Mary-kara-no hooseki-no ryakudatu]-o si-ta.
   John-Gen Mary-from-Gen jewelry-Gen plunderage-Acc do-Pst
   'John stole jewelry from Mary.'

   To account for the ungrammaticality of example (i), Grimshaw and Mester (1988) and Saito and Hoshi (2000) stipulate that the external argument and at least one internal argument of a 'verbal noun' must appear at the sentential level in the Japanese 'light verb' construction.

   Hence, for Grimshaw and Mester (1988) and Saito and Hoshi (2000), example (ii) is ungrammatical as well.

   (ii) John-ga [$_{NP}$ Mary-kara-no hooseki-no ryakudatu]-o si -ta.
   John-Nom Mary-from-Gen jewelry-Gen plunderage-Acc do-Pst
   'John stole jewelry from Mary.'

   This is because in (ii), the external argument of the verbal noun *ryakudatu* appears at the sentential level, but all of the internal arguments are within the N projection of *ryakudatu*, being attached by the Genitive Case marker *-no*.

   However, example (ii) is by far better than example (i). To account for this difference, Grimshaw and Mester (1988) and Saito and Hoshi (2000) suggest that in fact, the verb *si* in Japanese is ambiguous between a 'light verb' *si* and a 'heavy verb' *si*. The 'light verb' *si* is semantically vacuous, whereas the 'heavy verb' *si* is a main verb which assigns an agent theta role and a theme theta role. An instance of the heavy verb *si* is given below:

   (iii) John-ga syukudai-o si-ta.
   John-Nom homework-Acc do-Pst
   'John did his homework.'

   Hence, for Grimshaw and Mester (1988) and Saito and Hoshi (2000), example (ii) is an ill-formed 'light verb' construction, but it is a well-formed 'heavy verb' construction.

   Terada (1990) and others, on the other hand, argue that *si* with Accusative Case assigning/checking ability is a 'heavy verb,' and *si* without any Case assigning/checking capability is a 'light verb.' Hence, for Terada (1990) and others, 'heavy verb' construction (i) is ungrammatical, because the 'heavy verb' *si* with Accusative Case assigning/checking ability needs an external agent argument; example (ii) is well-formed as a 'heavy verb' construction.

   It seems reasonable to adopt Terada's (1990) solution for (i) and (ii), at least because of its simplicity. However, because this debate is not relevant to the main discussion here, I put it aside for ease of discussion.
4. In this paper, following Saito and Hoshi (2000), I indicate by superscripts the theta relations between syntactic arguments and theta roles within the argument structure of a predicate.
5. I leave for future research a question as to if I can indeed express the proposed parsing processes in (35a-b), (37a-b), (42a-c), (44a-c) and (46a-c) strictly in accordance with the formalism of Dynamic Syntax, and exactly how I should do so (cf. Kempson et al. 2001, Cann et al. 2005, Cann et al. 2009, Kempson and Kiaer 2009, Kempson and Kurosawa 2009, among others).

References

Abe, Jun and Hiroto Hoshi (1997) "Gapping and P-stranding." *Journal of East Asian Linguistics* 6-1: 101-136.

Baker, Mark (1988) *Incorporation: A Theory of Grammatical Function Changing*. Chicago: University of Chicago Press.

Cann, Ronnie, Ruth Kempson, and Lutz Marten (2005) *The Dynamics of Language: An Introduction*. London: Elsevier/ Academic Press.

Cann, Ronnie, Ruth Kempson, and Eleni Gregoromichelaki (2009) *Semantics: An Introduction to Meaning in Language*. Cambridge: Cambridge University Press.

Chomsky, Noam (1965) *Aspects of the Theory of Syntax*. Cambridge, MA: MIT Press.

Chomsky, Noam (1970) “Remarks on Nominalization.” In Roderick A. Jacobs and Peter S. Rosenbaum (eds.), *Readings in English Transformational Grammar*, 184-221. Waltham, MA: Ginn and Co.

Chomsky, Noam (1986a) *Barriers*. Cambridge, MA: MIT Press.

Chomsky, Noam (1986b) *Knowledge of Language: Its Nature, Origin and Use*. New York: Praeger.

Chomsky, Noam (1995) *The Minimalist Program*. Cambridge, MA: MIT Press.

Grimshaw, Jane and Armin Mester (1988) “Light Verbs and Theta-Marking.” *Linguistic Inquiry* 19-2: 205-232.

Harada, S.-I. (1973) “Counter Equi NP Deletion.” *Annual Bulletin* 7, 113-147. Tokyo: Research Institute of Logopedics and Phoniatrics, University of Tokyo.

Ito, Takane and Yoko Sugioka (2002) *Go-no Sikumi-to Gokeisei* [Structure of Words and Word Formation]. Tokyo: Kenkyusha.

Kageyama, Taro (1993) *Bunpoo-to Gokeisei* [Grammar and Word Formation]. Tokyo: Hituzi Syobo.

Kempson, Ruth (1977) *The Semantic Theory*. Cambridge: Cambridge University Press.

Kempson, Ruth, Wilfred Meyer-Viol, and Dov Gabby (2001) *Dynamic Syntax: The Flow of Language Understanding*. London: Blackwell Publishers.

Kempson, Ruth and Jieun Kiaer (2009) “Japanese Scrambling: The Dynamics of On-Line Processing.” In Hiroto Hoshi (ed.), *The Dynamics of the Language Faculty: Perspectives from Linguistics and Cognitive Neuroscience*, 5-46. Tokyo: Kuroshio Publishers.

Kempson, Ruth and Akiko Kurosawa (2009) “At Syntax-Pragmatics Interface: Japanese Relative Clause Construal.” In Hiroto Hoshi (ed.), *The Dynamics of the Language Faculty: Perspectives from Linguistics and Cognitive Neuroscience*, 47-84. Tokyo: Kuroshio Publishers.

Kuroda, S.-Y. (1978) “Case Marking, Canonical Sentence Patterns, and Counter Equi in Japanese.” In John Hinds and Irwin Howards (eds.), *Problems in Japanese Syntax and Semantics*, 30-51. Tokyo: Kaitakusha.

Kuroda, S.-Y. (2003) “Complex Predicates and Predicate Raising.” *Lingua* 113: 447-480.

Martin, Samuel (1975) *A Reference Grammar of Japanese*. New Haven, CT: Yale University Press.

Matsumoto, Yo (1996) *Complex Predicates in Japanese: A Syntactic and Semantic Study of the Notion ‘Word.’* Tokyo: Kuroshio Publishers.

Murasugi, Keiko (1991) *Noun Phrases in Japanese and English: A Study in Syntax, Learnability and Acquisition*. PhD dissertation. Storrs, CT: University of Connecticut.

Saito, Mamoru (1982) “ Case Marking in Japanese: A Preliminary Study.” ms. Cambridge, MA: MIT.

Saito, Mamoru (1985) *Some Asymmetries in Japanese and their Theoretical Implications*. PhD dissertation. Cambridge, MA: MIT.

Saito, Mamoru and Hiroto Hoshi (2000) “The Japanese Light Verb Construction and the Minimalist Program.” In Roger Martin, David Michaels, and Juan Uriagereka (eds.), *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*, 261-298. Cambridge, MA: MIT Press.

Sato, Yutaka (1993) “Argument Structure: All or Nothing.” *Gengo Kenkyu* 103, 92-127. Tokyo: The Linguistic Society of Japan.

Sells, Peter (2002) “Mismatches between Morphology and Syntax in Japanese Complex Predicates.” ms. Stanford, CA: Stanford University.

Terada, Michiko (1990) *Incorporation and Argument Structure in Japanese*. PhD dissertation. Amherst, MA: University of Massachusetts.

Yumoto, Yoko (2011) *Rekisikon-ni Hisomu Bunpoo-to Dainamizumu* [Grammar and Dynamism in the Lexicon]. Tokyo: Kaitakusha.