On the Treatment of Japanese Light Verb Constructions

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Abstract

Matsumoto (1996) argues that Japanese light verbs, co-occurring with a VN, include control verbs such as *hajimeru* 'begin', *kokoromiru* 'attempt' as well as *suru* 'do' on the basis of the transfer of VN arguments/adjuncts. After critically examining his analysis in terms of syntax and semantics, this article shows that a constructional distinction between light suru and control verbs is empirically necessary, and the differences are reduced to whether the Event Fusion takes place or not at the representational level of event structure. The proposed analysis allows us to account for the exact nature of behaviors of VN arguments/adjuncts and a number of details that are not addressed by previous studies (Matsumoto 1996, Butt 1995). A new formal account for the Japanese light verb construction is then provided under the theory of Lexical-Functional Grammar (Bresnan 1982, 2001), which incorporates a restrictive view of the syntax-semantics interface.

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1. Introduction

The main concern of this article is syntactic and semantic properties of the Japanese light verb constructions (LVCs) and their accurate treatment within the framework of LFG. Examples that we are considering are like those given in (1) and (2). Concerning the LVC in Japanese, one of the most crucial syntactic properties is that under certain circumstances the arguments of the VN can occur outside the VN's projection (i.e. NP), which Grimshaw and Mester (1988) first call the Argument Transfer. This is illustrated in (1), where a VN's argument *koogai e* 'to a suburb' appears outside the NP.

(1) Seihu wa koogai e [NP hon bu no idoo] o shi-ta.
　　government top suburb Goal headquarters Gen movement Acc do-Past
　　'The government moved the headquarters to a suburb.'
　　　　　　　　　　　　　　　　　　　　　(Matsumoto 1996:64)

As pointed out in Matsumoto (1996:82), there are many verbs that exhibit the argument transfer effect (e.g. *hajimeru* 'begin', *kokoromiru* 'attempt', *wasureru* 'forget', *nozomu* 'hope', *tsuzukeru* 'continue', etc). For example, consider (2), where both *hajimeta* 'began' and *kokoromita* 'attempted' allow arguments of a VN to appear without genitive marking. In these sentences, *tookyoo e* 'to Tokyo' and *sono supai to* 'with the spy' occur outside the NP, respectively.

(2) a. 　Karera wa tookyoo e [NP busshi no yusoo] o hajime-ta.

they Top Tokyo Goal goods Gen transport Acc
begin-Past
'They began transporting the goods to
Tokyo.'

b. Jon wa sono supai to [NP sesshoku] o
kokoromi-ta.
John Top the spy with contact Acc attempt-
Past
'John attempted to make contact with the
spy.'

(Matsumoto 1996: 77)

Intuitively speaking, light verbs need to be combined (in some way) with VNs to become regular transitive predicates. The choice between light and heavy *suru* are made on the basis of the subcategorization frames of the matrix verb *suru*: if there are certain elements in a sentence with *suru* that are not semantically attributable to the *suru*, then they can, and should be analyzed as dependents (i.e. complements or adjuncts) of a VN. In this case, this construction is considered a LVC. Given this, the *nani* 'what' replacement test shows us that the phrases in examples like (2) without genitive marking ('to Tokyo' and 'with the spy') are certainly dependents of the VN rather than of *hajimeta* and *kokoromita*. (3a) and (3b), where the NP headed by the VN is replaced by the non-thematic noun *nani* 'what', are ungrammatical under the intended readings unless used as an echo question in a discourse.

(3) a. *Karera wa tookyoo e [nani] o hajime-mashi-
ta ka.
they Top Tokyo Goal what Acc begin-Pol-Past
Q
'What did they begin to Tokyo?' (intended)

b. *Jon wa sono supai to [nani] o kokoromi-
mahi-ta ka.
John Top the spy with what Acc attempt-Pol-
Past Q
'What action with the spy did John
attempt?' (intended)

The grammaticality observed in (3) suggests that the Goal phrase *tookyoo e* 'to Tokyo' in (3a) and the Comitative phrase *sono supai to* 'with the spy' in (3b) cannot be dependents of the matrix verbs, but must be dependents of the VNs *yusoo* 'import' and *sesshoku* 'contact' (see (2)). This diagnostic test will be used at appropriate points in the following discussion to check whether a word or phrase in question is truly a dependent of the VN or not.

In what follows, reviewing the previous analyses of the Japanese LVC within LFG by Matsumoto (1996) and Butt (1995), I propose an alternative analysis based on the fact that constructional distinctions should be made between light *suru* and control verbs, though the two are certainly considered LVCs. I further argue that, to provide the best account of the Japanese LVC and treat them in a convincing and uniform manner, the representational level of event structure, which is not simply a static lexical object but actively interacts with other components of the grammar (e.g. a-, f-, and c-structures), should be introduced to the LFG model.

2. Previous Analyses in LFG

I start with reviewing two representative analyses of the Japanese LVC proposed by Matsumoto (1996) and Butt (1995). Matsumoto argues that a VN must form a control structure involving the NP complement with the matrix light verb *suru*. However, the control analysis is not applicable to all of them: there are constructions that intuitively should be regarded as complex predicates in which the VN syntactically constitutes a single predicate with the light verb. It will be clarified below that our account is similar to Butt's in that the light *suru* construction should be analyzed as an instantiation of a complex predicate, (though ours is technically different from Butt's, to be discussed later). Another important point in our analysis is that not all VNs may form complex predicates with the light verb, about which Butt does not say anything. It will be shown that neither of the previous studies can be maintainable as they are in order to handle nicely light verb phenomena in Japanese.

2.1. Matsumoto's Control Construction Analysis

In his analysis of the Japanese LVC, Matsumoto (1996) defines light verbs are subject-control verbs. In his hypothesis, a VN is taken as a predicative complement, which bears verbal functions as well as nominal functions (cf. Iida 1987, Choi and Wechsler 1999). Assuming that light *suru* is a control verb means that a construction involved in *suru* constitutes a bi-clausal structure at the level of grammatical function level (e.g. f-structure in LFG). In other words, light *suru* behaves syntactically (i.e. functionally) as if there were an embedded clause, which is analyzed in LFG as indicating that there is an embedded f-structure involving the XCOMP containing an argument-taking predicate. Matsumoto postulates (4) as the lexical entry of a light verb suru, and claims that the SUBJ (Agent) of light *suru* and unexpressed subject (PRO) of an XCOMP establish a control relationship, while the thematic role of the XCOMP is assumed to be provided by a VN.

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(4) light suru 'do' <SUBJ, XCOMP>
      | |
    Agent Event
                    (Matsumoto 1996:92)
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Given (4), Matsumoto proposes that the phrase structure (i.e. c-structure) rules such as (5a) and (5b) utilizing the device of functional uncertainty (Kaplan and Zaenen 1989).

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(5) a.    S - XP* {V, A}
          (UP = XCOMP*GF) = DOWN UP = DOWN

    b.    NP - XP* N
          (UP = GF)= DOWN UP = DOWN
                                    (Matsumoto 1996:87)
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In (5), the Kleene closure operator "*" in XP*, and XCOMP*GF stands for any number of occurrences including none. For example, XCOMP*GF can be any of OBJ, COMP, SUBJ, XCOMP, ADJ(UNCT), etc. Matsumoto claims that, in cases of an LVC, (5a) directly generates a c-structure, whereby arguments and adjuncts of a VN occur immediately dominated by an S. (5b) allows the alternative possibility of the arguments and adjuncts of a VN appearing inside an NP. The representations of the f-structure and the c-structure are given in (6a) and (6b), respectively.

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(6) a.
        PRED 'do' <SUBJ, XCOMP>
        SUBJ [ PRED 'they' ] i
        PRED 'transportation <SUBJ, OBJ, OBLGOAL>'
        SUBJ i
        XCOMP OBJ [ PRED 'goods' ] 2
        OBLGOAL PRED 'to <OBJ>'
        CASE GOAL 1
        OBJ [PRED 'Tokyo']
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    b.                                        S
        (UP=SUBJ)=DOWN    (UP=XCOMP OBLGOAL)=DOWN    UP=XCOMPDOWN      UP=DOWN
               NP                  PP NP                   V
            karera wa         tookyoo e UP= OBJDOWN    UP=DOWN shita
            they Top            Tokyo to NP              N did
                              busshi no yusoo o
                            goods Gen transportation Acc
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2.2. Problems with Matsumoto's Control Analysis

2.2.1. The agentivity requirement

Matsumoto (1996) (and Butt (1995) as well) assumes that the agentivity requirement is imposed on the subject in the Japanese LVC. However, this requirement is based on a limited set of data that is not necessarily

representative of the LVC. The point is to be aware of the existence of more crucial factors (e.g. delimitedness) that have priority over the agentivity requirement, which is confirmed by the following example.

(7) a.   Kodomo ga gussuri jukusui o shi-te iru.
           children Nom deeply sleeping.soundly Acc do-Prog
           'A child is sleeping well.'
    b.   Kare wa juu-nen buri ni kikoku o shita.
           he Top ten-year for.the.first.time return.to.his.country
           Acc did
           'He has returuned to his country for the first time in
           ten years.'
    c.   Sono shokubutsu wa shibaraku mi-nai uchi ni zuibun
           seichoo o shita
           that plant Top for.a.while see-not while considerably
           grow Acc did
           'That plant over there has grown very much since we last
           saw it.'
    d.   Ano ban totsuzen otto wa joohatsu o shita.
           that night unexpectedly husband Top disappear Acc did
           '(Her) husband disappeared at that night unexpectedly.'
    e.   ?Seito-tachi wa sono hiroba ni isseini shuugoo o shita.
           student-Plur Top that square in all.together assemble Acc
           did
           'The students assembled in that square all together.'

Example (7) poses a serious problem for Matsumoto's, Butt's, and others' assuming the agentivity requirement in the Japanese LVC. The grammaticality in (7) suggests that the adverbial arguably plays an important role for determining the acceptability of LVCs. Rather than VN's unaccusativity (Miyagawa 1989, Tsujimura 1990) or (only) VN's aspectual properties (Uchida and Nakayama 1993), semantic factors such as delimitedness appears to interact with the licensing the VN *o suru* construction. Example (7) then indicates that, contrary to Uchida and Nakayama's (1993) observation that only Activity VNs are compatible with *suru*, not a few "unaccusative" VNs can actually participate in the VN *o suru* formation. (We will come back to this issue later.)

2.2.2. Non-transfer of adjuncts

Matsumoto claims that, in Japanese, the arguments and adjuncts of an XCOMP predicate can appear as sisters to those of a matrix verb because these XCOMP satellites are allowed to scramble freely with those of the matrix verb. His argument for the transfer of both arguments and adjuncts is based on (8), which contains a control predicate - *te hoshii* 'want someone to do something'.

(8) a.   Boku wa Mary ni [soko made kite] hoshikat-ta
           I Top to there as far as come want-Past
           'I wanted Mary to come there.'

    b.   Boku wa soko made Mary ni [kite] hoshikat-
           ta.
           I Top there as far as to come want-Past
           'I wanted Mary to come there.'
                              (Matsumoto 1996: 54)

Extending the above observation, Matsumoto claims that the transfer of arguments and adjuncts of a VN is essentially the same as the scrambling of arguments and adjuncts of an XCOMP. According to him, example (9) involves light verbs and illustrates the transfer of adjuncts. The adverbs, underlined below, are thus assumed to be VN adjuncts transferred from the NPs.

(9) a.   Sono taihuu wa fukuzatsu ni [NP idoo] o hajimeta.
           the typhoon Top complicatedly movement Acc began
           'The typhoon began to move in a complicated way.'

    b.   Karera wa oohaba ni [NP kourikakaku no nesage] o
           kokoromita.

they Top substantially retail.price Gen lowering
            Acc attempted
             'They attempted to make a substantial reduction in
            retail prices.'

                                              (Matsumoto 1996: 78)

Matsumoto's analysis of (8) and (9) is, however, inaccurate. I here demonstrate that seeming adjuncts such as a result adverb and a *ni*-marked purpose clause are actually optional complements rather than adjuncts. I will examine his two examples supposedly involving such VN adjuncts; one is a *ni*-marked purpose clause, which can be used with a verb of motion (Miyagawa 1986, Saiki 1987) (10a), and the other is an adverb of result, which can be used with a change of state verb (Nitta 1989) (10b).

   (10) a.   Jon wa jishin no higai o choosa shi ni chookikan tobee o suru koto ni shita.
             John Top earthquake Gen damage Acc research.do.Pur for.a.long.time visit.USA Acc
             do Comp Dat decided
              'John decided to go to the US for a long time in order to survey the damage from
             the earthquake.'

        b.   Jon wa komakaku sono kami no setsudan o shita.
             John Top finely the paper Gen cutting Acc did
             'John cut the paper to very small pieces.'

                                                                    (Matsumoto 1996:72)

I assume that the (optional) complement can form a complex predicate with the matrix predicate (e.g. V, VN, VP) at f-structure, and the c-structure is either mono-clausal or bi-clausal. The descriptive generalization then is as follows: a VN's argument can transfer, while a VN's adjunct cannot. The Argument Transfer should therefore not be considered the same operation as scrambling. This view is confirmed by the following argument. Let us first look at a the *nani* 'what' replacement test to check whether or not the phrase in question is really a dependent of a VN.

   (11) a. ?? Jon wa jishin no higai o choosa shi ni chookikan nani o suru koto ni shi-mashi-ta
             ka.
              John Top earthquake Gen damage Acc research.do.Pur. for.a.long.time what Acc do Comp
             Dat do-Pol-Past Q
              '(lit.) What did John decide to do for a long time in order to survey the damage
             from the earthquake?'

        b.   ?? Jon wa komakaku nani o shi-mashi-ta ka.
             John Top finely what Acc do-Pol-Past Q
             '(lit.) What did John do to very small pieces?'

Notice that in (11a) the VN cannot be replecaed by *nani* 'what', indicating that the *ni*-marked purpose clause cannot be a dependent of *suru*. Likewise, in (11b) the adverb *komakaku* 'finely' loses its result reading if the NP is replaced by *nani*, which shows that the adverb cannot be a dependent of *suru*. Incidentally, if a result adverb is put just in front of the main verb *suru*, then its result reading is available as shown in (12), in which *suru* functions as the heavy verb *suru*. Thus, (11b) and (12) are different in nature.

   (12) Jon wa nani o komakaku shi-mashi-ta ka.
        John Top what Acc finely do-Pol-Past Q
        '(lit.) What did John do to very small pieces?'

At present, one cannot determine whether the phrases in question (underlined above) are complements or not. I here provide an argument for our claim that the above two examples actually involve optional complements rather than adjuncts. The argument is based on another diagnostic test employing the morphological causative construction (suggested by Shuichi Yatabe (personal communication)): in the causative construction, a complement preceding the causer argument is interpreted with respect to the caused event, while an adjunct preceding the causer argument with respect to the causing event. To see this, consider the following example.

   (12) a.   [Hooseki o] Taroo wa Jiroo ni Hanako kara nusum-ase-ta.
             jewelry Acc Taro Top Jiro Dat Hanako Source steal-Caus-Past
             'Taro made Jiro steal the jewelry from Hanako.'

b.　[Nan'no setsumei mo se-zu ni] Taroo wa Hanako ni amerika e ik-ase-ta.
　　what Gen explanation even do without Taro Top Hanako Dat USA to go-
　Caus-Past
　　'Taro made Hanako visit the US without giving any explanation to her.'

In (12a) *hooseki o* 'jewelry-Acc' is interpreted with respect to the caused event, i.e. *nusumu* 'steal', and it is thus considered a semantic argument of the base verb *nusumu* 'steal'. On the other hand, in (12b) the bracketed clause is interpreted with respect to the causing event, i.e. causative suffix *-sase* 'make/let do', which indicates that the clause is an adjunct. Let us now check whether or not the *ni*-marked purpose clause and the result adverb are really adjuncts as Matsumoto claims.

(13) a.　[Jishin no higai o choosa shi ni] Taroo wa Jon ni tobee o s-ase-ta.
　　earthquake Gen damage Acc research do Pur Taro Top John Dat visit.USA. Acc
　do-Caus-Past
　　'Taro made John visit the US in order for her to do survey the damage from
　the earthquake.'

b.　[Komakaku] Taroo wa Jon ni sono kami no setsudan o s-ase-ta.
　　finely Taro Top John Dat the paper Gen cut Acc do-Caus-Past
　　'Taro made John cut the paper finely.'

As indicated in the translations, both in (13a) and (13b) the adverbials in the brackets are interpreted with respect to the caused event, i.e. the base verbs *tobee o s-* 'visit the USA' and *setsudan o s-* 'cut', respectively. It is therefore reasonable to conclude that the *ni*-marked purpose clause and the adverb of result are taken as complements.

2.2.3. Mono-clausality in the f-structure

In this subsection, I turn to the nature of f-structure of a light *suru* construction. As mentioned above, Matsumoto proposes a bi-clausal f-structure with light *suru*. However, the construction in fact behaves like a single clause in certain aspects, regardless of the fact that it appears to be expressed periphrastically (i.e. bi-clausal in c-structure; see (1) above). The mono-clausal property of the construction is not surprising, once given that the light verb and the VN comprise a single syntactic word (i.e. a complex predicate). Below I provide two additional arguments for functional mono-clausality of an LVC.

2.2.3.1. Nominative object marking

The first argument for the functional mono-clausality of an LVC is based on the nominative case assignment in connection with the desiderative morpheme *-ta(i)* 'want to do'. When the morpheme is attached to a verb, the direct object of the verb is marked with either nominative case *ga* or accusative case *o*, as shown in (14).

(14)　Watashi wa eigo o/ga hanashi-tai.
　　I Top English Acc/Nom speak-want
　　'I want to speak English.'

In Matsumoto's (1996: Chapter 3) analysis of desiderative constructions, he argues that a complex structure for the accusative-marking desiderative, and a simplex structure for the nominative-marking desiderative. Keeping this in mind, consider (15) involving the light verb *suru*.

(15) a.　Watashi wa daigaku de eibungaku ga/?o benkyoo o shi-tak-atta.
　　I Top college at English.literature Nom/Acc study Acc do-want-Past
　　'I wanted to study English literature at the college, (but I
　couldn't).'

b.　Taroo wa sono kireina kami ga/?o dooshitemo setsudan o shi-takat-
　ta.
　　Taro Top the beautiful paper Nom/Acc by.all.means cut Acc do-want-
　Past
　　'Taro did want to cut the beautiful paper.'

Example (15) indicates that the nominative case is assigned to the direct object if and only if the complex of the verb and the desiderative morpheme -*tai* is clause-mate with the direct object. If the f-structure of the LVC were bi-clausal (i.e. there are two independent predicates at the level of f-structure), as Matsumoto claims, then (15) would be judged to be ill-formed when the objects appear with nominative case. The example (15), therefore, suggests that the f-structure of a light *suru* construction exhibits mono-clausality under certain circumstances.

2.2.3.2. *Shika-na(i)* construction

The second argument for the mono-clausality of an LVC is based on the distribution of a focus particle *shika --- na(i)* 'only --- Neg'. This construction can be used not for a diagnostic test for surface phrase structure (e.g. c-structure), but for grammatical-functional structure (e.g. f-structure), as shown below. The significant point is that the necessary condition for the proper construal of *shika --- na(i)* 'only---Neg' is whether the f-structure is mono-clausal or not. That is, the c-structure is irrelevant to the interpretation of this construction.

It is argued in the literature on Japanese syntax that the *shika --- na(i)* construction must be in the same clause, as the following unacceptable sentences show, where "[ ]" indicates a clause boundary.

> (16) a. Hanako wa [Taroo ga nihongo shika hanas-ana-i] to it-ta.
>   Hanako Top Taro Nom Japanese only speak-Neg that say-Past
>   'Hanako said that Taro speaks only Japanese.'
>   b. Hanako shika [Taroo ga nihongo o hanas-u] to iw- anaka-ta.
>   Hanako only Taro Nom Japanese Acc speak-Press that say-Neg-Past
>   'Only Hanako said that Taro speaks Japanese.'
>   c. *Hanako wa [Taroo ga nihongo shika hanas-u] to iw-anakat-ta
>   Hanako Top Taro Nom Japanese only speak-Press that say-Neg-Past
>   '(Intended meaning) Hanako didn't say that Taro speaks only Japanese.'
>   d. *Hanako shika [Taroo ga nihongo o hanas-ana-i] to it-ta.
>   Hanako only Taro Nom Japanese Acc speak-Neg-Pres that say-Past
>   '(Intended meaning) Only Hanako said that Taro speaks Japanese.'

In (16a), *shika* and the Neg -*na* 'not' are clausemates in the embedded clause, and in (16b), they are clausemates in the main clause. In contrast, in (16c) the NPI is in the embedded clause, while the Neg is in the embedded clause. These two sentences are unacceptable because they violate the constraint that an NPI *shika* and the Neg that licenses it should be clause-mates. Here, one might be tempted to claim that the clause mate-condition must be obeyed at the surface phrase structure. In the remainder of this section, I argue that this view is incorrect. The fact is that the acceptability of the *shika --- na(i)* construction is determined by mono-clausality at f-structure rather than at c-structure. Let us reexamine Matsumoto's (1996:38) example. The grammatical judgments are Matsumoto's.

> (17) a. Jon wa [BLS ni shika ik-anaka-tta koto] ga ar-u.
>   John Top BLS Goal only go-Neg-Past Comp Nom have-Pres
>   'John has the experience of going only to BLS (among many conferences in a year).'
>   b. ??BLS ni shika Jon wa [ik-anaka-tta koto] ga ar-u.
>   BLS Goal only John Top go-Neg-Past Comp Nom have-Pres
>   'John has the experience of going only to BLS (among many conferences in a year).' (intended meaning)
>   c. BLS ni shika Jon wa [i-tta] koto ga na-i.
>   BLS Goal only John Top go-Past Comp Nom have.Neg-Pres
>   'John does not have the experience of going to conferences other than BLS.'
>
> (Matsumoto 1996: 38)

Regarding (17), I disagree with Matsumoto's judgment. Five native speakers I have consulted also disagree that (17b) is ungrammatical. Another problem with Matsumoto's assumption that the distribution of *shika --- na(i)* is sensitive to c-structure configuration is that it fails to account for cases like (18), where the *shika --- na(i)* is not within the same clause, taken from Sells (1996).

(18) a. Taroo wa [Hanako ni Tanaka sensee o shookai shika suru] tsumori wa na-i.
Taro Top Hanako Dat Tanaka teacher Acc introduce only do intend Foc Neg-Pres
'Taro intends only to introduce Professor Tanaka to Hanako.'

b. Jon wa [Keiko shika ryoori no hon o yomu] koto o nozo-nde i-na-i
John Top Keiko only cooking Gen book Acc read fact Acc hope-Prog-Neg-Pres
'John hopes that only Keiko will read cookbooks.'

c. Boku wa [Hanako shika soko ni iru to] omow-anak-atta
I Top Hanako only there in be Comp think-Neg-Past
'I thought that only Hanako was there.'

d. Gakko de shika Jon wa [Biru ga benkyoo shi-na-i to] omotte-iru.
school at only John Top Bill Nom study do-Neg-Pres Comp] think-Pres
'John thinks that Bill studies at school only.'

The verb *koto ni suru* 'decide', which Sells assumes as a control verb taking a clausal complement, i.e. S, in fact allows *shika --- na(i)* to be split over an intervening subject. The same goes for an example like (19).

(19) Furansu-go shika Taroo wa [musume ga ie de hanas-ana-i] koto ni shi-teiru to tameiki o tsui-te it-ta.
French only Taro Top his daughter Nom home at speak-Neg-Pres fact Dat do-Prog Comp sigh Acc give say-Past
'Taro said with a sigh that his daughter always speaks only French at home.'

The role that f-structure plays in the *shika --- na(i)* construction is further confirmed by examples involving long-distance scrambling of adjuncts, taken from Sugisaki (2001: 387-388), given below in (20)-(22).

(20) a. Mary ga [John ga yukkurito booru o nageta to] itta.
Nom Nom slowly ball Acc threw Comp said
'Mary said that John slowly threw a ball.'

b. Yukkurito Mary ga [John ga booru o nageta to] itta.
slowly Nom Nom ball Acc threw Comp said
'*Mary said that John slowly threw a ball.'
'Mary said slowly that John threw a ball.'

c. Yukkurito shika Mary ga [John ga booru o nage-nak-atta to] itta.
slowly only Nom Nom ball Acc throw-Neg-Past Comp said
'Mary sa id that John only slowly threw a ball.'

(21) a. Mary ga [John ga kyuuni naki-dashita to] itta.
Nom Nom suddenly cry-began Comp said
'Mary said that John suddenly started crying.'

b. Kyuuni Mary ga [John ga naki-dashita to] itta.
suddenly Nom Nom cry-began Comp said
'*Mary said that John suddenly started crying.'
'Mary suddenly said that John started crying.'

c. Kyuuni shika Mary ga [John ga naki-dasa-nak-atta to] itta.
suddenly only Nom Nom cry-begin-Neg-Past Comp said
'Mary said that John only suddenly started crying.'

(22) a. Mary ga [John ga nikai Susan ni kisu-shita to] itta.
Nom Nom twice Dat kiss-did Comp said
'Mary said that John kissed Susan twice.'

b. Nikai Mary ga [John ga Susan ni kisu-shita to] itta.
twice Nom Nom Dat kiss-did Comp said
'*Mary said that John kissed Susan twice.' '
'Mary said twice that John kissed Susan.'

c. Nikai shika Mary ga [John ga Susan ni kisu-shi-nak-atta to] itta.

twice only Nom Nom Dat kiss-do-Neg-Past Comp said
'Mary said that John kissed Susan only twice.'

Given the f-structural mono-clausality, these examples are accountable straightforwardly. Examples (20)-(22) indicate that the licensing condition of *shika --- na(i)* should be applied in f-structure is correct.

Turning to light *suru*, according to Matsumoto, the VN *o suru* construction consists of two independent words in both f-structure and c-structure. In our analysis, however, the clause-mate condition on c-structure is not maintained any longer (at least) with regard to the *shika --- na(i)* construal. For Matsumoto's bi-clausal analysis, there are two independent predicates in f-structure. Hence, the control analysis will fail to account for data like (18), (19), and (20)-(22). By contrast, under the proposed analysis, their f-structures are mono-clausal, so that the NPI can be handled with no problem. To illustrate this, take up (17) above, which contains the experiential construction *koto ga aru* 'have the experience of ---'. The a-structure and f-structure are represented in (23) and (24), respectively.

    (23) a-structure of (17)
        REL 'aru 'exist' <AGENT, EVENT>'
        SUBEVENT REL 'iku 'go' <AGENT, GOAL>'
        AGENT 'Bill'
        GOAL 'BLS'

    (24) f-structure of (17)
        PRED 'itta koto ga aru 'has the experience of
        having gone to'
        SUBJ [PRED 'Bill']
        GOAL [PRED 'BLS']
        NEG 'shika --- na(i) 'only --- NPI'

In cases of functionally mono-clausal constructions like the experiential construction given in (17) above, the logical subject of the embedded clause is linked to the AGENT in the upper clause in a-structure (see also Alsina 1993, 1996, 1997, Butt 1995, 1997, among others for similar ideas and formalizations). Examples like (25) involving light *suru* now must be analyzed as a realization of f-structural mono-clausality through the process of complex predication (see section 4).

    (25) Sono kuni wa nihon e shika matsutake no yushutsu o shi-nakat-ta.
        the country Top Japan Goal only matsutake.mushrooms Gen export Acc
        Neg-Past
        'The counrty exported matsutake mushrooms to Japan only.'

The grammaticality of (25) strongly indicates that the sentence in question has the mono-clausal f-structure.

Further evidence that the *shika --- na(i)* construction can be used as a test for mono-clausality in f-structure comes from data on the selection of adjuncts (Tsujimura 1993). Consider the following example, which contains a Comitative phrase *Hanako to* 'with Hanako'.

    (26) Jon wa tankikan shika [Hanako to] jishin no higai o choosa-shi ni tobee o shi-nakat-ta.
        John TOP for a short time only Hanako with earthquake Gen damage Acc research Pur visit USA
        Acc do-Neg-Past
        'John went to the US only for a short time in order to survey the damage from the
        earthquake with Hanako.'

The selection of adjuncts like a Comitative clarifies the f-structural nature of the LVC. An f-structure has been traditionally taken as the basis for semantic interpretation in LFG. If Matsumoto's proposal for the bi-clausal f-structure (i.e. the VN *tobee* 'visit USA' and the verb *shi* 'do' are independent predicates in the f-structure in (26)) were correct, then the Comitative phrase in (26) *Hanako to* 'with Hanako' would be interpreted as either modifying the matrix verb, i.e. "John and Hanako went to the US for a short term and survey the damage from the earthquake" or modifying the embedded verb only, "John went to the US alone and surveyed the damage from the earthquake with Hanako (after meeting her up somewhere, for example)". However, contrary to this prediction, the sentence in (26) cannot be construed as "John decided to go to US alone and survey the damage from the earthquake with Hanako". Hence, unambiguity. It is not clear how Matsumoto's postulation on f-structure account for this observation. Recall that in our account the f-structure in (26) is mono-clausal, i.e. there exists only one predicate in the f-structure (cf. (24)), hence no problem arises.

To summarize, *shika-na(i)* is a phenomenon that is sensitive to grammatical-functional properties of a sentence, which can be used to determine the complexity of f-structure and to identify a word or phrase at f-structure rather than c-structure. Hence, the grammaticality associated *shika --- na(i)* must be determined by whether the f-structure is mono-clausal or not, contrary to Matsumoto's claim.

2.3. Butt's (1995) Complex Predicate Analysis

Under the theory outlined in Bresnan (1982), Isoda (1991) first presents an a-structure based account of light *suru* through the process of Argument Fusion (see also Alsina 1993, 1996, 1997, Butt 1995, 1997), whereby the Agent argument of light *suru* and the Agent of the VN, i.e. the theta-role-assigning noun, are "fused" at a-structure. Butt (1995:146) defines the principle of Argument Fusion as follows: the highest embedded argument is fused with the lowest available matrix argument in a-structure. In her account, a transparent Event argument requires combination with the a-structure of another predicate and triggers Argument Fusion. It is hypothesized that in the case of light suru, there is a transparent EVENT (represented as ET) at a-structure (see footnote 11), by which complex predicate formation (i.e. Argument Fusion) is triggered. In contrast, in the case of heavy *suru*, which is a regular transitive verb, there is no transparent EVENT (represented as E), so complex predicate formation is not triggered ([see 2.4.1 for a fuller discussion](#)). Extending Isoda's insights, Butt, defining a-structure as a syntactic representation and adopting a complex predicate analysis for Urdu, formulates the combination of Japanese light verb suru with a VN as just an instance of complex predicate formation, which allows the combination of distinct argument structures in the syntax (Poser 1992, Alsina 1993, 1996, 1997). In LFG, two lexical items can only specify a value for the same f-structure attribute, if the two values are unified. However, it is assumed that two PRED values may map onto a given f-structure. This raises a problem for a treatment of constructions like causatives in some languages such as Urdu or Romance, in which two distinct constituents contribute information to the same PRED feature. The point of Butt's work is that some syntactic rules and principles cannot be stated purely in terms of the properties of individual lexical items, but must take larger domains of the grammar into account. Presenting Urdu data including verb agreement, control, anaphora, scrambling, negation and coordination, Butt shows that mapping (or linking) of argument roles to grammatical functions in Urdu complex predicates is not confined to individual lexical items; instead, a single array of grammatical functions may be associated with the argument roles of a combination of more than one predicate. Her crucial example of the 'permissive causative construction' in Urdu is supplied in (27), where the two verbs 'let' and 'write' in this construction need not appear adjacent to each other.

```
(27) Anjum ne diyaa [VP Saddaf ko xat likh-ne]
     Anjum Erg let Saddaf Dat letter Nom write-Inf-Obl
     'Anjum let Saddaf write a letter.'
```

Butt argues that this type of sentence is analyzed as syntactically mono-clausal, with an f-structure like the following.

```
(28) Permissive:
     PRED 'let-write < ---, ---, ---, >'
     SUBJ [PRED 'Anjum']
     OBJgoal [PRED 'Saddaf']
     OBJ [PRED 'letter']
```

The Urdu permissive construction thus is mono-clausal at f-structure, in that it behaves syntactically as if it were a single clause, which is considered to be true in the LFG analysis proposed that there are no embedded f-structures containing argument-taking predicates. In her account, different arguments are merged rather than co-indexed there, and does create a single syntactic object NP, and the two predicates then define a single clausal domain. She adopts this mechanism to Japanese *suru*, and claims that, as with the Urdu permissive (27), the light verb *suru* is treated as an instance of complex predicate formation in syntax.

2.4. Problems with Butt's Complex-Predicate Analysis

In regard to the treatment of light *suru*, Butt's complex predicate analysis seems to be empirically superior to Matsumoto's control analysis and hence should be maintained (though it needs to be modified as discussed below). However, Butt does not say anything about the similarities and differences between suru and control verbs including *hajimeru* 'start', *kokoromiru* 'attempt', unlike Matsumoto. Admittedly, Butt's complex predicate analysis of light *suru* works well for some facts including the passivizability of a VN's Theme argument ([see section 3](#)). There are, however, fundamental problems with the analysis. The problems that I wish to address here are the exact semantic nature of the subject appeared in the LVC, and the syntactic behavior of a VN's Theme argument (i.e. the regulation and restriction (if any) of the transfer of arguments).

2.4.1. The semantic nature of the subject

Following Isoda, Butt claims that light suru must have an agentive subject, based on the fact that light suru never combines with unaccusative VNs. However, it seems premature to conclude that the subject in question must be an Agent (see also section 2.2.1).

Although I agree with Butt's way of treating light suru construction as a complex predicate construction, I must disagree with her descriptive generalization and its formalization, in particular the representation of her unique a-structure employing Jackendoff's (1990) LCS notations (see footnote 11). Let us consider a relevant theory of linking which determines how a given LCS may be linked up to the syntax. The elaborated a-structure representation in Butt's account for light suru is given in (29).

(29) suru 'do'
     DO ([a],{ }ßET)
     AFF ([ ]a,[ ]ß)
     ASP (- - -) E

In (29), the first line, headed by the function DO represents the Thematic Tier, which essentially encodes the meaning of the verb. The second line, the Action Tier, which is headed by the function AFF indicates actor (or Agent)/ a done thing (or Event) relation. The first argument AFF, the actor, is identified as the causer of the action by means of co-indexation with the Greek letter a. Note that the second argument at the Action Tier which is co-indexed with the transparent Event (ET) argument. The fact is that there is a second argument of AFF, the AFF (, [ ]ß), ensures that the VN will be marked with accusative case once linking is performed. The third line is the Aspect Tier, which has three slots. Each of these slots can be specified either positively, with a "1", or negatively with a "0". They can also be unspecified and be left empty. The first slot represents the starting point of an event, the second slot the duration, and the third slot the end point. The Aspect Tier in (29) indicates a verb negatively specified for each slot. For instance, a VN like *keikoku* 'warning' is represented in (30).

(30) keikoku 'warning'
     WARN ([a], TO[ß], [ ]?E)
     AFF([ ]a,[ ]ß)

Although the VN *keikoku* 'warning' is an Event, Butt has not provided them with an Aspect Tier. In her analysis, in the combination of a VN with light suru, the VN gains access to the Aspect Tier of *suru*. However, as represented in (30) above, the aspect information of *suru* is not specified, which means that aspect does not play a role in the formation of *keikoku o suru* 'warn'. This supposition, however, cannot capture examples like (7) above, where aspectual properties are involved in the formation of the light suru construction. In addition, Butt's formalization of the interaction with a-structures of suru and a VN as in (29) and (30) may not solve cases with the double o pattern and certain adverbials. Examples similar to (7) are given in (31).

(31) a. Jon wa buchoo ni wazuka ni-nen de shooshin o shita.
         John Top section-chief Goal only two-year-in promotion Acc did
         'John was promoted to section chief only in two years.'
     b. Ya ga san-kai renzoku shite mato ni meichuu o shita.
         arrow Nom three-times in succession target at strike Acc did
         'The arrows struck the target three times in succession.'
     c. Chichioya wa osanai musume o chikara ippai hooyoo o shita.
         father Top little daughter Acc with.all.strength embrace Acc
         did
         'The father embraced his little daughter with his all
         strength.'
     d. Kare wa sono koto o yatto rikai o shita.
         he Top that thing Acc finally understanding Acc did
         'He finally understood the matter.'
     e. Wareware wa sono jikken ni guuzen seikoo o shita.
         we Top that experiment Dat by chance success Acc did
         'We succeeded the experiment by chance.'
     f. Sanson ni shibaraku kyojuu o suru koto ni shita.
         mountain.village Dat for.the.time.being residing Acc do
         decided
         '(He) decided to live in the mountain village for the time
         being.'
     g. Kanojo wa sono koto o zuibunto gokai o shi-teiru.

she Top that thing Acc extremely misunderstanding Acc do-Prog
'She awfully misunderstands that thing.'

h. ?Teki wa tsuini sono machi o kanzen ni senkyo o shita.
enemy Top fainally that city Acc totally occupation Acc did
'At last the enemy occupied the city completely.'

i. Keisatsu wa sono otoko o han'nin to dantei-shite taiho o
shita.
police Top that man Acc criminal Comp conclude arrest Acc did
'The police concluded that man was the criminal and arrested
him.'

Example (31) illustrates an empirical difference between the previous analyses and ours. A striking property is that the achievement VNs lack agency or volition, which seems to be problematic for the previous studies relying on the agentivity requirement for the subject (see also section 2.2.1). Note also that sentences in (31) provide felicitous interpretations even without pressure from prosody put on the adverbials. Concerning examples (7) and (31), Butt's proposal encounters the same empirical difficulties as Matsumoto's.

2.4.2. Theme argument

Another problem with Butt's analysis is that the data on light *suru* that she deals with is very limited for motivating her own theory. Her only example (originally appeared in Grimshaw and Mester 1988) is given in (32).

(32) a. Jon wa murabito ni [ookami ga kuru to no keikoku] o
shita.
John Top villagers Dat wolf Nom come Comp Gen warning
Acc did
'John warned the villageres that the wolf was coming.'

b. *?Jon wa ookami ga kuru to [murabito e no keikoku] o
shita.
John Top wolf Nom come Comp villagers Dat Gen warning
Acc did

c. *Jon wa [murabito e no ookami ga kuru to no keikoku] o
shita.
John Top villagers Dat Gen wolf Nom come Comp Gen
warning Acc did

(Butt 1995:218-9)

Based on her observation in (32), Butt claims that it is only ever the Theme argument, and never the Goal or Agent argument, which is allowed to appear with genitive case. However, she does not explain at all why the (beneficial) Goal phrase can never be allowed to occur with genitive marker. I follow Matsumoto in arguing for the Theme argument being not alone in having the option of being marked with the genitive, which is repeated here as (33), where the Goal argument *murabitotachi e* 'to the villagers' appears with genitive case.

(33) Jon wa ookami ga kuru to [murabitotachi e no keikoku] o shi ni iku tokoro-
da.
John Top wolf Nom come Comp villagers Goal Gen warning Acc do Pur go
be.about.to-Cop
'John is about to go to give a warning to villagers that wolves are
coming.'

(Matsumoto 1996:76)

Butt pays no attention to the semantic nature of the Theme argument, which wrongly predicts about the possibility of the Argument Transfer of a VN as in (33). Failing to capture the observation, Butt's elaborated a-structure theory is inaccurate, though it might work for a limited set of data that she provides (e.g. (32)). Again, the fact is that VN arguments can transfer freely, while VN adjuncts cannot (see section 2.2.2 for the accommodation of this fact).

In this section, I have argued that both Matsumoto's and Butt's analyses seem to encounter empirical difficulties, and then we need an alternative analysis. In a sense, the analysis proposed in this article contains the merits of the two analyses, which can be called the hybrid analysis, and provides a more straightforward account for the light verb phenomena than the ones previously proposed. In the next section, I examine in detail the syntactic similarities and differences between suru (e.g. (1)) and control verbs (e.g. (2)). It will be shown that that the two types are differently dealt with, though both are considered light

verts, which will be substantiated in .

3. Reexamination of Suru and Control Verbs

Considering the fact of the Argument Transfer, as in (1) and (2) above, repeated here as (34) and (35), *suru* and control verbs like *hajimeru* 'begin' and *kokoromiru* 'attempt' can appear to behave as genuine light verbs.

(34)   Seihu wa koogai e [NP hon bu no idoo] o shita. (=(1))
       government top suburb Goal headquarters Gen movement Acc
       did
       'The government moved the headquarters to a suburb.'

                                        (Matsumoto 1996:64)

(35)   Karera wa tookyoo e [NP busshi no yusoo] o hajimeta.
  a.   (= (2))
       they Top Tokyo Goal goods Gen transport Acc began
       'They began transporting the goods to Tokyo.'
       Jon wa sono supai to [NP sesshoku] o kokoromita.
  b.   John Top the spy with contact Acc attempted
       'John attempted to make contact with the spy.'

                                        (Matsumoto 1996:77)

Here I address the issue of the similarities and differences between light *suru* and other light verbs (i.e. control verbs), and then conclude that *suru* should not be analyzed as a control verb but as part of a complex predicate (pace, Matsumoto's claim).

Matsumoto has claimed that the Japanese LVC involves two independent predicates in f- and c-structures. He first assumes that the VN represents the head of the predicative complement of a control verb, whose other argument controls or binds the missing subject of the complement. Matsumoto then extends this view to light *suru*. However, the assumption that a light *suru* construction is analyzed as a control structure is incorrect. I instead argue that a VN and the light verb suru form a complex predicate, whereas a VN and a control verb (e.g. *hajimeru* 'start', *kokormiru* 'attempt', etc) do not. A significant implication drawn from our analysis is that only theta-marked arguments (including optional complements such as *ni*-marked purpose clauses and adverbs of result) that can form a complex predicate are present at argument structure (a-structure), whereas adjuncts, which are not present at a-structure, and thus substantially constitute adjunct structures licensed at f-structure rather than at a-structure. This view contradicts the a-structure based complex predicate account proposed by Butt (1995), but overcomes empirical difficulties that Butt's analysis encounters. For instance, Butt's cannot account for the fact that VN adjuncts cannot transfer (see section 2.2.2), since in her theory of a-structure both arguments and adjuncts are present in a-structure, hence indistinguishable in her theory. Our alternative analysis, in a sense, picks up elements of both Matsumoto's and Butt's analyses, which has remarkable explanatory power. My contention is that light suru constructions are complex predicates. I provide three pieces of evidence for the proposed complex predicate analysis of suru below.

The first piece of evidence for the claim that a VN and suru certainly form a complex predicate comes from the possibility of passivization, as illustrated in (36), where the Theme argument of the VN (*san'oku en* 'three hundred million yen', *juu-ku nin* 'nineteen persons', respectively) is the subject of the passive sentence.

(36) a.   San'oku en ga sono toshokan ni marui no shachoo kara kihu o s-are-ta.
          three hundred.million Jap.yen Nom that library Dat Marui Gen president from donation
          Acc do-Pass-Past
          'Three hundred million yen was given to that library by (from) the president of
          Marui (department store).'
     b.   Jookyaku no uchi, juu-ku nin ga kyuujo o s-are-mashi-ta. [TV news]
          passengers Gen among nineteen people Nom rescue Acc do-Pass-Polite-Past
          'Of the passengers, nineteen were rescued.'

                                        (Kageyama 1999:321)

Example (36) strongly indicates that the Theme argument of the VN functioning as the direct object and therefore complex predicate formation (i.e. Argument Transfer) has certainly taken place. Matsumoto analyzes light *suru* as a simple control verb with a NP complement structure. He also argues that other control verbs like *kokoromiru* 'attempt', *hajimeru* 'start', *ketteisuru* 'decide', etc exhibit the same syntactic behavior as light *suru*. However, this observation appears to be dubious. Compare (36a) and (37).

(37) ?*San'oku en ga sono toshokan ni marui no shachoo kara kihu o hajime-rare-ta / ketteis-are-
    ta / nozom-are-ta.
    three hundred million Jap. yen Nom that library Dat Marui Gen president from donation Acc
    begin-Pass-Past / decide-Pass-Past / hope-Pass-Past
    '(lit.) Three hundred million yen was started / decided / hoped to give to that library from
    the president of Marui department store.'

Passivization is impossible in (37), unlike the case of (36a). The grammaticality difference tells us that only
light *suru* forms a single constituent, i.e. a complex predicate, with the VN through the process of complex
predicate formation ([see section 4](#)), while control verbs do not: they may have subject-control structures
involving XCOMP as Matsumoto claims.

The second piece of evidence in support of the complex predicate analysis of light *suru* lies in the pattern
shown by multiple accusative marked NPs occurring in a single clause. Generally, Japanese disfavors the surface
occurrence of more than one accusative marking in one clause (the double o constraint; Harada 1973, Shibatani
1976, Kuroda 1978, among others). I am taking the position that a 'double *o* VN *o suru* constructions' is allowed
in actual contexts. For example, Kageyama (1999) reports that in (38a) both the VN (*kitai* 'expectation') and
the complement NP (*mikaeri* 'recompense') of the VN are both marked with accusative case *o*, but are judged to be
acceptable. (38b) also exhibits the same behavior.

(38) a. Kabu o jooto shita gawa wa nanraka no mikaeri o kitai o
         shite ...
         stocks Acc sell did side Top some Gen recompense Acc expect Acc
         do
         'The man who sold the stocks expected some recompense or
         other ...'
                                                        (Kageyama (1999:321))
     b. Taroo ga Hanako no ronbun o kibishiku hihan o shita.
         Taro Nom Hanako Gen paper Acc severely criticism Acc did
         'Taro severely criticized Hanako's paper.'
                                                   (cf. Sells 1989, Butt 1995)

Though not perfectly grammatical, this type of violation results in grammaticality or only in marginality. The
marginality, if any, of (38a, b) can be expected under our complex predicate analysis, but the sentence is
ruled out under consideration of the traditional double-o constraint. Matsumoto then assumes that the double o
constraint displayed in the LVC is a case of the 'surface' double o constraint rather than the traditional (or
'deep') double o constraint. I, however, argue that neither the deep, nor the surface, double-o constraint is
applicable to (38) (see Butt (1995) for a similar claim). Under the proposed analysis, for instance, in (38b)
only *Hanako no ronbun o* 'Hanako's paper' functions as the direct object, so in this sense the deep double o
constraint is not violated. The manner adverb arguably semantically (and pragmatically as well) contributes to
the overall acceptability, which is not addressed in the previous studies (Yokota 2002). Interestingly enough,
sentences involving control verbs provided by Matsumoto (e.g. *kokoromiru* 'attempt', *hajimeru* 'begin', etc)
resist the occurrence of two accusative NPs in a clause.

(39) Taroo ga Hanako no ronbun o kibishiku hihan o *kokoromita / *motometa / ??
    tsuzuketa / ??kurikaeshita.
    Taro Nom Hanako Gen paper Acc severely criticism Acc attempted / requested /
    continued / repeated
    'Taro severely attempted / asked (somebody) / continued / repeated to criticize
    Hanako's paper.' (intended)

(39) contrasts sharply with (38b), which clearly shows that the matrix verb and the VN do not form a single
constituent, so (39) sounds odd, as if both accusative NPs were direct objects accompanied by structural cases.
(39), unlike a light *suru* construction like (38), will hence be ruled out by the (deep) double o constraint. It
should be noted that the contrasting behavior between (38b) and (39) cannot be captured by the subject-control
(i.e. NP complement) analysis, even with the assumption that the double o constraint displayed in LVCs is
surface rather than deep double o constraint. Hence, it can be concluded that the grammatical-functional status
of the light verb suru and that of control verbs (e.g. *kokoromiru* 'attempt', *motomeru* 'request', *tsuzukeru*
'continue') are different. To see this, consider the *nani* 'what' replacement test.

(40) a. Jon wa Tookyoo e ryokoo o shita.
         John Top Tokyo Goal trip Acc did
         'John made a trip to Tokyo.'

    b. ??Jon wa Tookyoo e nani o shi-mashi-ta ka.
       John Top Tokyo Goal what Acc do-Polite-Past Q
       'What did John do to Tokyo?' (intended)

The NP headed by the VN *ryokoo* 'travel' in (40a) cannot be replaced by the non-argument-bearing noun *nani* 'what', as shown in (40b). This ungrammaticality suggests that the Goal phrase *Tookyoo e* 'to Tokyo' cannot be a dependent of the main verb *suru*, but must be a dependent of *ryokoo* 'travel'. *Suru* in (40a), therefore, should be analyzed as a light verb.

The third piece of evidence for our analysis lies in the properties of VN. Following Iida (1987), Manning (1993) and Malouf (2000) among others, I assume that a VN is characterized as a unique noun that can function in a sentence either nominally or verbally, i.e. it is a common noun and a VN. Depending on which of these two VN types it belongs to, it can be modified by either an adjective or adverb. In our account, if the VN has the verbal property, then it forms a complex predicate with the matrix verb *suru*, while if the VN has the nominal property, it does not. The following example illustrates this point.

    (41) a.   Jon wa tookyoo e tanoshii ryokoo o shita.
          John Top Tokyo Goal pleasant trip Acc did
          'John made a pleasant trip to Tokyo.'
       b.   Jon wa tookyoo e tanoshiku ryokoo o shita.
          John Top Tokyo Goal pleasantly trip Acc did
          'John pleasantly made a trip to Tokyo.'

The VN *ryokoo* 'travel' in (41a) is modified by the adjective *tanoshii* 'pleasant', so the VN's type must be a common noun; hence (41a) may have a subject-control structure (i.e. XCOMP structure). In this case, *Tookyoo e* 'to Tokyo' has been transferred from *ryokoo* 'travel' to the light verb *suru*. In contrast, the VN in (41b) is modified by the adverb *tanoshiku* 'pleasantly', so this VN functions verbally and forms a complex predicate with the matrix verb *suru*. It thus seems reasonable to conclude that in (41b) *tookyoo e* 'Tokyo' is a semantic argument of the complex predicate (*rykoo o shita* 'make a trip to Tokyo').

Let us turn to (42a), where the Source phrase *kankoku kara* 'from Korea' is not a dependent of *suru*, but of the VN *yunyuu* 'import' as indicated in (42b). *Suru* in (42a) is judged to be light rather than heavy.

    (42) a.   Hyakkaten wa kankoku kara matsutake no yunyuu o shita
          department.store Top South Korea from matsutake.mushroom Gen import
          Acc did
          'That department store imported matsutake mushrooms from South
          Korea.'
       b.   ?*Hyakkaten wa kankoku kara nani o shi-mashi-ta ka.
          department.store Top South Korea from what Acc do-Polite-Past Q
          'What did that department store do from Korea?' (intended)

Consider next (43), where an adverb of quantity *tairyooni* 'a large quantity of ' is used with a light *suru* construction. I here show that a sentence like (43a) has a complex predicate structure, as shown by the *nani*-replacement test in (43b).

    (43) a.   Hyakkaten ga kankoku kara tairyooni [matsutake no yunyu] o shita.
          department.store Nom South.Korea from abundantly matsutake.mushroom Gen
          import Acc did
          'That department store imported a large quantity of matsutake mushrooms
          from South Korea.'
       b.   ??Hyakkaten ga kankoku kara tairyooni [nani] o shi-mashi-ta-ka.
          department.store Nom South.Korea from abundantly what Acc do-Pol-Past-Q
          '(lit) What did that department store do much from South Korea?'

Consider then (44), which strongly indicates that the matrix verb *suru* cannot be replaced by control verbs, which is against Matsumoto's assumption that light *suru* exhibits the same behavior as control verbs.

    (44) Hyakkaten ga matsutake o kankoku kara tairyooni [yunyuu] o shita / ??kokoromita / ??
       nozonda /??kettei-shita.
       department.store Nom matsutake.mushroom Acc South.Korea from abundantly import Acc did /
       attempted / hoped / decided
       'That department store imported / attempted to import / hoped to import / decided to import a

large quantity of matsutake mushrooms from South Korea.'

The badness of (44) clearly indicates that the light verb as well as the VN is closely tied to the license of adverbs like *tairyooni* 'abundantly'. This result is not surprising when we consider that the adverb in question is not a VN adverb nor VO adverb, but a VP adverb or part of a complex predicate, either of which necessarily modifies the whole VP ((NP no) VN *o shita/ ketteishit/...*). The result of the replacement test in (43b) suggests us that *tairyooni* 'abundantly' cannot be a dependent of *suru*. Matsumoto's theory would predict (somewhat hastily) that *tairyooni* 'abundantly' is not a VP adjunct of *suru*, but a VN adjunct transferred from the VN. If so, it should be able to modify only the VN. This prediction is not borne out, as shown in (44). Matsumoto's control theory does not provide a convincing and natural account for the contrasting behavior between (44) and (43a), nor the occurrence of two accusative-marked NPs in a single clause, as in (43a). Finally, look at the following paradigm.

(45) a. Taroo wa Hanako no ronbun o kibishiku [NP hihan] o shita.
          Taro Top Hanako Gen paper Acc severely criticism Acc did
          'Taro severely criticized Hanako's paper.'
     b. ?*Taroo wa [NP Hanako no ronbun no kibishii hihan] o shita.
          Taro Top Hanako Gen paper Gen severe criticism Acc did
          'Taro severely criticized Hanako's paper.' (intended)
     c. *Taroo wa Hanako no ronbun o kibishii [NP hihan] o shita.
          Taro Top Hanako Gen paper Acc severe criticism Acc did
          'Taro severely criticized Hanako's paper.' (intended)

In the proposed analysis, (45a) is considered an LVC and an instance of a complex predicate, unlike (45b, c), which are taken as heavy *suru* constructions, i.e. normal transitive verbs. The above contrast is explained in the proposed analysis as follows: the VN *hihan* 'criticism' in (45b, c), modified by an adjective, is a common noun, hence it is identified as the direct object of a heavy *suru*, which is a regular transitive verb assigning structural case to its direct object. As a consequence, sentences (45b, c) violate the deep double-o constraint, hence unacceptability. Under the assumption that the double *o* VN *o suru* construction is allowed in Japanese, the contrast between (45a) and (45c) is problematic for Matsumoto's assumption that assumes the Japanese LVC always has an NP complement control structure (e.g. (34)(=(1))) without considering the types of VNs, and VN's argument and adjunct asymmetry.

So far I have shown that the three arguments for the distinction of light suru and control verbs, which pose serious problems to Matsumoto's and Butt's analyses. They are correctly accounted for under our claim that light *suru* is distinguished from control verbs, though both are considered light verbs. In our account, the former constitutes a complex predicate structure (i.e. mono-clausal at f-structure), while the latter a control structure (i.e. bi-clausal at f-structure). Keeping this in mind, I consider the formalization of the Japanese LVC in the next final section.

4. The Account

4.1. Conceptual Overview

In the preceding sections, I have discussed empirical problems that Matsumoto's and Butt's analyses encounter, from which our hybrid analysis is free. These LFG analyses of the light verb suru are summarized as (46). ("1" and "2" indicate 'one word or mono-clausal' and 'two words or bi-clausal', respectively.)

(46)

	present proposal	Matsumoto	Butt
	suru control	verbs	
c-structure	2 2	2 2	2 ?
f-structure	1 2	2 2	1 ?
a-structure	2 2	2 2	1 ?

In what follows, I provide a new formal account in terms of LFG. As discussed at appropriate points so far, the regulation of predicate composition in Japanese light predicates are taken to be sensitive to aspect: light *suru* combines with only VNs that denote delimited events. This is why I propose that the complex predicate formation for the Japanese LVC should be dealt with in event structure component. What is novel in our approach

is that event structure, which plays an important role in the formation of the Japanese LVC, is incorporated into the framework. By virtue of its adoption of a parallel architecture (T. Mohanan and Wee 1999, Bresnan 2001), other levels can be hypothesized for an LFG grammar. The grammatical model assumed in the proposed analysis is schematized as in (4), which is a considerably revised version of Alsina's (1996:12).

The a-structure should be a distinct and separate component of grammar. This diagram indicates that a-structure is both in the lexicon, as part of the lexical entries of predicates, and in the syntax, where it constrains the surface realization of arguments (Alsina 1996, 1997, Butt 1995, 1997). There are constraints applying in the mapping between arguments. There are constraints applying in the mapping between arguments, at a-structure, and grammatical (or syntactic) functions, represented in f-structure, and in the mapping between grammatical functions and morpho-syntactic expressions, represented in c-structure. This model also allows for direct mapping constraints between a-structure and c-structure in addition to one between the f-structure and the c-structure.

It should be noted that the model (47) is different from a-structure based analyses developed by Alsina (1996) and Butt (1995, 1997) in that (47) is based on the assumption that an essential part of semantic structure is the representation of event structure (Tenny 1994, Alsina 1999), which directly interacts with syntax as indicated in (47). Our fundamental assumption is that a-structure and aspect are closely related with each other, a-structure is still autonomous, and mediates between fuller semantic representations and grammatical functions (T. Mohanan 1994, Alsina 1996, 1999, Yokota 2002). Its properties and characteristics associated with a predicate in sentential syntax will then be interpreted in terms of one or another aspectual type (e.g. delimited / non-delimited, bounded / unbounded) and its arguments will be associated with one or another aspectual role (e.g. measure, path, terminus, etc.; Tenny 1994), though I will not discuss further the issue of the detailed semantic classifications. I intend that since a separate level of a-structure, represented as such, we would not need to represent a-structure in the f-structure, for example, by means of TERMS lists (Andrews and Manning 1999). The present study has motivated the need for event structure as a level in which complex predicate formation takes place. This of course does not mean that the other component representing lexical meanings, i.e. LCS (see (47)) is unnecessary. Whatever semantic information is predictable from other aspects of representation of meaning should not be part of this structure, but should be represented only in LCS, which is a full representation of the meaning of linguistic expressions, including those aspects of meaning that do not interact with syntactic or phonological information, but are inherent to the linguistic expressions (Jackendoff 1990, 1997).

4.2. Complex Predicates in LFG

I here discuss the outline of complex-predicate formation in LFG. While LFG can provide a natural theory of discontinuous constituents for complements and other dependents, the problem of discontinuous verbs (and other heads) is more difficult, as noted by Simpson (1983) and Ackerman (1987). Because each PRED attribute is uniquely instantiated, two parts of the same PRED cannot be unified in the LFG formalism. In recent version of LFG, this problem has been resolved from empirical, theoretical, and formal viewpoints by authors including T. Mohanan (1994), Butt (1995, 1997), Alsina, Bresnan, and Sells, eds (1997), Ackerman and Lesourd (1997), Alsina (1993, 1996, 1997), Frank (1996), and Andrews and Manning (1999). These authors take an essentially similar view on complex predicates. It can be summarized as follows; (i) the argument structure is complex (two or more semantic heads contribute arguments), (ii) the grammatical functional structure is that of a simple predicate (i.e. mono-clausal), and (iii) the surface phrase structure may be either simple or complex. In this study, I will follow and extend the view that linking between arguments and grammatical functions can be extended to apply beyond the lexicon (Butt 1995, 1997, Alsina 1993, 1996, 1997, among others). Under such a view, the predicate composition mechanism proposed allows the combination of argument structures in the syntax (not the lexicon) and a subsequent linking to grammatical functions in which the combined argument structures behave like those of a single predicate. The gist of analyses by the above authors is that when one of the PREDs belongs to a light verb, like the Urdu permissive causative d-ii, the French causative verb faire or the Japanese light verb suru, predicate composition takes place. Again, what is novel in our study is the proposal for a complex predication through event fusion to be discussed below.

4.3. Complex Predicate Formation via Event Fusion

As for the Japanese LVC, we only need to refer to the internal subevent structure of the VN (and lexical restrictions involving co-occurring adjuncts as well) in order to neatly account for their behaviors and interpretations. I contend that the aspect information of a VN and suru are composed into a single predicate (or PRED value for LFG) in event structure within the model (47), rather than in a-structure or LCS component. The operation of event fusion turns distinct events into one inseparable event. Intuitively speaking, this means that the fused events are closely tied to each other; a VN and light suru describe a single event in tandem. The process of event fusion unifies the information contained within two distinct event components. It is only possible to arrive at a well-formed complex predicate if the specifications for aspect do not clash.

This is illustrated in (48), where the two independent change-of-state events "fuse" together into a single event. Notice that this operation is not lexical one but syntactic one. This is possible even in theories like LFG, since by our assumption event structure is transparent to syntax as well as lexicon (see (47) again).

Since the light verb suru 'do' is a transition verb denoting a delimited event, it is positively specified for complex event consisting of an event leading to a state (represented as Es). In order for the process of event fusion to apply to light suru, the suru necessarily requires a transition VN, i.e. a delimited VN as well. In this way, the formation of the aspectual complex predicate VN o suru is carried out. It is necessary to consider the way of linking of event structure and grammatical (or syntactic) functions in a theory of grammar. Our complex predicate (i.e. event fusion) analysis suits a grammatical theory like LFG (Bresnan (1982, 2001)), and it will provide a simple and systematic analysis attainable that nicely accounts for the light verb suru phenomena that we have considered so far.

4.4. Phrase Structure Rules for the Japanese LVC

The fact that VN arguments are transferable, and VN adjuncts are not cannot be accounted for by phrase structure rules (i.e. c-structure rules) of Japanese proposed by Matsumoto (1996), repeated here as (49):

(49) a.   S - XP* {V, A}
              (UP=XCOMP*GF)=DOWN UP=DOWN
     b.   NP - XP* N
              (UPGF)=DOWN UP=DOWN

                                        (Matsumoto 1996:87)

However, the rules in (49) cannot be maintained to account for the fact that adjuncts cannot be transferred (see sections 2.2.2 and 3). These rules now must be rewritten, as shown in (50) and (51). Note that the rule in (50) is for light verbs other than suru (e.g., *hajimeru* 'begin', *kokoromiru* 'attempt'), and the rule in (51) is for light *suru*. We need both rules to account for the wide range of light verb phenomena that we have been considering so far.

(50)   Rule 1 (LVC as control structure):
       a.   S - XP V
                (UP= XCOMP*GF-ADJ)=DOWN or (UP= (X)ADJ)=DOWN UP=DOWN
       b.   NP - XP VN
                (UPGF)=DOWN UP=DOWN
       c.   V - VN V
                UP=DOWN UP=DOWN

In (50), XP is used as a cover symbol for any phrasal category. The Kleene closure operator '*' indicates any number of occurrences including none. The rule (50a) states that the XP is either any grammatical function (except ADJUNCT) with a repetition (including none) of XCOMP or the ADJ set (ADJUNCT or XADJUNCT). (50a), thus, ensures that in the LVC only arguments of an XCOMP is allowed two alternative positions, i.e. inside/outside of an NP headed by the VN. The rule (50b), which is the same as (49b), allows the possibility of the arguments and adjuncts of the VN occurring within an NP.

In addition to the rules (50), rules like (51) is empirically necessary to account for an LVC as a complex predicate construction.

(51)   Rule2 (LVC as complex predicate):
       a.   S - XP V
                (UP= XCOMP*GF-ADJ)=DOWN or (UP= (X)ADJ)=DOWN UP=DOWN
       b.   NP - XP VN
                (UP= GF)=DOWN UP=DOWN
       c.   V - VN V
                UP=DOWN UP=DOWN
                F(UP= ES)=(UPES)

The complex predicate construction discussed above is characterized by the fact that the two predicates (VN and V in (51c)) appear to act as a single predicate with respect to a number of phenomena as we shown in sections 2 and 3). In (51c), most importantly, no grammatical functions are assigned to the VN. As discussed at times so far, in our analysis the event structure (ES in (51)) is the right sort of structure to work with in complex predicate formation. The ES of a VN can then fuse the ES of a light verb where it is able to unify through the

process of the Event Fusion (see 4.3). The second annotation in (51c), F(?ES) = (?ES), reads that the ES of the mother is the composition of its two daughters. The function F(USION) performs this composition. The second annotation on the VN of (51c), (?ES) = (?ES), allows the event structure information (e.g. aspectual properties) of the VN in the V to be spread upwards.

5. Concluding Remarks

In this article I discussed the LVC phenomena in Japanese and its correct treatment within LFG incorporating event structure representation. Demonstrating that the LVC with *suru* should be treated as a complex-predicate structure, while the LVC with other light verbs as control structures, I showed that the present approach neatly accounts for the facts that Matsumoto's and Butt's analyses fail to capture. I also demonstrated that complex predicate formation takes place at event structure, because the formation of the LVC in Japanese is only sensitive to aspect. As a consequence, incorporating semantic (or event) structure into the syntactic representation provides us a clear view of the light verb phenomena in Japanese. The current study contributes to the pursuit of language universality in the following sense: event structure actively interacts with other components of grammar (e.g. a-, f-, and c-structures).

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