

# Adjunction, Phases, and Complex Predicates in Japanese

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## 1 Introduction

In this paper, I provide a unified account of constraints on adjunction/quantification observed in three complex predicate constructions in Japanese and argue for the following conclusions:

- (1) a. Lexical verbs (Vs) are phase heads.
- b. Adjunction within verbal and nominal domains is constrained by Case.

(1a) claims that contrary to Chomsky's (2000, 2001, 2004, 2008) claim that transitive *v*'s and C's are phase heads, (at least some) Vs can also be phase heads. (1b) is a specific constraint on adjunction that I propose in this paper.<sup>1</sup> The analysis indicates that Case plays a crucial role in syntax. This is inconsistent with the approaches that push Case outside of the syntax (see Marantz 1991, among others).

The discussion in this paper concerns the following three constructions in Japanese: (i) the restructuring motion verb construction (e.g. Miyagawa 1987, Tsujimura 1993, Wurmbrand 2001), (ii) the light verb construction (e.g. Grimshaw and Mester 1988, Saito and Hoshi 2000), and (iii) infinitives with *wasure* 'forget' (e.g. Bobaljik and Wurmbrand 2005, Koizumi 1995). An example of the restructuring motion verb construction is given below:

- (2) Taroo-wa [robusutaa-o/ga tabe-ni] **ik**-e-ru.  
Taro-TOP lobster-ACC/NOM eat-INF go-can-PRS  
'Taro can go to eat lobsters.'

Here the purpose clause complement headed by *tabe* 'eat' (i.e. the element in [ ]) is selected by *ik* 'go', which in turn is selected by the potential suffix *-(rar)e* 'can'. The embedded object can get either accusative Case or nominative Case. I assume that a nominative object with a potential morpheme is an indication of 'restructuring' (Miyagawa 1987, Nomura 2005, and Wurmbrand 2001, among many others). In other words, nominative Case is licensed by a higher clause functional head. An example of the light verb construction is given below:

- (3) Taroo-wa [zaisan-no/o<sub>(??)</sub> bossyuu-o] **si**-ta.  
Taro-TOP property-GEN/ACC confiscation-ACC do-PST  
'lit. Taro did confiscation of property.'

The verb *si* 'do' takes a verbal noun *bossyuu* 'confiscation' as its complement and the argument *zaisan* 'property' can get accusative Case. I assume with Grimshaw and Mester (1988) that a verbal noun construction is a 'light verb' construction if the argument of the verbal noun (*zaisan* 'property') is not genitive-marked.<sup>2</sup> An example of infinitives with *wasure* 'forget' is given below:

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<sup>1</sup>For a possible deduction of the constraint, see Takahashi (2011).

<sup>2</sup>In this paper I ignore the mild deviance caused by the so-called (surface) double-*o* constraint, which dictates that there cannot be two accusatives in a certain syntactic domain. See Hiraiwa (2010) and references therein for discussion.

- (4) Taroo-wa [hon-o Hanako-kara kari]-wasure-ta.  
 Taro-TOP book-ACC Hanako-from borrow-forget-PST  
 ‘Taro forgot to borrow books from Hanako.’

The matrix verb *wasure* ‘forget’ in (4) takes an infinitival complement (i.e. the element in [ ]). In the remainder of this paper I will provide a unified account of the (im)possibility of adjunction in these three constructions. The gist of my proposal is summarized below:

- (5) a. *Ik* ‘go’ in (2), *si* ‘do’ in (3) and *wasure* ‘forget’ in (4) are all lexical verbs (Vs), which are phase heads.  
 b. The complements of these verbs (i.e. the elements in [ ]) are spell-out domains (cf. Chomsky 2000, 2001, 2004, 2008).  
 c. The spell-out domains (i.e. the elements in [ ]) show restrictions on adjunction (cf. (2) with nominative Case, (3) with accusative Case, and (4)).

This paper is organized in the following way. In Section 2, I provide a descriptive generalization about the pattern of modification/quantification in the three constructions. In Section 3, I provide an analysis of the generalization established in Section 2, building on the assumptions in (1) and (5). In Section 3, I compare the current analysis with an alternative analysis and point out a problem with the alternative analysis. Section 4 concludes the paper.

## 2 Observations

In this section, I discuss modification and quantification in the three constructions introduced in the previous section, and establish a descriptive generalization that needs to be accounted for. I show that modification and quantification in the three constructions cannot target lower projections.

### 2.1 PP Adjuncts in the Restructuring Motion Verb Construction

In this subsection, I discuss the distribution of PP adjuncts in (non-)restructuring motion verb constructions. Let us first consider the following example of non-restructuring motion verb constructions, where the embedded object is accusative:

- (6) Taroo-wa Nyuuyooku-ni [robusutaa-o hasi-de tabe-ni] **ik**-e-ru.  
 Taro-TOP New York-to lobster-ACC chopsticks-with eat-INF **go**-can-PRS  
 ‘Taro can go to New York to eat lobsters with chopsticks.’

There is a PP adjunct *hasi-de* ‘with chopsticks’ in the complement clause in (6) and modification of this adjunct is possible. When the embedded object gets nominative Case however, which means that restructuring is at work, embedded modification is impossible (cf. Tsujimura 1993):

- (7) \*Taroo-wa Nyuuyooku-ni [robusutaa-ga hasi-de tabe-ni] **ik**-e-ru.  
 Taro-TOP New York-to lobster-NOM chopsticks-with eat-INF **go**-can-PRS  
 ‘Taro can go to New York to eat lobsters with chopsticks.’

Note that matrix modification is possible regardless of the Case of the embedded object. Thus, the following example is grammatical:

- (8) Taroo-wa Nyuuyooku-ni kuruma-de [robusutaa-o/ga tabe-ni] **ik**-e-ru.  
 Taro-TOP New York-to car-by lobster-ACC/NOM eat-INF **go**-can-PRS  
 ‘Taro can go to New York by car to eat lobsters.’

The matrix verb *ik*- ‘go’ is modified by the PP adjunct *kuruma-de* ‘by car’ and the embedded ob-

ject can get either nominative or accusative Case.

## 2.2 Adjectives and Adverbs in the Light Verb Construction

Let us now turn to the light verb construction. An adjective can modify a verbal noun when an argument of the verbal noun receives genitive Case (which means that the construction in question is not a light verb construction):

- (9) Taroo-wa [zaisan-no zinsoku-na bossyuu-o] si-ta.  
 Taroo-TOP property-GEN quick confiscation-ACC do-PST  
 ‘lit. Taro did quick confiscation of property.’

*Zaisan* ‘property’ gets genitive Case and adjectival modification by *zinsoku-na* ‘quick’ is possible. Interestingly, adjectival modification by *zinsoku-na* ‘quick’ is impossible in the light verb construction (i.e. with an accusative object) (Kurogi 2002)

- (10) \*Taroo-wa [zaisan-o zinsoku-na bossyuu-o] si-ta.  
 Taroo-TOP property-ACC quick confiscation-ACC do-PST  
 ‘lit. Taro did quick confiscation of property.’

*Zaisan* ‘property’ in (10) is marked with accusative Case and adjectival modification is impossible. In contrast, adverbial modification of the main verb *si-* ‘do’ is possible regardless of the Case of *zaisan* ‘property’:

- (11) Taroo-wa zinsoku-ni [zaisan-no/??o bossyuu-o] si-ta.  
 Taroo-TOP quickly property-GEN/ACC confiscation-ACC do-PST  
 ‘lit. Taro quickly did confiscation of property.’

Here the adverb *zinsoku-ni* ‘quickly’ modifies the verb *si* ‘do’ and *zansan* can get either genitive or accusative Case.

## 2.3 QPs in infinitives with *wasure-* ‘forget’

In an infinitival *forget* construction, the embedded PP must take scope over the matrix verb *wasure-* ‘forget’ (cf. Bobaljik and Wurmbrand 2005; Koizumi 1995; Saito and Hoshi 1998).

- (12) Taroo-wa [hon-o Mary-dake-kara kari]-wasure-ta.  
 Taroo-TOP book-ACC Mary-only-from borrow-forget-PST  
 ‘Taro only forgot to borrow books from Mary.’ (only > forget, \*forget > only)

There is a PP, which contains *dake* ‘only’. *Dake* ‘only’ in this example must take scope over *wasure* ‘forget’. This indicates that the scope of *dake* ‘only’ cannot be the complement clause.

Let me summarize the observations made in this section. I have shown that modification/quantification in the “lower” domain is prohibited in the three constructions under study. Thus, lower adverbial modification in the restructuring motion verb construction, adjectival modification in the light verb construction, and the narrow scope reading of *dake* ‘only’ in infinitives with *wasure* ‘forget’ are all impossible. On the other hand, modification/quantification in the “higher” domain has no such restriction. Thus, adverbial modification in the restructuring motion verb construction and the light verb construction and the wide scope reading of *dake* ‘only’ in *forget*-infinitives are all possible. This state of affairs is summarized below:

- |      |   |             |             |
|------|---|-------------|-------------|
| (13) |   | lower       | higher      |
|      | Restructuring motion verb construction                            | *adverb     | √adverb     |
|      | Light verb construction   | *adjective  | √adverb     |
|      | Scope of <i>dake</i> ‘only’ in <i>wasure</i> ‘forget’ infinitives | *quantifier | √quantifier |

In the next section I provide an analysis of (13).

### 3 Analysis

In this section I propose an analysis of the observations made in the previous section. I propose the following:

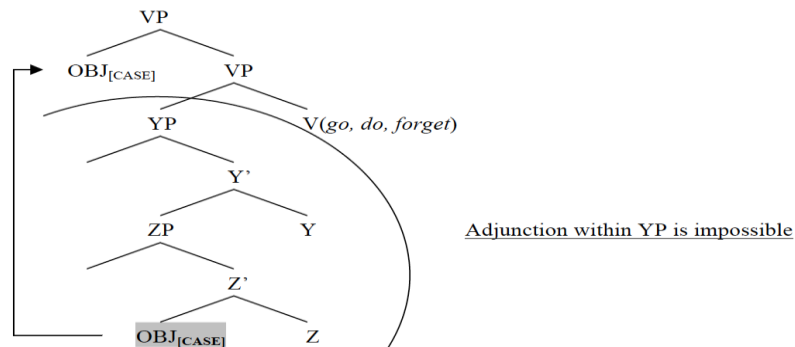
- (14) a. Lexical verbs (Vs) are phase heads.  
 b. Adjunction to XP is impossible if XP contains an unvalued Case-feature.

(14a) is inspired by a proposal in Bobaljik and Wurmbrand (2005), who provide an analysis of what they dub anti-reconstruction effects, which are observed cross-linguistically (see Bobaljik and Wurmbrand 2005 for details). While I am following their insights, I am interpreting them in terms of the phase theory advanced by Chomsky (2000, 2001, 2004, 2008), and proposing that the lexical verbs under consideration are phase heads. In other words, the matrix VP is a phase. This in turn indicates that the  $vP$  complement of a lexical verb is a spell-out domain. Spell-out domains are domains across which Agree is blocked (see Chomsky 2000, 2001, 2004, 2008 for Agree). Thus, if there are any elements in a spell-out domain that are still not Case-licensed, they must move out of the domain to avoid a derivational crash (cf. Bobaljik and Wurmbrand 2005, Bošković 2007).

(14b) is in its effect similar to Stepanov's (2001) conclusion that adjunction must be performed counter-cyclically. Stepanov's work appeared before the advent of the phase theory (Chomsky 2000, 2001, 2004, 2008). He concludes that adjunction must take place after all other syntactic operations are complete (in other words, adjunction not only can be but must be late). Given the current assumption that each derivation proceeds in a phase-by-phase manner, it seems reasonable to restate his conclusion in the way I have proposed, by forcing adjunction to take place counter-cyclically within a spell-out domain. However, it should be noted that the effect of obligatory late adjunction is derived differently in Stepanov's (2001) work and the present analysis. While Stepanov (2001) derives obligatory late adjunction from a condition on phrase structure building, I am appealing to Case considerations in the current analysis.

Let us now consider how the proposal explains the observations from the previous section. I assume *ik* 'go' in the motion verb construction, *si* 'do' in the light verb construction, and *wasure* 'forget' are all lexical Vs.<sup>3</sup> The complements of these lexical heads (those in the brackets in the above examples) are then spell-out domains (cf. Chomsky 2000, 2001, 2004, 2008). Let us now consider the point of the derivation where the matrix V is introduced into the derivation:

- (15) Step 1: merger of the matrix V

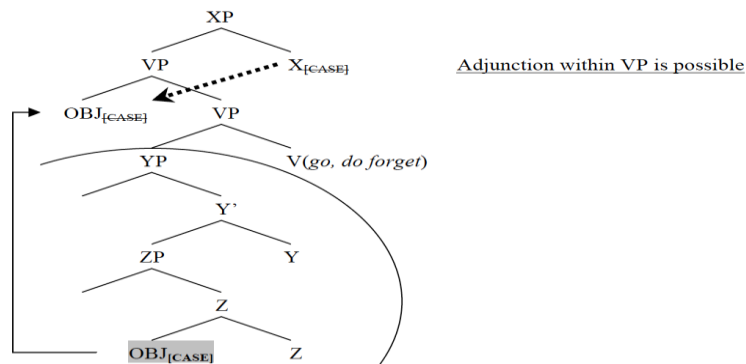


<sup>3</sup>See Kuo (2009) and Uchida and Nakayama (1993) for the light verb construction, Bobaljik and Wurmbrand (2005) for *wasure* 'forget', and Wurmbrand (2001) for the motion verb construction.

When the matrix V, which is a phase head, is introduced into the derivation, the embedded object, which has an unvalued Case-feature, moves out to avoid a derivational crash. Adjunction within the YP complement is prohibited due to the proposed constraint (14b), which captures the ban on embedded modification/quantification (see below). A question remains as to how the derivations converge under the proposed analysis given that the spell-out domain contains a copy of the moving element that is not Case-valued. I assume, essentially following Nunes (2004), that unvalued features of lower copies of the object are deleted at the point of transfer to the interfaces.<sup>4</sup> My intention here is to implement Nunes's (2004) formal feature (FF) deletion under a model that assumes Multiple Spell-out, which Nunes does not assume. Nunes (2004) assumes that the FF-deletion process takes place in the phonological component to avoid PF crash. Departing slightly from his original proposal, I assume that unvalued features of lower copies in spell-out domains are always deleted by FF-deletion at the point of transfer.<sup>5</sup>

Let us now turn to the next step of the derivation, where a higher Case-licensing head is introduced into the derivation:

(16) Step 2: merger of the matrix V



The Case-feature of the moved object is Case-valued by X. Adjunction within the matrix VP is possible because there is no violation of (14b).

Let us now consider how the distribution of PP-adjuncts in the restructuring motion verb construction can be accounted for under the current analysis. The relevant data are repeated below

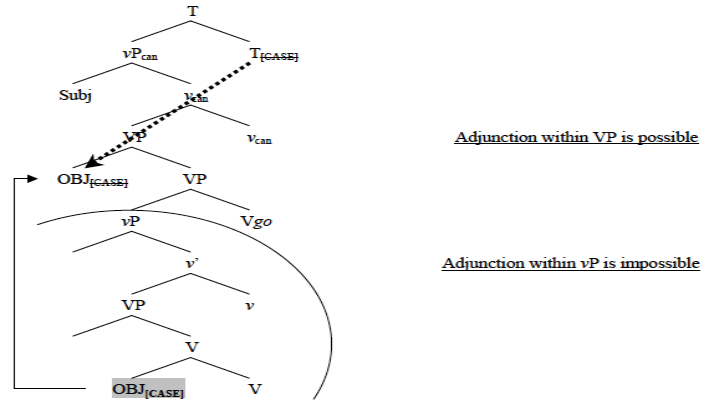
- (17) \*Taroo-wa Nyuuuyooku-ni [robusutaa-ga hasi-de tabe-ni] **ik-e-ru**.  
 Taro-TOP New York-to lobster-NOM chopsticks-with eat-INF **go-can-PRS**  
 'Taro can go to New York to eat lobsters with chopsticks.'
- (18) Taroo-wa Nyuuuyooku-ni kuruma-de [robusutaa-ga tabe-ni] **ik-e-ru**.  
 Taro-TOP New York-to car-by lobster-NOM eat-INF **go-can-PRS**  
 'Taro can go to New York by car to eat lobsters.'

When restructuring takes place (i.e. when the embedded object gets nominative Case), embedded modification is impossible (cf. (17a)), while matrix modification is possible (cf. (17b)). Consider the following derivation for the restructuring motion verb construction:

<sup>4</sup>I thus depart from Chomsky (2001) and assume that lower copies of a chain in a spell-out domain can be deleted independently of feature checking on the top of the chain. In other words, unlike Chomsky's (2001) system, in a non-trivial chain  $X_1, X_2, X_3$ , deletion of a feature in  $X_1$  does not affect the feature on the lower copies.

<sup>5</sup>We also have to make sure that FF-deletion takes place only if the unvalued features are those on the copy left behind by movement. In other words, if FF deletion were always possible, the object under consideration may not have to move out of the spell-out domain. See Takahashi (2011) for discussion.

(19)



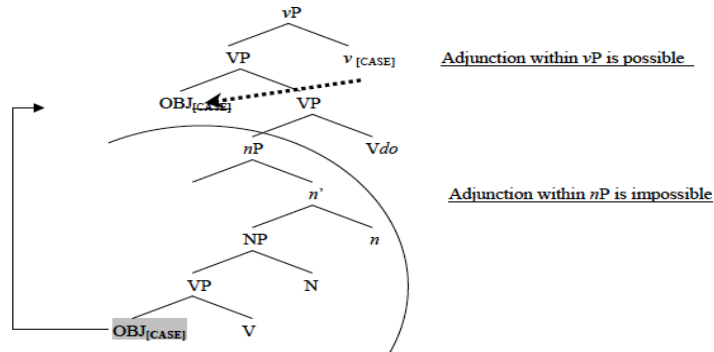
Departing from Wurmband (2001), who claims that complements of lexical restructuring verbs are VPs, I assume that complements of lexical verbs are  $vP$ s (see below for an argument for this assumption). The relevant spell-out domain is then the  $vP$  complement of the verb *ik* 'go'. Adjunction to the  $vP$ -complement (adverb insertion) is hence impossible due to the proposed constraint (cf. (14b)). Furthermore, I assume that the nominative object is Case-licensed by T (see Koizumi 1994, 1995, Nomura 2005, Takezawa 1987, and Ura 1996, among many others). Counter-cyclic adjunction to the matrix VP (adverb insertion) is possible after Case-valuation of the object (by T).<sup>6</sup>

The relevant examples of light verb constructions are repeated below:

- (20) \*Taroo-wa [zaisan-o zinsoku-na bossyuu-o] si-ta.  
 Taro-TOP property-ACC quick confiscation-ACC do-PST  
 'lit. Taro did quick confiscation of property.'
- (21) ??Taroo-wa zinsoku-ni [zaisan-o bossyuu-o] si-ta.  
 Taro-TOP quickly property-ACC confiscation-ACC do-PST  
 'lit. Taro quickly did confiscation of property.'

While adjectival modification is possible (cf. (20)), adverbial modification is impossible (cf. (21)). The derivation of the light verb construction is given below:

(22)



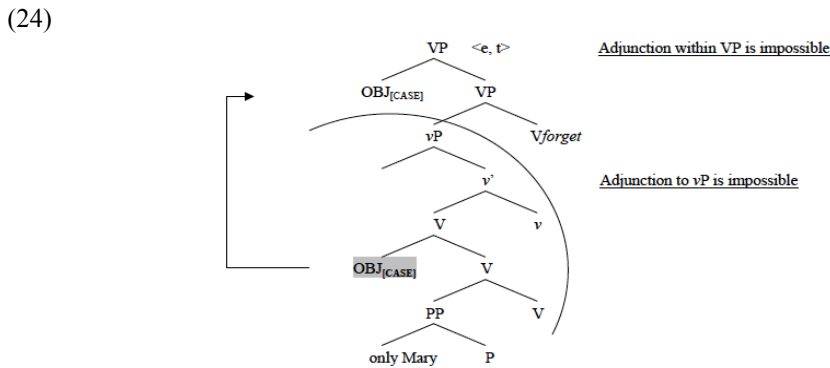
<sup>6</sup>Note that embedded modification is possible in (6) because the embedded object gets accusative Case from the embedded  $v$ .

The relevant spell-out domain is the *nP* complement of the verb *si* ‘do’, which is a phase head (cf. (14a)). Adjunction to the *nP*-complement (adjective insertion) is impossible due to the proposed constraint (cf. (14b)). Counter-cyclic adjunction to the matrix VP (adverb insertion) is possible after Case-licensing of the object.<sup>7</sup>

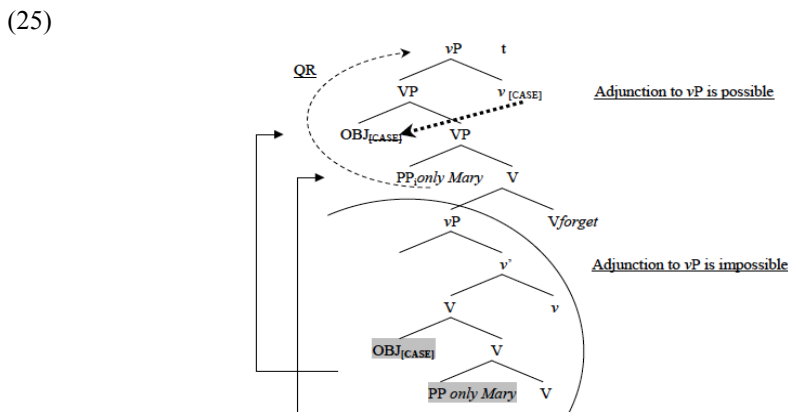
The example of infinitives with *wasure* ‘forget’ is repeated below:

- (23) Taroo-wa [hon-o Mary-dake-kara kari]-wasure-ta.  
 Taro-TOP book-ACC Mary-only-from borrow-forget-PST  
 ‘Taro only forgot to borrow books from Mary.’ (only > forget, \*forget > only)

*Dake* ‘only’ in (23) must take scope over *wasure* ‘forget’. Let us first consider the point of the derivation in which the matrix V is merged with its *vP* complement:



The relevant spell-out domain is the *vP* complement of the verb *wasure*- ‘forget’, which is a phase head (cf. (14a)). The *vP* complement of *wasure* ‘forget’ contains *dake* ‘only’, which I assume undergoes QR to a projection of type *t*. Assuming that QR is an adjunction operation (May 1985), QR to the *vP* complement is prohibited by (14b) even though the *vP* is a node of type *t*.<sup>8</sup> Furthermore, QR to the matrix VP, which I assume to be a node of type <*e,t*>, is prohibited by type-mismatch (and the proposed constraint (14b)). The only derivation satisfying (14b) and the interpretive properties of *dake* is the derivation where the PP moves (via Spec,VP) to the matrix *vP*, resulting in obligatory wide scope of *dake*:



In (25), the PP first moves to the matrix VP via scrambling. *Dake* ‘only’ undergoes QR to the ma-

<sup>7</sup>Note that adjectival modification is possible in (9) because the argument of the verbal noun gets genitive Case within the verbal noun. See Watanabe (2010) and references therein for discussion.

<sup>8</sup>See Goro (2007), Sano (1985), and Shoji (1986), among others, for QR of *dake*. For assumptions concerning the landing site of *dake*, see Bobaljik and Wurmbrand (2007) and Goro (2007).

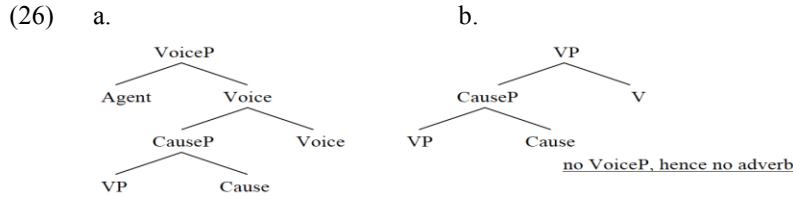
trix *vP* (node of type *t*) after Case-licensing of the object.

To summarize, I have shown that the ban on adjunction/quantification we observed in the last section receives a straightforward account under the current analysis.

#### 4 Comparison with an Alternative: Tomioka (2006)

In this section, I discuss an alternative analysis of the ban on adjunction in restructuring infinitives proposed by Tomioka (2006).<sup>9</sup> I show that Tomioka's (2006) analysis faces an empirical problem, which does not arise under the present analysis.

Tomioka (2006) proposes that complements of lexical restructuring verbs lack a projection that can host adverbs (i.e. *voiceP*, which introduces an agent as its Spec (cf. Kratzer 1996, Pyllkänen 2002)). Consider the following structures:



(26a), which is a non-restructuring construction, involves *voiceP*, which can host adverbs. On the other hand, (26b) involves no *voiceP*, hence there is no way to insert adjuncts (and subjects). This analysis seems to correctly capture the fact that complements of certain lexical verbs disallow adjunction. Although the analysis works for simple cases however, it faces difficulties in more complex cases. Note that this analysis predicts that embedded modification should be possible if we force the presence of *VoiceP* in restructuring. However, this prediction is not borne out.

Let me briefly discuss the causative construction and the distribution of binders of *zibun* 'self' in Japanese. Consider the following causative sentence:

- (27) Taroo-ga Hanako-ni hon-o sute-sase-ta.  
 Taro-NOM Hanako-DAT book-ACC discard-cause-PST  
 'Taro made Hanako discard books.'

Importantly, the complement of the causative morpheme *-sase* 'cause' has *vP/VoiceP* (Murasugi and Hashimoto 2004, Saito 2006). This can be shown by the fact that the causee can bind the subject oriented reflexive *zibun* 'self' (Kuno 1973, Kuroda 1965) (i.e. the causee is in Spec, *VoiceP*):

- (28) Taroo<sub>j</sub>-ga Hanako<sub>i</sub>-ni zibun<sub>j/i</sub>-no hon-o sute-sase-ta.  
 Taro<sub>j</sub>-NOM Hanako<sub>i</sub>-DAT self<sub>j/i</sub>-GEN book-acc discard-cause-PST  
 'Taro made Hanako discard his/her book.'

Here, the reflexive *zibun* 'self' can refer to either *Hanako* or *Taroo*. Given the standard assumption that the antecedent of *zibun* 'self' must be the subject of a clause, the above data shows that there are two clauses here: the matrix clause and the embedded clause. Following Murasugi and Hashimoto (2004) and Saito (2006), I assume that complement clauses of causative constructions are *vPs* (i.e. *VoicePs*) and subjects in the relevant sense are elements in Spec, *vP/VoiceP*. The following example shows that a restructuring motion verb can take a causative construction as its complement:

- (29) Titioya<sub>j</sub>-ga [musuko<sub>i</sub>-ni zibun<sub>j/i</sub>-no hirugohan-ga tabe-sase-ni] **ik**-e-ru.  
 father<sub>j</sub>-NOM son<sub>i</sub>-DAT self<sub>j/i</sub>-GEN lunch-NOM eat-cause-INF **go**-can-PRS  
 'The father<sub>j</sub> can go to make his son<sub>i</sub> eat his<sub>j/i</sub> lunch with chopsticks.'

<sup>9</sup>See Takahashi (2011) for discussion of other alternative analyses.



Here, the lowest object can be marked nominative or accusative. Regardless of the case of the object, the sentence is ambiguous; *zibun* ‘self’ can refer to either *titioya* ‘father’ or *musuko* ‘son’. The fact that *zibun* ‘self’ can refer to the dative causee indicates that there is a *vP* (Voice P) complement in the causative construction. Significantly, embedded modification is impossible even when a restructuring verb takes a causative construction, which has a subject (i.e. Spec, *vP*/VoiceP):

- (30) Titioya<sub>j</sub>-ga [musuko<sub>i</sub>-ni zibun<sub>j/i</sub>-no hirugohan-ga (\*hasi-de) tabe-sase-ni]  
 father<sub>j</sub>-NOM son<sub>i</sub>-DAT self<sub>j/i</sub>-GEN lunch-NOM chopsticks-with eat-cause-INF  
ik-e-ru.  
 go-can-PRS  
 ‘The father<sub>j</sub> can go to make his son<sub>i</sub> eat his<sub>j/i</sub> lunch with chopsticks.’

The complement of *ik* ‘go’ now contains the dative causee, which is in Spec, VoiceP. Embedded modification is still impossible. This shows that the presence of VoiceP does not make embedded modification possible. The data are not problematic under the present analysis because the analysis does not rely on the presence or absence of an external argument. Note that (30) provides evidence that lexical restructuring verbs can take *vP* (VoiceP) complements (at least in some cases), which supports the assumption made in Section 3.

## 5 Conclusion

I have argued that (i) lexical verbs (Vs) are phase heads, and (ii) adjunction within verbal and nominal domains is constrained by Case. The proposal was shown to provide a unified account of constraints on adverb insertion, adjective insertion, and quantifier raising observed in the three complex predicate constructions in Japanese. The analysis proposed in this paper also has implications for the status of Case. The analysis indicates that Case plays a crucial role in the syntax: Case of arguments in some contexts forces movement of the arguments, and Case constrains adjunction. This is inconsistent with the approaches that push Case outside of the syntax (see Marantz 1991, among others).

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