

## ABSTRACT

Title of dissertation:      THEMATICALLY DRIVEN MOVEMENT IN  
JAPANESE: A STUDY OF PSYCH VERB  
CONSTRUCTIONS

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The general aim of this thesis is to provide support for the claim that movement can be driven by theta-features, advanced by Bošković (1994), Hornstein (1999, 2001), Manzini and Russo (2000), and O'Neil (1997) among others, through a study of Japanese Psych Verb constructions that exhibit interesting peculiarities.

In some psych verb constructions, theta-roles are projected in an order that diverges from the canonical order found in other dyadic constructions. The theme role of Object Experiencer (OE) verbs is realized in the subject position of the sentence, while the experiencer role is linked to the object position. On the other hand, Subject Experiencer (SE) verbs map the theme role to the object position while the experiencer role is realized in the subject position. Given that in general experiencers are mapped to the subject/external argument position, OE verb constructions raise some critical issues for the Principles and Parameters theory (Chomsky, 1981), in particular for the theories

of argument structure.

The first goal of the thesis is to provide a solution to this linking puzzle as well as other peculiarities of OE verbs in Minimalist terms. In particular, I claim that the subject of an OE verb sentence is derived by thematically driven movement. By allowing such movement, the inverse linking pattern, backward binding phenomenon, and scope patterns of OE verbs can be accounted for straightforwardly.

The second goal is to investigate the structures of SE verbs and OE verbs and how they are related one another. I propose that an OE verb is a mono-clausal causative, composed of an SE verb base and a causative morpheme *-sase*, and that SE verbs are bare VPs without vP projection. This amounts to saying that SE verbs do not project the external argument. It is shown that SE verbs do not allow passivization, supporting the claim that SE verbs do not project the external argument.

THEMATICALLY DRIVEN MOVEMENT IN JAPANESE:  
A STUDY OF PSYCH VERB CONSTRUCTIONS

by

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## Chapter 1: Introduction

Is movement into a theta-position legitimate? This question has raised a big debate among the followers of minimalist approaches to the grammar of language. Such movement, which I call thematically driven movement (or theta-driven movement for short), has not been allowed in the Government and Binding (henceforth, GB) framework (Chomsky 1981) of generative grammar. However, elimination of D-structure in the Minimalist Program (Chomsky 1995, henceforth, MP) opened up the possibility of such movement. This thesis is devoted to support theta-driven movement through a new analysis of psych verb constructions in Japanese.

### 1.1 Issues of psych predicates

Constructions that involve psych predicates several show well-known peculiarities. Among these puzzles are the linking patterns exemplified in (1).

- (1)   a.     Bill was very angry at the article in the Times  
       b.     The article in the Times angered/enraged Bill

(Pesetsky 1995: 55)

In these sentences, the same theta roles seem to appear in opposite positions. In (1)a, the experiencer role appears in subject position and the theme in object position. In (1)b, on the other hand, the experiencer is the object while the theme is the subject. Let us call the former type of predicates Subject Experiencer (SE) predicates and the latter

Object Experiencer (OE) predicates. Psych predicates have been a challenge to those who believe that there is regularity in the linking of theta-roles and grammatical functions such as subject and object since the linking patterns of OE predicates is inconsistent with the linking patterns of other predicates.

Linking concerns the question of which thematic role is realized in which grammatical functions. For instance, the agent argument of *hit* is linked to subject position and the theme argument to object position, but not vice versa. This pattern of linking is not limited to a few verbs but is seen in most, if not all, transitive verbs. Thus it has been agreed that there is some regularity in the linking patterns of thematic roles. I will refer to such regularity as “thematic regularity” in this thesis. However, there is no consensus on what roles are relevant and how and where such regularity should be stated.

One way to encode thematic regularity is in terms of a thematic hierarchy as in (2):

(2) (Agent (Experiencer (Goal/Source/Location (Theme))))

(Grimshaw 1990: 8)

This means that agent is linked to a syntactic position higher than the position of experiencer, which in turn is higher than goal, and so on. Such hierarchy holds at argument structure, a level which connects lexical semantic structure and syntactic operations.

Another way to capture thematic regularity is put forward by Baker (1988, 1997) in terms of the Uniformity of Theta Assignment Hypothesis (henceforth, UTAH):

(3) The Uniformity of Theta Assignment Hypothesis

Identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure

According to UTAH, if two verbs select an agent and a theme as their arguments, the agent is linked to a position higher than the position occupied by the theme at D-structure for both verbs.

If UTAH positions the experiencer higher than the theme following Grimshaw's thematic hierarchy in (2), the surface linking pattern of (1)a is consistent with UTAH, but that of (1)b is not. If what we see in (1)b reflects what we get at D-structure, UTAH is wrong.

Backward binding is another well-known peculiarity observed in OE verb constructions. First, consider standard cases of anaphors and bound pronouns. With non-OE verbs such as *wash* and *hit*, a reflexive anaphor *himself* requires a binding antecedent as in (4).

- (4) a. John<sub>i</sub> washed/hit himself<sub>i</sub>  
b. \* John<sub>j</sub>' father<sub>i</sub> washed/hit himself<sub>i/\*j</sub>

Suppose we use the following condition to account for the contrast in (4).<sup>1</sup>

- (5) An anaphor is bound in a local domain

(Chomsky 1986: 166)

Binding can be defined as:

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<sup>1</sup> For the current purpose, (5) is enough to express a condition on anaphors.

- (6) A binds B iff
- (i) A c-commands B, and
  - (ii) A and B are co-indexed

(Chomsky 19186: 164)

Unacceptability of (4)b can be accounted for as follows: the antecedent of *himself* does not c-command it; therefore, no binding configuration for the anaphor is established. Therefore, *himself* in (4)b violates the condition on anaphors in (5). Similarly, a pronoun can be interpreted as a bound pronoun if it is c-commanded by its quantificational antecedent. Thus, in (7)a and (7)b, a pronoun *his/he* can be a bound pronoun since it is c-commanded by a quantifier. However, in (7)c, a pronoun *his* cannot be interpreted bound by *everyone* since *everyone* does not c-command *his*.<sup>2</sup>

- (7) a. Everyone<sub>i</sub> washed his<sub>i</sub> car  
 b. Every boy<sub>i</sub> believes that he<sub>i</sub> is smart  
 c. \*His<sub>i</sub> proposal compromised everyone<sub>i</sub>

Next, consider anaphors and bound pronouns in OE verb constructions in (8).

- (8) a. Rumors about himself<sub>i</sub> annoyed John<sub>i</sub>  
 b. His<sub>i</sub> proposal annoyed everyone<sub>i</sub>

In (8)a, the reflexive anaphor *himself* inside the subject can take the object *John* as its

---

<sup>2</sup> To be precise, 'c-command' cannot correctly capture the relation of a bound pronoun and its quantificational antecedent given that coreference between the two in (i) is possible.

(i) Everyone's<sub>i</sub> mother kissed him<sub>i</sub>

Thus, (7c) has been treated as a typical case of Weak Cross Over (WCO) violation. WCO effects can be stated in terms of the following constraint:

(ii) A variable cannot be the antecedent of a pronoun to its left

(Chomsky 1976: 201)

What is important for the purpose of our discussion is the fact that OE verbs obviate the WCO effect as (8b) shows. See Hornstein (1995: chapter 6) for discussion of WCO effects.

antecedent although *John* does not c-command *himself*. In (8)b, the pronoun *his* is interpreted as a bound pronoun of the quantifier *everyone* even though *everyone* does not c-command *his*. Compared with the general patterns of reflexives and pronouns in (4) and (7), the OE constructions in (8) look exceptional.

The linking patterns and the backward binding facts of OE predicates are the major puzzles of OE predicates. These properties of OE predicates have been reported for many languages including French (Bouchard 1995), Greek (Anagnostopoulou 1999), Italian (Belletti and Rizzi 1988), and Japanese (Katada 1997, Matsuoka 2002, McCawley 1976).

## 1.2 Psych verbs in Japanese

Japanese is one of those languages that show the peculiarities of OE predicates presented above. First, the linking pattern of an SE verb in (9)a and that of an OE verb in (9)b are the opposite.

- (9) a. Taroo-ga kaisha-no keiei-ni nayan-da  
 -Nom company-Gen management-Dat worry.about-past  
 ‘Taroo worried about management of the company’
- b. Kaisha-no keiei-ga Taroo-o nayam-ase-ta  
 company-Gen management-Nom -Acc worry-caus-past  
 ‘Management of the company worried Taroo’

In (9)a, the subject is the experiencer and the object is the theme. On the other hand, in (9)b, the subject is the theme and the object is the experiencer. Thus, the surface linking pattern of (9)a is consistent with the thematic regularity, but that of (9)b is not.

Second, OE verbs in Japanese allow backward binding as shown below.

- (10) a. Zibun<sub>i</sub>-no warui uwasa-ga Taroo<sub>i</sub>-o nayam-ase-ta  
self-Gen bad rumor-Nom Taroo-Acc worry-caus-past  
'His bad rumor worried Taroo'
- b. Zibun<sub>i</sub>-no warui uwasa-ga daremo<sub>i</sub>-o nayam-ase-ta  
self-Gen bad rumor-Nom everyone-Acc worry-caus-past  
'His/her bad rumor worried everyone'
- c. Zibun<sub>i</sub>-no warui uwasa-ga Taroo<sub>i</sub>-sae-o nayam-ase-ta  
self-Gen bad rumor-Nom -even-Acc worry-caus-past  
'His bad rumor worried even Taroo'

All of the sentences in (10) involve OE verbs. The reflexive anaphor, *zibun*, which is embedded in the subject, can be interpreted as bound by its antecedent even though the antecedent does not c-command it. However, like the English anaphor, *zibun* requires a c-commanding antecedent when it appears in constructions with other verbs as shown in (11).

- (11) a. [Taroo<sub>i</sub>-no jooshi]<sub>j</sub>-ga zibun<sub>j/\*i</sub>-o hometa  
-Gen boss-Nom -Acc praised  
'Taroo's boss praised himself'
- b. \* Zibun<sub>i</sub>-no ginkoo-ga Taroo<sub>i</sub>-o shootaishi-ta  
self-Gen bank-Nom -Acc invite-past  
'A bank of himself invited Taroo'

In (11)a, *Taroo* does not c-command *zibun*; therefore, it cannot antecede *zibun*. (11)b can be also accounted for in the same way. Note that the form of (11)b looks identical



to those in (10) (except that the verbs in (10) are bi-morphemic), but the former does not allow backward binding and the latter does.

Thus, the linking pattern of OE verbs and backward binding facts in Japanese also present a challenge to the proponents of UTAH/thematic hierarchy.

### 1.3 Proposals

This thesis will present a new analysis of psych verb constructions in Japanese based on thematically driven movement.<sup>3</sup>

First, it will be shown that OE verbs in Japanese are mono-clausal causatives. OE verbs in Japanese are composed of an SE verb and a causative morpheme, *-sase*.<sup>4</sup> Compare the SE construction and the OE construction in (9)a and (9)b, repeated below in (12). It is clear that the OE verb *nayam-ase* consists of an SE verb *nayam* and a causative morpheme *-sase*.

- (12) a. Taroo-ga kaisha-no keiei-ni nayan-da  
               -Nom company-Gen management-Dat worry.about-past  
               ‘Taroo worried about management of the company’
- b. Kaisha-no keiei-ga Taroo-o nayam-ase-ta  
       company-Gen management-Nom -Acc worry-caus-past  
       ‘Management of the company worried Taroo’

In previous literature, OE verbs in Japanese have been discussed either as mono-clausal causative or bi-clausal causative without much argument for one way or

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<sup>3</sup> See Hornstein and Motomura (2002) for a similar account on English psych verb constructions.

<sup>4</sup> *-Sase* is realized as *-ase* when it follows a consonant.

other.<sup>5</sup> I will show that they are mono-clausal by applying three tests: the adverbial modification test, the double causative test, and the agency test.

Second, it will be proposed that the subject of an OE verb sentence is derived by movement from an underlying object position. The idea that movement is involved in OE verb constructions is basically what Belletti and Rizzi (1988, henceforth B&R) proposed for Italian psych verbs.<sup>6</sup> Based on backward binding facts and other peculiar behaviors of psych verbs in Italian, B&R propose that the subject of these verbs is derived by movement from an underlying object position. Their approach seems successful to the extent that the binding facts are accounted for naturally. However, what is crucial to their analysis is the claim that OE verbs are underlyingly unaccusatives. That is OE verbs lack an external argument, and the surface subject is base generated as internal argument of the verb.<sup>7</sup> However, claims such as this have been criticized extensively in the literature. If we allow thematically driven movement, a proposal that is advanced by Bošković (1994), Bošković and Takahashi (1998), Hornstein (1999, 2001), Lasnik (1999), Manzini and Russo (2000), O’Neil (1997) among others, coupled with Pesetsky’s (1995) claim that the subject of OE verbs is causer rather than theme, we can retain B&R’s movement approach without claiming

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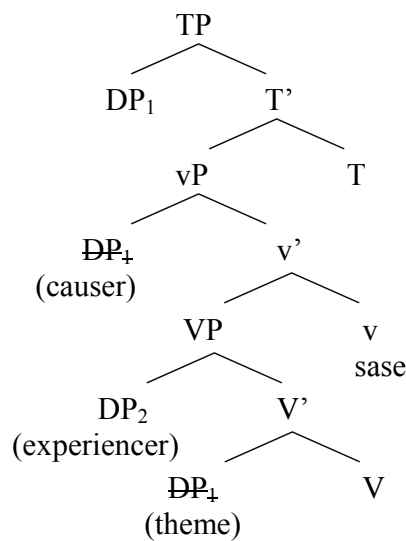
<sup>5</sup> In the literature, the term, “lexical causative” and “productive (or syntactic) causative” have been used for verbs such as *wakas* ‘boil (transitive)’ and *tabe-sase* ‘make (someone) eat,’ respectively. This is because the latter can be decomposed into a root verb and a causative morpheme, *sase*, but the former cannot. However, Howard Lasnik and Michael Israel both pointed out to me (personal communication) that given that some lexical causative verbs in Japanese are also composed of a root verb and a causative morpheme, it is misleading to call such verbs lexical as opposed to productive. To avoid confusion, I will call the traditional lexical causative a “mono-clausal” causative and the traditional productive causative a “bi-clausal” causative. See Kuroda (1993) for discussion of the two types of causatives in Japanese.

<sup>6</sup> B&R’s proposal originally comes from Postal (1970).

<sup>7</sup> See Burzio (1986) for discussion of unaccusative verbs in Italian.

OE verbs are unaccusatives. More specifically, I claim that the subject of an OE verb sentence is base-generated in the complement of the base verb (=VP) taking the theme role, moves to the causer position over the experiencer position, and ends up as the subject in spec TP.<sup>8</sup> (13) illustrates the basic structure.

(13)



By allowing movement from the theme position to the causer position, we can get away with the unaccusative trap that B&R fell into, yet retains movement which accounts for the backward binding facts.

Thirdly, it will be argued that the structure of SE verbs, which provide the base for OE verbs, do not have the external argument introduced by a light *v*. That is, VP in (13) corresponds to the relevant SE verb. This claim will be supported by the fact that SE verbs cannot be passivized.

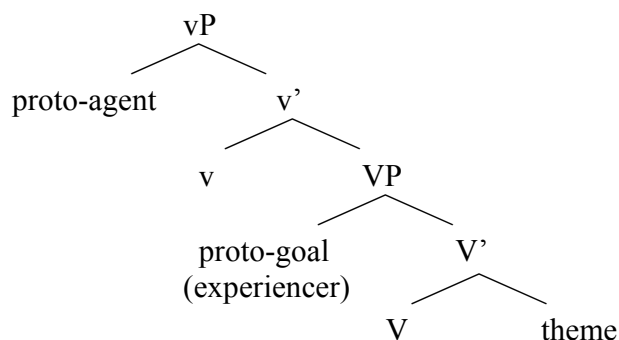
One important assumption here is that the experiencer role is discharged in a

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<sup>8</sup> I use the term ‘base’ instead of ‘root’ to indicate the SE part of an OE verb construction because some SE verbs are further decomposed into SE adjective and a suffix. Keep in mind, however, that some SE verbs are root as well as base.

position internal to the VP. This assumption has a consequence of deriving an OE verb as a mono-clausal causative from an SE verb base. Adopting Baker's (1997) view on UTAH, I assume that thematic regularity is realized by three thematic roles: proto-agent, proto-theme, and proto-goal, which are the notions Baker adopts from Dowty (1991). Unlike Baker, however, I assume that experiencer is realized in a position lower than agent as illustrated in (14). In other words, the experiencer should be treated as proto-goal rather than proto-agent.<sup>9</sup>

(14)



Keep in mind that although I will continue to use the term ‘experiencer’ throughout this thesis, I do not intend to claim that there is syntactically a distinct role, experiencer, as opposed to goal or any other non-agent and non-theme roles. All that is important is that the object of OE verbs and the subject of SE verbs be base-generated in the specifier of VP.

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<sup>9</sup> One of the most controversial issues concerning thematic regularity is the ranking of goal and theme. Linguists agree that agent is ranked highest in the thematic hierarchy, but ranking of goal and theme is still under debate. Grimshaw (1990), McCloskey (2000), Takano (1998), and Yatsushiro (1999) are among those who assume that goal is higher than theme. On the other hand, Larson (1988) and Baker (1988, 1997) take the opposite view. Harley (1995) and Miyagawa (1997) argue for a third view that the goal-theme order and the theme-goal order both reflect base-generated positions. I do not address this issue in this thesis, and take the first position for granted. However, in section 2.2, I will suggest an alternative view that thematic regularity is a consequence of separating agent role from other theta-roles, following Marantz (1997). That is, the only clear regularity observed is that agent is higher than other theta-roles, and there is no regularity among non-agent theta-roles.

This analysis allows us to maintain the absolute version of UTAH rather than the relativized UTAH (henceforth RUTAH). The absolute UTAH assumes that each thematic role is inserted in exactly one structural position. On the other hand, the RUTAH only requires maintaining the relative hierarchical order of the thematic roles. Thus, for instance, the goal can be discharged in a regular subject position as long as: there is no agent that is higher than goal in the thematic hierarchy, and the relative order of, say, goal-theme, is maintained. Baker (1997) introduces B&R's analysis of psych verbs as 'the most sophisticated, closely argued, and impressive use of the RUTAH.' As will be reviewed in chapter 3, B&R insert the experiencer into the normal subject position of an SE verb construction, but they put it into a position lower than the normal subject position in an OE verb construction. Given that they keep the relative order of experiencer-theme consistent, their analysis supports the RUTAH. It will be shown that by allowing theta-driven movement, we can keep the absolute positions of the three roles consistent yet account for the peculiarity of psych verb constructions.

This thesis is organized as follows. Chapter 2 introduces thematically driven movement. In Chapter 3, four analyses of psych verb constructions will be reviewed: B&R (1988), Pesetsky (1995), Dowty (1991) and Baker (1997). In Chapter 4, a new analysis of OE verb constructions in Japanese based on thematically driven movement will be proposed. Chapter 5 will discuss structures of SE verbs. Chapter 6 will review two analyses of Japanese psych verbs. Chapter 7 is a conclusion.

## Chapter 2: Thematically driven movement

In this chapter, theoretical arguments for prohibiting thematically driven movement will be reviewed. Then proposals for handling English control, Romance restructuring verbs, and PRO-gate phenomenon will be reviewed that support thematically driven movement. It will be concluded that the theoretical arguments against theta-driven movement are invalid or weak at best, given empirical advantages presented by the three analyses.

### 2.1 Prohibition against movement into a theta-position

In GB, movement into a theta-position is prohibited given D-structure and the Theta Criterion, which is a principle applied to D-structure. Among the four levels assumed in GB (D-Structure, S-Structure, LF, and PF), LF and PF are interface levels that must satisfy conditions imposed by outside systems. D-structure is the input to the transformational component. S-structure is the output of the transformational component and input to F and LF. A condition that all theta-positions must be filled at D-structure is imposed by the Theta Criterion, which consists of the following two parts:

- (1) a. Each argument bears one and only one theta-role
- b. Each theta-role is assigned to one and only one argument

No one denies (1)b, given that there is no such verb that assigns a single thematic role, say agent, to two different NPs. For example, in the sentence *John gave Mary the flowers*, the agent, theme, and goal are assigned to *John*, *Mary*, and *the flowers* respectively. The sentence cannot be interpreted as having one agent and two themes with the meaning that John gave Mary and the flowers. On the other hand, (1)a, which prohibits movement into a theta-position is more controversial.

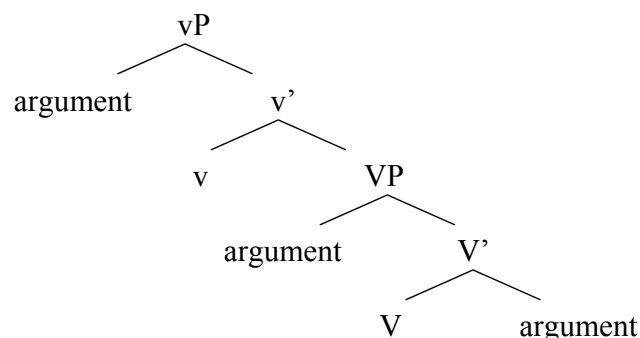
In MP, Chomsky (1995: chapter 3) argues that PF and LF are conceptually necessary, but D-structure and S-structure are not, and that reducing the levels of grammar to PF and LF is in accord with the spirit of minimalism. He wrote; ‘a particularly simple design for language would take the (conceptually necessary) interface levels to be the only levels’ (1995: 169).

Though D-structure no longer exists in the MP framework, the Theta Criterion has survived in disguise. In the early MP approach presented in Chomsky (1995: chapter 4), (1)a is retained in the Chain Condition. The Chain Condition says that every chain bears at most one theta-role (Chomsky 1995: 312). A more recent version of MP approaches outlined in Chomsky (2001b) also holds (1)a as a condition imposed at the conceptual-intentional interface. Chomsky (2001b: 7-8) states that there are two types of Merge: external Merge and internal Merge. The former is to merge two separate objects whereas the latter is to merge two objects, one of which is part of the other. In other words, internal Merge is part of a movement operation. He claims that ‘argument structure is associated with external Merge (base position); everything else with internal Merge (derived structure).’ That is to say that theta-positions are filled in only

by external Merge and other positions are filled in by internal Merge. Thus, the core characteristic of D-structure, namely (1)a, has survived.

The reason for not allowing theta-driven movement in MP comes from the assumption that theta-roles are not formal features. Since movement is driven by formal features, theta-roles cannot trigger movement. As a result, movement into a theta-position is not possible.<sup>1</sup> The assumption that theta-roles are not formal features is attributed to Hale and Keyser's (1993, 2002) configurational approach to theta-roles.<sup>2</sup> A version of such an approach assumed in Chomsky (1995: 315-316) is illustrated below:

(2)



In this approach, the argument in spec vP is interpreted as agent, and the arguments occupying specifier and complement of VP are interpreted as goal and theme respectively (the order may be theme and goal).<sup>3</sup>

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<sup>1</sup> This statement may be too strong since, in principle, such movement is possible if some formal feature happens to be checked in the position where theta-role assignment takes place, as pointed out by Howard Lasnik (personal communication).

<sup>2</sup> Hale and Keyser (2002) argue that there are no thematic roles, but rather only relations realized in structural configurations generated as lexical argument structures. They try to derive the fact that only a handful of thematic roles exist by limiting possible argument structures to four types.

<sup>3</sup> Chomsky did not mention what roles other than agent are involved in which positions of VP.



It is claimed that theta-driven movement is incompatible with the configurational approach to theta-roles. In the early MP approach with the Chain Condition, Chomsky (1995: 313) explains as follows: ‘If  $\alpha$  raises to a theta-position Th, forming the chain  $CH = (\alpha, t)$ , the argument that must bear a theta-role is CH, not  $\alpha$ . But CH is not in any configuration, and  $\alpha$  is not an argument that can receive a theta-role.’ However, Lasnik (1999: 208) points out the irony of this argument since it undermines the argument against movement into a theta-position. Lasnik says that Chomsky’s argument implies that the theta-role is not assigned to another type of chain  $CH' = (\alpha', t)$ , where  $\alpha'$  is in a non theta-position and  $t$  is in a theta-position. In this case,  $\alpha'$  alone can somehow receive a theta-role. It is not clear, however, why the element that must bear a theta-role is CH in the former, but not CH’ in the latter given that the objects interpreted at LF are chains in this approach. I conclude, therefore, that Chomsky’s theoretical argument against theta-driven movement in the early MP approach is invalid.

In a recent version of MP approaches, Chomsky (2001b: 8) claims that theta-positions are filled in by external Merge for the following reason. Internal Merge to a theta-position is in principle possible, but this requires extra devices (presumably features) to encode information other than thematic information such as scope and those relevant to discourse in order to distinguish the two types. It is thus concluded that given lack of independent motivation for such devices, theta-positions are filled in by external Merge. This reasoning seems to suggest that having extra features to encode non-theta information is less minimalistic than distinguishing the two types of

Merge. It does not seem so obvious to me, however. Along the same lines with Chomsky, Uriagereka (1999) argues that the two types of information should be interpreted separately, and the thematic information is encoded in a D-structure component. He asks whether it would be so costly to have separate components for the two types of information in the computational system. I do not have an answer to this question. All I can say is that theoretical arguments for retaining (1)a seem very weak.

Then it seems inevitable to evaluate the two views of theta-roles based on how much empirical evidence each approach can obtain. I will review three analyses that support the theta-driven movement view.<sup>4</sup>

## 2.2 Two views on thematic regularity in a theta-driven movement approach

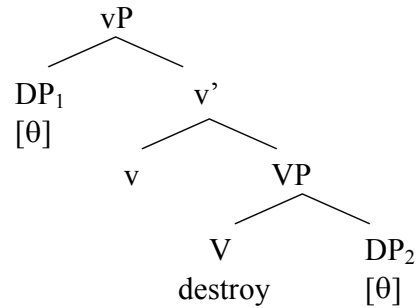
Let us now discuss how we can capture thematic regularity in a theta-driven movement approach. I will suggest two views. One is to keep the structural constraint on theta-roles at LF, and the other is to treat thematic regularity as a bi-product of distinguishing the agent role from other theta-roles, following Marantz (1997).

The first view is to retain a configurational approach to theta-roles, but have it apply at LF. In this view, theta-positions are filled in by theta-features. Consider a verb *destroy*, for instance. This verb has two theta-features. This is as much information this verb has before it enters a derivation. In other words, the verb does not have specific information about which theta-roles it takes. In the derivation, one feature is checked by DP<sub>1</sub> in spec vP and another by DP<sub>2</sub> in complement of VP.

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<sup>4</sup> For arguments against theta-driven movement, see discussions in Landou (2003). For arguments against Landou, see Boeckx and Hornstein (to appear). For further discussion of theta driven movement, see Rodrigues (2004).

(3)



When the object thus constructed is shipped to LF, the two DPs are in certain structural configurations. That is, DP<sub>1</sub> is in specifier of vP, and is, therefore, interpreted as agent. Likewise, DP<sub>2</sub> is in complement of VP, and is interpreted as theme. Even if a theta-position is filled in by an element moved from another position, copy theory of movement allows us to get the same result at LF. Under the copy theory of movement, which claims that Move is a complex operation of Copy plus Merge (Chomsky 1995: 202), movement leaves a copy in the original position. Therefore, we can obtain the structure with copies of a single expression in distinct theta-positions at LF. Each copy serves to be in a configuration relevant to a certain theta-role.

One criticism of the first view is as follows.<sup>5</sup> What the structural constraint on theta-roles in the first view does is to distinguish the relevant part of structure from other parts. This is equivalent to having a D-structure component. This criticism can be avoided if theta-roles are handed over to DPs in the course of derivation via checking theta-features as in Hornstein (2000: 37) and Lasnik (1999: 207). That is to say theta-roles are not defined by their interpreted structural configuration. Although this is

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<sup>5</sup> The criticism here and the alternative view that follows are based on a discussion with Juan Uriagereka.

a valid claim, thematic regularity has to be captured one way or another in this approach. One such way will be presented below as an alternative to the first view.

As mentioned in footnote 9 of section 1.3, ranking of goal and theme has been under debate. There are basically three positions. First, Grimshaw (1990), McCloskey (2000), Takano (1998), and Yatsushiro (1999) are among those who claim that goal is ranked higher than theme. One of the Grimshaw's arguments is based on the contrast in verbal compounds in (4).

- (4) a. Gift-giving to children
- b. \* Child-giving of gifts

(Grimshaw 1990: 14)

A compound made of a theme argument and a V head is possible as in (4)a, but a compound made of a goal argument and a V head is impossible as in (4)b. Grimshaw claims that verbal compounds reflect an argument structure where goal is higher than theme. That amounts to saying that theme is in complement of VP, and goal is in specifier of VP. The goal-V compound is not possible because it skips the theme argument which is closer to V.

On the other hand, Larson (1988) and Baker (1988, 1997) take the opposite view that the theme is higher than the goal. As one of his arguments, Larson presents the following asymmetry in binding:

- (5) a. I presented/showed Mary<sub>i</sub> to herself<sub>i</sub>
- b. I gave/sent every check<sub>i</sub> to its<sub>i</sub> owner
- (6) a. \*I presented/showed herself<sub>i</sub> to Mary<sub>i</sub>
- b. ??I gave/sent his<sub>i</sub> paycheck to every worker<sub>i</sub>

Binding of anaphor/bound pronoun by the antecedent/quantifier is possible when the theme argument precedes the goal argument as in (5), but it is not when the word order is reversed as shown in (6). Assuming that binding requires c-command, the contrast between (5) and (6) can be accounted for if the theme argument c-commands the goal argument. Larson, thus, claims that theme is higher than goal in their base positions.

Finally, Harley (1995) and Miyagawa (1997) argue for a third view that the goal-theme and the theme-goal orders both reflect their base positions. In other words, goal can be base-generated in a higher position or a lower position than theme.

Given all the three positions above, it is not clear whether there is a clear regularity among goal, theme, and possibly other roles. All we can say is that agent is higher than other theta-roles. If that is in fact the case, by separating agent from other roles somehow, we can account for the regularity of theta-roles. Having this in mind, let us review Marantz's (1997) view on the agent role.<sup>6</sup>

Marantz's (1997) discussion revolves around the following contrast first discussed in Chomsky's (1970).

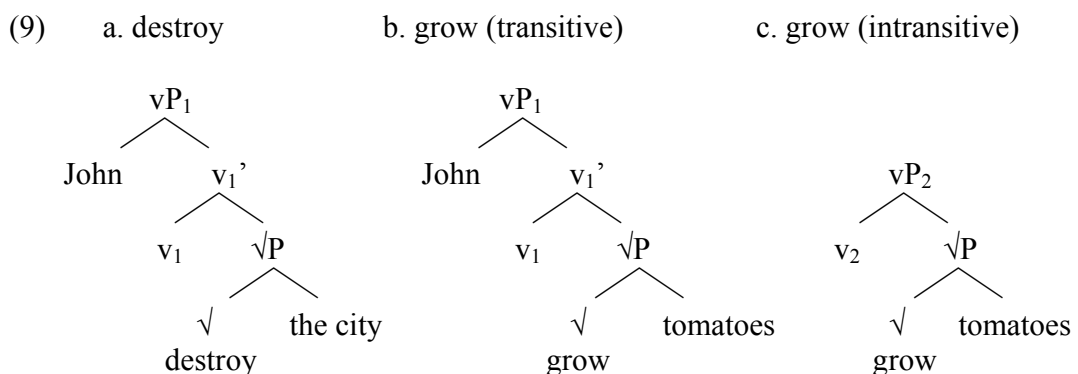
- (7) a. that John destroyed the city
- b. \* that the city destroyed
- c. John's destruction of the city
- (8) a. that John grows tomatoes
- b. that tomatoes grow
- c. \*John's growth of tomatoes

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<sup>6</sup> Harley and Noyer (1998, 2000) develop Marantz's proposal, arguing for excluding agent from other roles. Kratzer (1993, 1996) also reaches the same conclusion that the agent role should be assigned by a verbal functional head separately from other roles.

In (7)a and (8)a, the verbs, *destroy* and *grow*, are both used as transitive verb, and the subject of these verbs is interpreted as agent. (7)b and (8)b show that *grow* can be intransitive but *destroy* cannot be. The nominal forms in (7) and (8) reveal that *destruction* allows agent genitive (7)c, but *growth* does not (8)c.

First, Marantz claims that roots of verbs are category neutral. Roots become verb in the environment of a verbal functional head (or a light v) as illustrated below:



He assumes that there are two types of light vs: v-1 assigns the agent role to *John* in its specifier, but v-2 does not. *Destroy* is incompatible with v-2 based on the assumption that *destroy* belongs to a class of roots that imply external cause rather than internal cause. On the other hand, *grow* is compatible with v-2 because it belongs to the class of roots that express internally caused events. Thus, compatibility with a type of light v depends on the semantic class a root belongs to.<sup>7</sup>

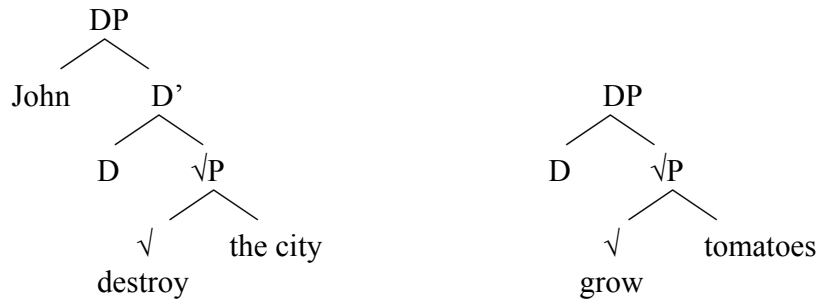
<sup>7</sup> Marantz suggests three semantic classes below, based on Levin and Rappoport Hovav (1995).

(i)	Root	Class
	$\sqrt{\text{DESTROY}}$	change of state, not internally caused (implies external cause or agent)
	$\sqrt{\text{GROW}}$	change of state, internally caused
	$\sqrt{\text{BREAK}}$	result (of change of state)

(Marantz 1997: 217)

Next, Marantz claims that roots become noun when they are placed in the environment of a nominal functional head:

- (10)      a. destruction                                  b. growth



To account for the contrast in (7)c and (8)c, repeated below,

- (11) a. John's destruction of the city  
b. \* John's growth of tomatoes

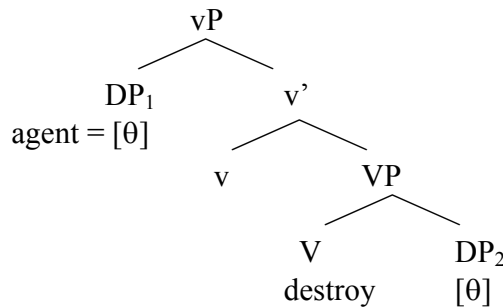
Marantz claims that “possessors” of NPs may be interpreted in almost any kind of semantic relation with respect to the possessed NP that can easily be reconstructed from the meaning of the possessor and possessed by themselves (consider, e.g., ‘yesterday’s destruction of the city’).’ Given that the root *destroy* implies external cause, *John* in (11)a can be interpreted as causer. On the other hand, *grow* does not express external cause; therefore, an agentive expression such as *John* cannot appear in the possessor position as shown in (11)b.

It is crucial for accounting for the contrasts in (7) and (8) that the agent role is assigned to DP in spec vP by the light v, but no such role is assigned to DP in spec DP

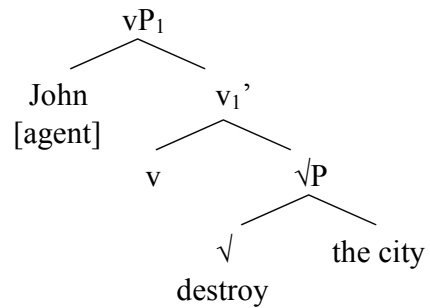
in (11)a. Instead, the DP is interpreted as causer based on the semantic specification of the root.<sup>8</sup> Thus, Marantz's view denies the configurational view.

Note that the structure that Marantz proposed for a verb *destroy* in (9)a is identical with the configurational view in (3), repeated here:

(12) a. Configurational view



b. Marantz's view



In (12)a, *DP<sub>1</sub>* is interpreted as agent through its configuration. In (12)b, the light *v* assigns the agent role to *John*. In the configurational view, what the light *v* does for the purpose of theta-role assignment is unclear. On the other hand, in Marantz's view, the light *v* plays a crucial role in separating the agent role from other roles.

Separation of the agent role allows us to avoid the criticism of the first view without losing the thematic regularity. Needless to say, whether this is correct has to be evaluated from various points. Is it correct that no ranking among non-agent roles exists, or why are there so few theta-roles?<sup>9</sup> Furthermore, how many theta-roles are involved in the thematic regularity? Are they just two: agent and theme with a prepositional phrase optionally added to the structure? Or is goal also part of the theta

<sup>8</sup> Harley and Noyer (1998, 2000), developing Marantz's proposal, claim that what constrains compatibility of roots with light *v*'s is subcategorization information of the roots (Vocabulary Items, in their terms). On the other hand, the possessors of NPs are evaluated based on real-world knowledge.

<sup>9</sup> Hale and Keyser (1993) tried to answer these questions in their configurational approach to theta-roles.



roles relevant to the thematic regularity?<sup>10</sup> These questions have to be addressed, to name a few.

The two views presented in this section are sketchy and far from complete. Nonetheless, I take either one of the two views to be on the right track and will proceed. For consistency sake, I will take the first view throughout this thesis.

### 2.3 Previous analyses based on thematically driven movement

Recent studies on various topics (Bošković 1994, Hornstein 2001, Kiguchi 2002, Manzini and Russo 2000, O’Neil 1997, Saito 2001, Saito and Hoshi 2000) have accumulated empirical evidence for theta-driven movement. In what follows, I will summarize three studies among those: Hornstein’s (2001) argument for reducing obligatory control PRO to a trace of A-movement, Bošković’s (1994) analysis on Romance restructuring verbs, and Kiguchi’s (2002) approach to PRO-gate constructions.

#### 2.3.1 OC PRO is a trace of A-movement: Hornstein (2001)

Hornstein argues that contrast between control and raising can be accounted for as difference in the number of theta-roles in a chain if we take into consideration that there are two types of PRO: obligatory control PRO (OC PRO) and non-obligatory control PRO (NOC PRO).

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<sup>10</sup> This question was raised by Paul Pietroski.

It has been assumed that the subject of raising verbs leaves an NP-trace in the embedded subject position as in (13)a whereas the subject (or the object) of control verbs control a PRO in the embedded subject position as in (13)b.

- (13) a. John<sub>i</sub> seems t<sub>i</sub> to be a genius  
 b. John<sub>i</sub> hopes PRO<sub>i</sub> to be a genius

Hornstein (2001: 25) shows two differences between control verbs and raising verbs. First, the contrast in (14) and (15) shows that raising verbs can take part of idioms and expletives as their subject whereas control verbs cannot.

- (14) a. There seems [t be a dog in the barn]  
 b. It seems [t to be raining]  
 c. The cat seems [t to have his tongue]
- (15) a. \* There hopes [PRO be a dog in the barn]  
 b. \* It hopes [PRO to be raining]  
 c. \* The cat hopes [PRO to have his tongue]

Second, passivization of raising constructions does not change interpretation as in (16), but that of control constructions does as in (17).

- (16) a. John expects the doctor to examine Mary  
 b. John expects Mary to be examined by the doctor
- (17) a. John persuaded the doctor [PRO to examine Mary]  
 b. John persuaded Mary [PRO to be examined by the doctor]

Given that control verbs, but not raising verbs, are assumed to assign external theta-roles, the contrasts above can be stated in terms of (non-)availability of the external argument.

On the other hand, Lidz and Idsardi (1998) observe similarities of NP-trace, reflexive, and PRO. First, sentences in (18) show that the relation between each of the three elements and its antecedent is established from the subject into the object, not from the object to the subject as in (19).

- (18) a. John<sub>i</sub> was seen e<sub>i</sub>  
       b. John<sub>i</sub> saw himself<sub>i</sub>  
       c. John<sub>i</sub> dressed PRO<sub>i</sub>
- (19) a. \* e<sub>i</sub> was seen John<sub>i</sub>  
       b. \* Himself<sub>i</sub> saw John<sub>i</sub>  
       c. \* PRO<sub>i</sub> dressed John<sub>i</sub>

Second, all of the three elements can appear in the subject of an infinitival clause as in (20).

- (20) a. John<sub>i</sub> is expected e<sub>i</sub> to lose the race  
       b. John<sub>i</sub> expected himself<sub>i</sub> to lose the race  
       c. John<sub>i</sub> expected PRO<sub>i</sub> to lose the race

Third, the antecedent must c-command the element as in (21).

- (21) a. \* John<sub>i</sub>'s campaign is expected e<sub>i</sub> to lose the race  
       b. \* John<sub>i</sub>'s campaign expects himself<sub>i</sub> to lose the race  
       c. \* John<sub>i</sub>'s campaign expected PRO<sub>i</sub> to lose the race

Based on these observations,<sup>11</sup> Lidz and Idsardi summarize the distribution of the three elements based on the number of theta-roles and that of Cases as in (22).

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<sup>11</sup> Lidz and Idardi presented the following sentences as one of the similarities of the three elements.  
 (i) a. \* John<sub>i</sub> was expected Mary<sub>j</sub> to be likely e<sub>i</sub> to lose the race

- (22) a. an NP-trace appears in a tail of a chain with one  $\theta$ -role and one Case  
 b. an anaphor appears in a tail of a chain with two  $\theta$ -roles and two Cases  
 c. PRO appears in a tail of a chain with two  $\theta$ -roles and one Case<sup>12</sup>

They state that ‘A-movement, control, and anaphora should be unified as involving the same relation. Failure to unify these relations is failure to explain a clear pattern of the facts.’<sup>13</sup>

Hornstein claims that unification of the three elements can be achieved if we allow theta-driven movement, and the differences between control and raising constructions discussed above are simply attributed to whether NP-movement is into a theta-position (control) or into a non-theta-position (raising). In other words, PROs in control constructions are a species of NP-trace.

Crucial in the above claim is that all the PROs in the sentence discussed above are obligatory control PROs (OC PROs). Hornstein discusses two types of PRO: OC PRO and non-obligatory control PRO (NOC PRO). The former type appears in (23) and the latter in (24).

- 
- b. \*John<sub>i</sub> expected Mary<sub>j</sub> to believe himself<sub>i</sub> to be losing the race  
 c. \*John<sub>i</sub> expected Mary<sub>j</sub> to try PRO<sub>i</sub> to lose the race

According to them, these sentences show that the antecedent of the three elements must be the closest possible one. However, (ia) can be ruled out by the Case filter (Chomsky 1981); therefore, it does not tell us anything, as pointed out by Howard Lasnik (personal communication).

<sup>12</sup> In Chomsky and Lasnik (1993), PRO receives a null Case, so (22c) should be stated as ‘PRO appears in a tail of a chain with two  $\theta$ -roles and two Cases.’

<sup>13</sup> However, Lasnik (1972) shows several reasons that control cannot be reduced to anaphor binding. First, a controller of PRO can be either a subject or an object, but a binder of anaphor has to be a subject in many languages, though not in English. Second, control often imposes thematic restrictions on a controlee, but anaphor binding does not have such restrictions. I do not address these issues here, simply leaving them for future research.

(23) OC PRO

- a. \* It was expected PRO to shave
- b. \* John thinks that it was expected PRO to shave
- c. \* John's campaign expects PRO to shave
- d. John expects PRO to win and Bill does too (= Bill win)
- e. \* John<sub>i</sub> told Mary<sub>j</sub> PRO<sub>i+j</sub> to leave together
- f. The unfortunate expects PRO to get a medal
- g. Only Churchill remembers PRO giving the speech

(24) NOC PRO

- a. It was believed that PRO to shave was important
- b. John thinks that it is believed that PRO to shave is important
- c. Clinton's campaign believes that PRO to keep his sex life under control is necessary for electoral success
- d. John thinks that PRO to get his resume in order is crucial and Bill does too
- e. John<sub>i</sub> told Mary<sub>j</sub> that PRO<sub>i+j</sub> to wash each other would be fun
- f. The unfortunate believes that PRO to get a medal would be boring
- g. Only Churchill remembers that PRO giving the speech was momentous

PRO in (23)a requires an antecedent whereas PRO in (24)a does not. (23)b shows that the antecedent must be local whereas that is not necessary in (24)b. The antecedent must c-command PRO in (23)c but not in (24)c. In (23)d, only the sloppy reading is available, but in (24)d, both strict and sloppy readings are possible. PRO in (23)e cannot take a split antecedent, but PRO in (24)e can. In (23)f, the unfortunate has to

know the medal receiver would be him, the unfortunate. On the other hand, in (24)f, the receiver of the medal does not have to be the unfortunate though he can be. Consider the following situation, discussed in Higginbotham (1992), originally from Castañeda (1966). An unfortunate war hero read about himself getting a medal for his bravery, but he did not recognize it was about him because he suffered from amnesia. In this situation, (23)f is not true, but (24)f is. Finally (23)g and (24)g also show a meaning difference. Suppose that three people gave a speech, including Churchill, and Churchill was the only one who remembered giving the speech. (24)g can correctly describe this situation, but (23)g can not. This contrast can be accounted for as follows. PRO in (23)g is an OC PRO, which requires a c-commanding antecedent. Hence, the antecedent of PRO in (23)g is ‘only Churchill,’ not ‘Churchill’ alone. Therefore, in (23)g, it is interpreted that only Churchill gave the speech, and he recalled the event. On the other hand, PRO in (24)g is a NOC PRO; hence no c-commanding antecedent is required. Then the antecedent of PRO can be either ‘only Churchill’ or ‘Churchill.’ Therefore, (24)g can describe the situation above.

By allowing theta-driven movement, we can treat OC PROs as NP-traces thereby reducing the inventory of empty categories.<sup>14</sup> Hornstein states that a computational system that allows theta-driven movement is simpler than the one that does not allow it.

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<sup>14</sup> Hornstein (2001) concludes that NOC PROs are *pro*.

### 2.3.2 Romance restructuring verbs: Boškovič (1994)

Boškovič presents two arguments for thematically driven movement based on Romance restructuring verbs.

The first argument is about the status of restructuring verbs. Restructuring verbs are often analyzed as either a raising verb or a control verb.<sup>15</sup> First, Boškovič shows that the raising analysis cannot be maintained given the contrast in the following sentences discussed in González (1988, 1990):

- (25) a. Marta le quiere gustar a Juan  
          cl. want to please to  
          ‘Marta wants for Juan to like her’  
      b. A Juan le quiere gustar Maria  
          ‘Juan wants to like Marta’
- (26) a. Las estudiantes le empezaron a gustar al profesor  
      b. Al profesor le empezaron a gustar las estudiantes  
          ‘The professor began to like the students’  
          ‘\*The students began for the professor to like them’

(Boškovič 1994: 268 (29) & (30))

According to B&R (1988), the embedded verb *gustar* ‘to please’ does not have an external argument. When it is embedded under a restructuring verb, *querer* ‘to want,’ as in (25), interpretation of the two sentences depends on the matrix subject. When the subject is *Marta*, which is the theme of *gustar*, *Marta* is the wanter, and when the

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<sup>15</sup> See Burzio (1986) for discussion of restructuring verbs. Boškovič also argues against Rosen’s (1990a, 1990b) proposal that restructuring verbs are light verbs.

subject is *Juan*, which is the experiencer of *gustar*, *Juan* is the wanter. On the other hand, when *gustar* is embedded under a raising verb *empezar* ‘to begin’ as in (26), interpretation is the same regardless of the matrix subject. This shows that *querer* behaves like a control verb rather than a raising verb, assigning its own theta-role to the subject. Bošković concludes that the contrast in meaning in (25) can be accounted for if *querer* assigns its own theta-role to the subject, rejecting the raising analysis.<sup>16</sup>

Bošković also points out a problem of control analyses. If *querer* is a control verb, (25)b can be analyzed as in (27).

(27) A Juan le quiere [ PRO<sub>i</sub> gustar Maria t<sub>i</sub> ]

The subject of the matrix verb is *a Juan*. Based on B&R’s (1988) proposal, Bošković claims that *a* which appears in the matrix subject is an inherent Case assigned by the embedded psych verb *gustar*.<sup>17</sup> It is plausible given that the inherent Case moves with the NP together as in (28)a and that *querer* does not assign the inherent Case to its subject as the ungrammaticality of (28)b and (28)c suggest.

- (28) a. [A Juan]<sub>i</sub> le gusta la musica t<sub>i</sub>  
           ‘Juan likes music’  
       b. \* A Juan le quiere la fama  
           ‘Juan wants fame’  
       c. \* A Juan le quiere comer la torta  
           ‘Juan wants to eat the cake’

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<sup>16</sup> ‘Raising’ is meant in the traditional sense. That is raising verbs do not assign a theta-role to a DP that moved from an embedded clause to the matrix clause. Bošković argues for a new type of raising analysis in which a DP raises from one theta-position to another.

<sup>17</sup> B&R’s argument is based on Italian equivalent of *gustar*, which is *piacere*.



(Bošković 1994: 271 (35))

Given that the inherent Case attached to the matrix subject is assigned by the embedded verb, the matrix subject *Juan* must be in a theta-position of the embedded verb at some point in the derivation. Combined with the above conclusion that *querer* assigns its own theta-role to the subject, it is necessary to assume that the matrix subject is base-generated as the argument of the embedded verb and moves to the theta-position of the matrix verb. Bošković concludes that thematically driven movement can naturally account for the facts presented above.

Bošković's second argument comes from data involving *ne*-cliticization in Italian. As discussed in Belletti and Rizzi (1981) and Burzio (1986) among others, *ne*-cliticization is possible from object position. As shown below, *ne*-cliticization is possible when its modifying quantifier *tre* 'three' appears in object position as in (29), but it is not possible when *tre* is in subject position as in (30).

- (29) a. Gianni trascorrerà tre settimane a Milano  
          'G. will spend three weeks in Milano'  
      b. Gianni ne trascorrerà tre a Milano  
          'G. ne will spend three in Milano'

- (30) a. Tre settimane passano rapidamente  
          'Three weeks elapse rapidly'  
      b. \* Tre ne passano rapidamente  
          'Three *ne* (of them) elapse rapidly'

(Belletti and Rizzi 1981: 119)

Availability of *ne* clitic in an unaccusative construction (31)a and passive construction (31)b suggests *ne* clitic is related not just to the surface object but to the underlying object.

- (31) a. Ne arriveranno molti  
           of-them will arrive many  
           ‘Many of them will arrive’
- b. Ne saranno invitati molti  
       of-them will be invited many  
       ‘Many of them will be invited’

(Bošković 1994: 273)

Then Bošković reports the following Burzio’s observation.

- (32) *ex ne* vorrebbero arrivare molti alla festa prima di Mario  
           of-them would want to arrive many to-the party before  
           ‘Many of them would want to arrive to the party before Mario’

(Bošković 1994: 273)

*Molti*, which is related to *ne*, is in the object position of the embedded verb. However, *molti* is also interpreted as the subject of the matrix verb *volere* ‘want.’ In other words, a single DP is related to two theta-positions, one as the object of the embedded verb, and the other as the subject of the matrix verb. This fact cannot be accounted for under the theory which does not allow movement into a theta-position. Bošković proposes that *molti* is base-generated in the embedded object position, moves at LF to the matrix theta-position, and then to the matrix subject position replacing the expletive as shown in (33).

(33) [IP Molti<sub>i</sub> ne vorrebbero<sub>j</sub> [VP t<sub>i</sub> t<sub>j</sub> [VP arrivare t<sub>i</sub> alla festa prima di Mario]]]

(Bošković 1994: 274)

He concludes that by allowing thematically driven movement, (32) can be naturally accounted for.

### 2.3.3 PRO-gate constructions: Kiguchi (2002)

Kiguchi (2002) argues that so called PRO-gate phenomenon can be accounted for if we adopt theta-driven movement and sideward movement as proposed by Nunes (1995).

First, let us summarize the PRO-gate phenomenon, first discussed by Higginbotham (1980). Consider the contrast between (34) and (35):

- (34) a. \*Who<sub>i</sub> does his<sub>i</sub> father hate t<sub>i</sub>?  
 b. \*His<sub>i</sub> father hates someone<sub>i</sub>
- (35) a. Who<sub>i/j</sub> did [PRO<sub>i/j</sub> forgetting what he<sub>i</sub> said to him<sub>j</sub>] annoy t<sub>i/j</sub> ?  
 b. [PRO<sub>i</sub> Seeing his<sub>i</sub> father] pleased every boy<sub>i</sub>

(Higginbotham 1980: 688)

Sentences in (34) are standard cases of Weak Cross Over (WCO) violation. As stated in footnote 2, WCO effects can be described as:<sup>18</sup>

(36) A variable cannot be the antecedent of a pronoun to its left

(Chomsky 1976: 201)

(36) rules out (34)a since the wh-trace, which is a variable, is interpreted as the antecedent of the pronoun *his*, which is located to its left. Similarly, (34)b is ruled out by (36) as follows. As illustrated in (37), the quantifier *someone* raises at LF, leaving a

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<sup>18</sup> I use the condition in (36) for expository purpose, but I do not assume any theory where linear ordering matters at LF.

trace behind, which is interpreted as variable. This variable cannot be the antecedent of the pronoun *his* because the pronoun is to the left of the variable.

(37) Someone<sub>i</sub> [ his<sub>i</sub> father hates t<sub>i</sub> ]

Sentences in (35), on the other hand, do not show WCO effects although pronouns in these sentences are also located to the left of the variables. Higginbotham (1980) points out that WCO violation is ameliorated when a co-indexed PRO intervenes between a raised quantificational expression and a pronoun. (38) illustrates the configuration.

(38) Q<sub>i</sub> ... PRO<sub>i</sub> ... pronoun<sub>i</sub> ... t<sub>i</sub>

The phenomenon that WCO violation is absent with appearance of PRO is called PRO-gate.

Kiguchi notes that A-movement obviates WCO effects. A WCO effect is observed in (39)a, but not in a raising configuration as in (39)b.

- (39) a. \*It seems to his<sub>i</sub> mother that everyone<sub>i</sub> is handsome  
b. Everyone<sub>i</sub> seems to his<sub>i</sub> mother t<sub>i</sub> to be handsome

Given this observation, he argues that the PRO-gate phenomenon can be accounted for if PRO in PRO-gate constructions is an A-trace. Theta-driven movement coupled with sideward movement proposed by Nunes (1995, 2001) allows Kiguchi to achieve this goal.

Let us briefly illustrate the sideward movement proposed by Nunes (1995, 2001). Under the copy theory of movement in the minimalist framework, movement is a complex operation of copy plus merge with subsequent deletion of all the copies but one. Given the copy theory of movement, Nunes claims that movement between two unconnected trees is allowed. He calls such movement sideward movement. As a

representative example of such movement, Nunes accounts for a typical parasitic gap construction as in (40). Its derivation is given in (41).

(40) Which paper did you file without reading?

- (41) a.  $K = [_{PP} \text{ without } [_{CP} [_{TP} PRO_j [_{T'} [_{VP} t_j [_{V'} v [_{VP} \text{ reading } [_{\text{which paper}}]_i ]]]]]]$   
 $L = \text{file}$
- b.  $K = [_{PP} \text{ without } [_{CP} [_{TP} PRO_j [_{T'} [_{VP} t_j [_{V'} v [_{VP} \text{ reading } [_{\text{which paper}}]_i ]]]]]]$   
 $M = [_{VP} \text{ file } [_{\text{which paper}}]_i ]$
- c.  $K = [_{PP} \text{ without } [_{CP} [_{TP} PRO_j [_{T'} [_{VP} t_j [_{V'} v [_{VP} \text{ reading } [_{\text{which paper}}]_i ]]]]]]$   
 $N = [_{VP} \text{ you } [_{V'} [_{VP} \text{ file } [_{\text{which paper}}]_i ]]]$
- d.  $[_{VP} [_{VP} \text{ you } [_{V'} [_{VP} \text{ file } [_{\text{which paper}}]_i ]]] [_{PP} \text{ without } [_{CP} [_{TP} PRO_j [_{T'} [_{VP} t_j [_{V'} v [_{VP} \text{ reading } [_{\text{which paper}}]_i ]]]]]]]]$
- e.  $[_{CP} [_{\text{which paper}}]_i \text{ did } [_{TP} \text{ you } [_{VP} [_{VP} [_{V'} [_{VP} \text{ file } [_{\text{which paper}}]_i ]]] [_{PP} \text{ without } [_{CP} [_{TP} PRO_j [_{T'} [_{VP} t_j [_{V'} v [_{VP} \text{ reading } [_{\text{which paper}}]_i ]]]]]]]]$

After the syntactic object K is built, the verb *file* is selected from the numeration in (41)a. A copy of *which paper* is merged with *file* forming M in (41)b. After *you* is inserted to the sub-tree N in (41)c, the two sub-trees K and N merge in (41)d forming a single tree. Finally, *which paper* moves to spec CP in (41)e. In (41)a, K and L are separated trees; thus, the movement of *which paper* from K to L forming M in (41)b is an instance of sideward movement. Nunes argues that the copy theory of movement

coupled with sideward movement can account for parasitic gaps and other constructions straightforwardly without relying on construction specific mechanisms.

Let us now illustrate how theta-driven movement and sideward movement can account for the PRO-gate constructions. Derivation for (35)a is given below.

- (42) a. [IP who<sub>i</sub> [vP who<sub>i</sub> cooking [his lunch]]]  
 b. [IP who<sub>i</sub> [vP who<sub>i</sub> cooking [his lunch]]] annoy  
 c. [IP who<sub>i</sub> [vP who<sub>i</sub> cooking [his lunch]]] [vP annoy [who<sub>i</sub>]]  
 d. [vP [IP who<sub>i</sub> [vP who<sub>i</sub> cooking [his lunch]]] [annoy [who<sub>i</sub>]]]  
 e. [TP [IP who<sub>i</sub> [vP who<sub>i</sub> cooking [his lunch]]] [vP [IP who<sub>i</sub> [vP who<sub>i</sub> cooking [his lunch]]] [annoy [who<sub>i</sub>]]]  
 f. [CP who<sub>i</sub> [TP [IP who<sub>i</sub> [vP who<sub>i</sub> cooking [his lunch]]] [vP [IP who<sub>i</sub> [vP who<sub>i</sub> cooking [his lunch]]] [annoy [who<sub>i</sub>]]]]]  
 g. [CP who<sub>i</sub> [TP did [IP ~~who<sub>i</sub>~~ [vP ~~who<sub>i</sub>~~ cooking [his lunch]]] [vP [IP ~~who<sub>i</sub>~~ [vP ~~who<sub>i</sub>~~ cooking [his lunch]]] [annoy [~~who<sub>i</sub>~~]]]]]

(Kiguchi 2002: 31)

First, the sentential subject is built up (42)a. *Who* is base-generated inside the subject. Then a verb, *annoy*, is pulled out from the numeration (42)b. *Who* sideward-moves to merge with *annoy* (42)c. Next, the sentential subject is merged into the subject position of *annoy* (42)d. The subject moves to spec TP (42)e. Wh-movement of *who* takes place from object position of the main clause (42)f. Finally, all the copies of *who* except one in spec CP get deleted (42)g.

Crucially, the empty element in the IP spec position of the sentential subject is a trace of A-movement in the derivation above. Thus, Kiguchi claims that lack of WCO effects in PRO-gate constructions is expected in his account.

Note that the main verbs of the PRO-gate constructions presented here are psych verbs. Given the analysis presented below in this thesis, it will be possible to give a different account for these constructions. However, importantly, PRO-gate phenomena are not limited to constructions with psych verbs. The phenomenon is observed in the following constructions whose main verbs are non-psych verbs.

- (43) a. PRO<sub>i</sub> washing himself<sub>i</sub> made everyone<sub>i</sub> kiss his wife  
b. PRO<sub>i</sub> getting letters from his<sub>i</sub> sweetheart is important for every soldier<sub>i</sub>

Therefore, even if PRO-gate constructions with psych verbs are accounted for in a different manner, Kiguchi's argument still holds in cases with non-psych verbs.

In this chapter, the theoretical arguments for prohibiting theta-driven movement were reviewed. It was concluded that the arguments were invalid or weak at best. Then three analyses that utilize such movement were summarized. These three analyses add empirical support to the existence of theta-driven movement. Given these, I conclude that theta-driven movement is a direction worth trying to take. In the chapters that follow, I will focus my attention on psych verbs.

## Chapter 3: Previous analyses of psych verb constructions

This chapter reviews four analyses of psych verb constructions. First, B&R (1988) argues that the subject of OE verbs is derived by movement, and that OE verbs are unaccusatives. Second, Pesetsky (1995) offers evidence that OE verbs are not unaccusatives refuting B&R's analysis. He also claims that the thematic role of the subject of OE verbs and that of the object of SE verbs are different. Dowty (1991) and Baker (1997) will be also reviewed. They share the idea that thematic roles are realized in syntax as proto-roles. Importantly, Baker, as well as Pesetsky, maintains a syntactic account for the backward binding facts.

### 3.1 Belletti and Rizzi 1988

Italian psych verbs show the opposite patterns of theta-roles in English and many other languages do. The experiencer appears as the subject in (1)a and as the object in (1)b.

- (1) a. Gianni teme questo  
fear this  
b. Questo preoccupa Gianni  
this worry

(B&R: 291)



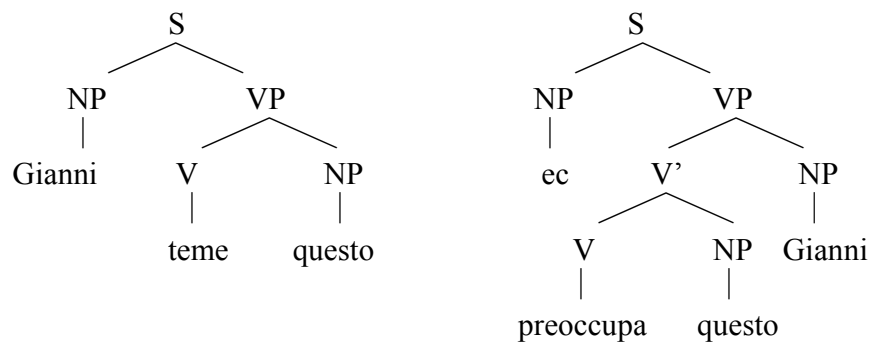
Italian psych verbs also show the backward binding phenomenon. The anaphor *sé* inside the subject can be bound by the object in an OE verb construction (2)a, but binding is not possible with a regular transitive verb (2)b.

- (2) a. Questi pettegolezzi su di **sé** preoccupano **Gianni** più di ogni altra cosa  
 ‘These gossips about himself worry Gianni more than anything else’  
 b. \* Questi pettegolezzi su di **sé** descrivono **Gianni** meglio di ogni biografia  
 ufficiale  
 ‘These gossips about himself describe Gianni better than any official  
 biography’

(B&R: 312)

In the GB framework, B&R states that ‘... the D-structure configuration of [(1)a] is the uncontroversial [(3)a], whereas the D-structure of [(1)b] is [(3)b], a kind of double object construction with a non-thematic subject position’ (B&R: 293).

- (3)      a. \_\_\_\_\_ b. \_\_\_\_\_



(B&R: 293)

Thus, (1)b is derived from (3)b by moving *Gianni* to the subject position. They claim that OE verbs are unaccusative verbs having an athematic subject as shown in (3)b.

B&R's analysis is successful for the following reasons. Their analysis is consistent with RUTAH since  $\theta$ -roles are discharged in the same configurations. They state that "in both cases the verb directly  $\theta$ -marks the theme, and the constituent Verb + theme compositionally  $\theta$ -marks the experiencer." Moreover, it can give a syntactic account to the backward binding facts in (2). Since the surface theme subject is c-commanded by the experiencer at D-structure, we can conclude that the binding configuration is met at D-structure by assuming that the binding principle A can be satisfied at any level of representations: D-structure, S-structure, or LF.

However, as Campbell and Martin (1989), Grimshaw (1990), Pesetsky (1995: chapter 2), and Zubizarreta (1992) among others have pointed out, B&R's claim that OE verbs are unaccusatives seems problematic.

First of all, auxiliary selection does not support their claim. As Pesetsky (1995: 21) and Zubizarreta (1992: 246) point out, unaccusative verbs select *essere* 'be' in Italian whereas unergative and transitive verbs select *avere* 'have'. OE verbs select *avere* unlike what B&R would predict.

Second, Zubizarreta (1992) points out that the type of pronominal subjects that OE verbs select does not support the claim. In French, a sentential argument pronominal subject and an expletive subject are morphologically distinct. The former is realized as *ce*, and the latter as *il* as in (4)a and (4)b respectively. OE verbs select *ce* as shown in (4)c. This suggests that OE verbs are not unaccusatives. Thus, B&R's analysis cannot be extended to French.

- (4) a. C'est possible que Marie ait peur des mouches  
       'It's possible that Marie is scared of flies'
- b. Il semble que Marie a peur des mouches  
       'It seems that Marie is scared of flies'
- c. Ça m'amuse que Marie ait peur des mouches  
       'It amuses me that Marie is afraid of flies'

(Zubizarreta 1992: 246)

The third criticism is the fact that many OE verbs allow passivization as pointed out by Pesetsky (1995). It has been noted in the literature (Perlmutter and Postal (1984), Perlmutter and Zaenen (1984), and Marantz (1984), among others) that unaccusative verbs do not allow passivization. However, English OE verbs can be passivized as shown in (5).

- (5) a. Bill was angered by Mary's conduct
- b. The paleontologist was pleased by the discovery of the fossil

(Pesetsky 1995: 22)

The fact that passivization of OE verbs is possible makes suspicious the claim that OE verbs are unaccusatives.

Campbell and Martin (1989) also present two cases where OE verbs do not behave like unaccusatives. First, they point out that PP extraposition is allowed from an object, which is lexically governed by a verb (6)a, but it is prohibited from a subject, which is not lexically governed (6)b and c. Moreover, (7) shows that extraposition is possible from a derived subject suggesting that the lexical government at D-structure is the key for extraposition of the PP.

- (6) a. I showed [three movies e] to the students [about the mafia]
- b. \* [Three movies e] detailed crimes [about the mafia]
- c. \* [Three movies e] made money [about the mafia]
- (7) a. [Three stories e] were circulating (among NP) [about John]
- b. [Three movies e] appeared [about the mafia]
- c. [Three movies e] were shown (to NP) [about the mafia]
- d. [Three movies e] seemed to have been shown [about the mafia]

The subject of OE verbs does not allow PP extraposition as in (8); therefore, the subject of OE verbs are not derived subjects.

- (8) a. \* [Three movies e] upset us [about the mafia]
- b. \* [Three movies e] interested us [about the mafia]

Secondly, they discuss CP gaps in *as* constructions. Stowell (1987) proposes that a CP gap must be lexically governed at D-structure. As shown in (9), a CP gap is possible in object position but not in subject position.

- (9) a. Mary said that John failed, as we all knew [<sub>CP</sub> e]
- b. \* Mary said that John failed, as [<sub>CP</sub> e] demonstrates his lack of competence

(9)a is fine because the gap is the object of a transitive verb, thus is lexically governed, but (9)b is not because the gap is the subject of a transitive verb, hence it is not lexically governed. Furthermore, CP gapping is possible in raising and passive constructions as in (10)a and (10)b respectively.

- (10) a. Mary said John was a fool, as seemed [<sub>CP</sub> e] obvious to everybody

- b. Mary claimed that John was a fool, as was subsequently proven [<sub>CP</sub> e] to us all

These sentences indicate that lexical government at D-structure licenses the gap. The subject of OE verbs in (11) does not allow a CP gap parallel with the transitive subject.

- (11) a. \* Mary prove that John liked onions, as [<sub>CP</sub> e] horrified us
- b. \* Mary prove that John liked onions, as [<sub>CP</sub> e] upset us

Given the two results, Campbell and Martin conclude that OE verbs are not unaccusatives.

In addition to these problems on the unaccusative analysis of OE verbs, Dowty (1991: 580, footnote 23) criticizes B&R type of approaches as follows:

- (12) ‘[T]he deeper question which these accounts do not answer is why THIS particular class of lexical predicates should occur in these abstract underlying structures and appear in this surface alternation, while other classes of verbs (prototypical transitives like *kill*, statives, motion verbs, three-place verbs, etc.) never do.’

These problems have fostered continued thinking on the nature of psych verbs.

### 3.2 Pesetsky 1995

Pesetsky (1995) claims that the object of SE verbs and the subject of OE verbs do not share the same theta-role. He notes a subtle distinction in meaning between an SE verb sentence and an OE verb sentence in (13).

- (13) a. Bill was very angry at the article in the Times
- b. The article in the Times angered/enraged Bill

(Pesetsky 1995: 56)

In (13)a, it must be the case that Bill has a negative emotion toward the article. On the other hand, in (13)b, it could be that Bill agreed with the author of the article and liked the article very much, but the content of the article invoked anger toward the topic of the article (for instance, Bill got angry at the judging system of Olympic figure skating competitions that was the topic of the article). Thus (13)a implies (13)b, but not vice versa. Given this observation, Pesetsky claims that the object in (13)a and the subject (13)b do not share the same theta-role, but the former is Target and the latter is causer. According to Pesetsky, causer is simply causally connected to the emotion of the experiencer described by the predicate. On the other hand, Target is something toward which the experiencer holds certain emotion. Pesetsky introduces another theta-role, Subject Matter of Emotion, which is also assigned to the object of SE predicates. Consider the following sentences.

- (14) a. John worried about the television set  
b. The television set worried John

(Pesetsky 1995: 57)

The object of the SE verb in (14)a, *the television set*, is interpreted as Subject Matter, while the subject of the OE verb in (14)b is causer. Pesetsky wrote, ‘whenever John was experiencing the worry described in the example [(14)a], he was thinking in some way about the television set. ... Whatever the nature of John’s specific concern, the television set is the Subject Matter of Emotion.’ For example, John’s specific concern might be that his television set is too old, so he is debating whether he should buy a new one. In (14)b, on the other hand, it is sufficient that the television set invokes some

worry in John. Thus, (14)b, but not (14)a, can be true in a situation where John's television set was facing a direction slightly different from normal, and John started to worry about a burglar. Pesetsky thus proposes a thematic hierarchy below.

(15) Causer > Experiencer > Target/Subject Matter

(Pesetsky 1995: 59)

With the thematic hierarchy in (15), *Bill* in (13)a is the experiencer and is linked to a position higher than the Target, *the article in the Times*. In (13)b, *the article in the Times* is the causer, and linked to a position higher than the experiencer, *Bill*. Thus, the RUTAH is respected in both sentences in (13).

Postulating the thematic hierarchy (15) successfully explains the puzzle concerning UTAH. However, Pesetsky's proposals also face several problems. First of all, the backward binding facts cannot be handled in a straightforward manner in his analysis. To see this and other problems, let us see the main proposals of his analysis in detail.

Separation of the theta-roles of the object of SE verbs and the subject of OE verbs creates a new problem, which Pesetsky calls the Target/Subject Matter (T/SM) restriction. That is, all of the three theta-roles, causer, experiencer, and T/SM, cannot surface with a single OE verb as shown in (16).

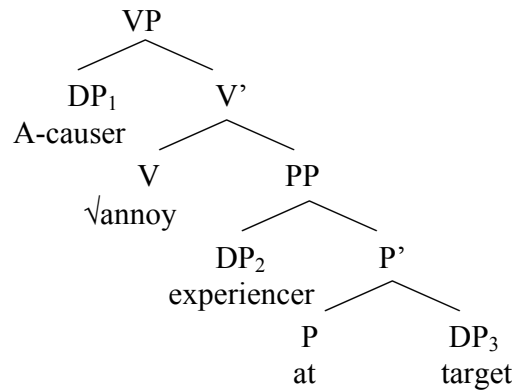
- (16) a. \* The article in the *Times* angered Bill at the government  
 b. \* The Chinese dinner satisfied Bill with his trip to Beijing  
 c. \* The television set worried John about the veracity of Bill's alibi.

(Pesetsky 1995: 60)

In (16)a, for instance, *the article in the Times*, *Bill*, and *the government* correspond to causer, experiencer, and target respectively, and the sentence is unacceptable. (16)b and c are unacceptable for the same reason. There is no reason in principle why they cannot, however.<sup>1</sup>

In order to account for this restriction as well as the backward binding facts, Pesetsky proposes the Cascade structures illustrated in (17) (20), and (21).<sup>2</sup> First, (17) is an example of the derivation of an SE verb.

(17) SE verb



Pesetsky assumes that an SE verb selects an A-causer<sup>3</sup> as its external argument and PP as its internal argument with an experiencer and Target in its specifier and complement positions, respectively. In order to allow the root verb  $\sqrt{annoy}$  to  $\theta$ -select DP<sub>2</sub> and DP<sub>3</sub>, he postulates the two notions in (18) and (19). DP<sub>3</sub> receives the Target role from

<sup>1</sup> Note these cases show that the mono-clausal causative verbs, *anger*, *satisfy*, and *worry*, are not derived from *X cause Y to be angry at Z*, *X cause Y to be satisfied with Z*, and *X cause Y to be worried about Z*, respectively, supporting Fodor's (1970) claim.

<sup>2</sup> Irrelevant parts of the structures are omitted in these derivations.

<sup>3</sup> According to Pesetsky (1995: 112-113), there are active emotions and evaluative emotions. Emotions such as *anger*, *surprise*, and *annoy* are the former type, and he suggests these verbs require an *Ambient Causer* (or A-Causer) argument. On the other hand, he assumes that *like*, *hate*, and unaccusative *appeal* are the latter type and do not require the A-causer.



$\sqrt{annoy}$  through mediated  $\theta$ -selection (18)b, and  $DP_2$  receives the experiencer role given (18)a and (19)b.

(18)  $\theta$ -selection

Let  $\tau$  range over (internal, external). If  $\pi$   $\theta$ -selects a  $\tau$   $\theta$ -role  $R$  as a lexical requirement, then this requirement is satisfied if either

- a. an argument bearing  $R$  occupies a position  $\tau$ -ly selected by  $\pi$  (direct  $\theta$ -selection), or
- b. a  $\theta$ -selector of  $R$  heads a position  $\tau$ -ly selected by  $\pi$  (mediated  $\theta$ -selection)

(Pesetsky 1995: 183)

(19) Selected positions (Cascade structures)

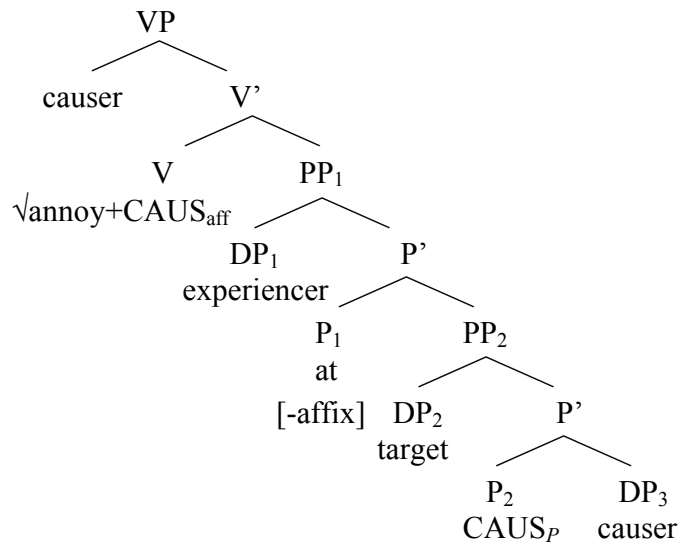
- a.  $\pi$  externally selects  $\alpha$  iff  $\alpha$  is Spec,  $\pi^{\max}$
- b.  $\pi$  internally selects  $\alpha$  iff
  - i.  $\pi$  c-commands  $\alpha$ , and
  - ii. there is no argument category  $\sigma$  such that  $\pi$  c-commands  $\sigma$  and  $\sigma$  c-command  $\alpha$

(Pesetsky 1995: 189)

For OE constructions, he introduces zero morphemes,  $CAUS_{\text{aff}}$  and  $CAUS_P$  (Pesetsky: 208).  $CAUS_{\text{aff}}$  is affixed to the root verb and  $\theta$ -selects causer to its external position.  $CAUS_P$  is an “adjunct” preposition, i.e., it is not  $\theta$ -selected by the root, and

has to move to the root verb because it is affixal.<sup>4</sup> CAUS<sub>P</sub> has to move up to CAUS<sub>aff</sub> to check some features adopting the feature checking mechanism of Chomsky (1993). Having said that, let us start with the impossible derivation in (20).

(20) OE verbs (impossible derivation)



This derivation is not possible, Pesetsky argues, since CAUS<sub>P</sub> cannot reach CAUS<sub>aff</sub> because of the intervening head P<sub>1</sub>. CAUS<sub>P</sub> has to move through P<sub>1</sub> in order to obey the Head Movement Constraint (HMC)<sup>5</sup>, but P<sub>1</sub> is [-affix], and hence does not allow further affixation. Therefore, CAUS<sub>P</sub> is stuck at P<sub>1</sub>. The derivation which involves the three  $\theta$ -roles is thus ruled out, and the T/SM restriction is accounted for.

(21) illustrates a possible derivation for an OE verb. Here, there is no [-affix] head between CAUS<sub>P</sub> and CAUS<sub>aff</sub>. Therefore, movement of CAUS<sub>P</sub> to CAUS<sub>aff</sub>

<sup>4</sup> Pesetsky (1995: 196) states that 'CAUS does not introduce a selected argument, but rather has the status of *because* or the *wh*-phrase *why*. ... CAUS is [+affix], and ... must be moved to the main verb'.

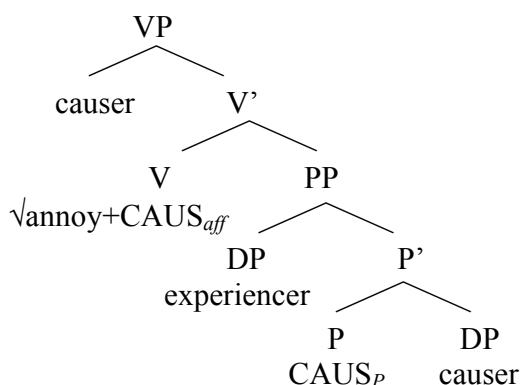
<sup>5</sup> Head Movement Constraint<sub>def</sub>:

An  $X^0$  may only move into the  $Y^0$  that properly governs it

(Travis1984: 131)

succeeds. By assuming that CAUS<sub>P</sub> does not license Case on its object (Pesetsky: 203), the lower causer moves to the higher causer position for Case reasons. Thus Pesetsky allows movement from one theta-position into another only if both positions bear the same  $\theta$ -role.

(21) OE verbs (possible derivation)



Now, compare the impossible and possible derivations. The impossible derivation involves causer, experiencer, and Target theta-roles whereas the possible derivation involves causer and experiencer but not Target. Thus, Pesetsky derives the T/SM restriction from the morphological nature of the heads that introduce these  $\theta$ -roles. Moreover, by postulating movement of the causer from the position below the experiencer to the position above it, he derives the backward binding facts.

There are a few problems in his analysis from a minimalist point of view. First of all, by removing the Target in the possible derivation, he basically removes the possibility of the reading in (13)b, repeated here.

(22) The article in the Times angered/enraged Bill

Recall that he argues that the subject of OE verbs does not have to be Target, and can be causer, for instance in a situation where the article invoked anger in Bill towards the

figure staking judging system of the Olympics. However, (22) can be also true in a situation where the article is the Target and the causer at the same time. The latter reading is not available in (21) since there is no Target position.

Second, the assumptions that this preposition does not check Case, and that movement from one theta-position to another is allowed only if both positions bear the same role are stipulative at best.

Finally, once we adopt the feature checking mechanism, it is not clear if HMC must also be obeyed. Pesetsky needs the feature checking system in order to distinguish  $\sqrt{\text{annoy}} + \text{CAUS}_{\text{aff}}$  which selects A-causer from  $\sqrt{\text{annoy}}$  which selects causer. In this system, movement is triggered by the need for checking features of the mover or the Target. The intervening heads are unlikely to have those features. Then, it is not clear why the mover has to move through any intervening heads.

So far, we have reviewed two approaches to psych verbs. Although it has problems, B&R's analysis is attractive since it accounts for the reverse linking pattern of OE verbs without denying UTAH and derives the backward binding facts with only a single movement operation. On the other hand, Pesetsky's insight into the semantic distinction between OE verbs and SE verbs seems undeniable. Obviously, these two analyses are not incompatible with each other. In fact, Pesetsky tried to derive the backward binding facts by movement. I believe that their basic ideas are tenable but require refurbishment with modern technology. By allowing theta-driven movement,

we can account for Pesetsky's facts and backward binding facts without raising the problems that B&R and Pesetsky faced.

From now on, I will not distinguish Target/Subject Matter and will simply call the object of SE verbs 'theme' unless it is necessary to make a distinction.

### 3.3 Dowty 1991

Dowty (1991) proposes that thematic roles are a way of classifying arguments based on the number of proto-agent and proto-patient properties entailed by the sentence. For example, in a three-place predicate, the argument that entails the most proto-agent properties is interpreted as proto-agent and is linked to the syntactic subject position. The argument that entails the greatest number of proto-patient properties is interpreted as proto-patient. It is linked to the direct object position. The last argument is linked to the indirect object position. The properties he lists for each proto-role are given below.

#### (23) Contributing properties for the Agent Proto-Role

- a. volitional involvement in the event or state
- b. sentience (and/or perception)
- c. causing an event or change of state in another participant
- d. movement (relative to the position of another participant)
- e. exists independently of the event named by the verb

#### (24) Contributing properties for the Patient Proto-Role

- a. undergoes change of state
- b. incremental theme
- c. causally affected by another participant

- d. stationary relative to movement of another participant
- e. does not exist independently of the event, or not at all

(Dowty 1991: 572 (27) and (28))

He emphasizes that thematic roles are not notions with discrete boundaries. For instance, it is quite clear that *John* and *Mary* in *John hit Mary* are agent and patient respectively, but the thematic roles of the arguments in *the key opened the door* are not so obvious. In this case, although *the key* is not a sentient element nor has volition, it causes the event of opening the door; hence, it is more like proto-agent. On the other hand, *the door* undergoes the change of state, which is a property of proto-patient.

In this type of approach, backward binding facts remain unexplained. There are two ways to account for them. One is to find a way to derive the binding configuration syntactically. Baker (1997) follows this line, which will be reviewed in the next section. In what follows, I will discuss the other line of argumentation which treats an anaphor as a pragmatic/discourse entity. Arad (1999) and Bouchard (1995) are among proposers of these.<sup>6</sup>

Bouchard (1995) claims that psych verb puzzles should be treated in pragmatics as stated clearly in the following excerpt:

- (25) ... a Psych construction is not different from other constructions, in that the basic semantic relations are the same as in other constructions. ... What distinguishes a psych construction from other constructions is not a particular

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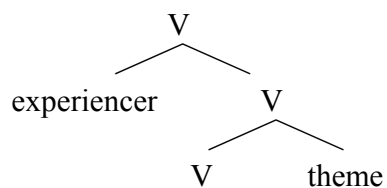
<sup>6</sup> Dowty (1991: 581, footnote 23) also mentions that backward binding fact should be treated pragmatically.

syntactic or semantic relationship between arguments, but rather the nature of the elements that are related.

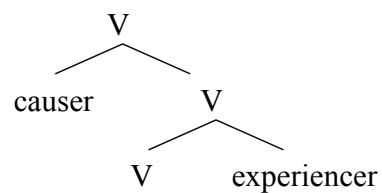
(Bouchard 1995: 284)

Following McGinnis (1999), Arad (1999: 11) suggests that ‘[i]n the case of ObjExp verbs, the position of the Target is lost once a Causer is added (from *angry* to *anger*),’ arguing against Pesetsky’s movement analysis of backward binding constructions. The following somewhat simplified diagrams illustrate the base-generated positions of the thematic roles in question that Bouchard and Arad assume.

(26) a. SE verb



b. OE verb



Given these, unless one introduces a complicated structure like Baker’s as we will see below, there is no way to account for backward binding facts syntactically. Thus, the proponents of proto-role approaches, who do not wish to account for backward binding facts syntactically, are forced to take the view that the backward bound anaphor/pronoun in OE constructions is a species of logophor which is a discourse oriented anaphor.<sup>7</sup>

The discourse account of the backward binding facts also face a couple of problems. The first problem is the following. Suppose, for instance, the anaphor in OE constructions is SELF oriented, following Sells’ (1987) view on logophors. Sells

<sup>7</sup> See Iida (1996), Kuno and Kaburaki (1988), and Sells (1987) for discussions of logophors.

defines SELF as the ‘one whose mental state or attitude the content of the proposition describes’.<sup>8</sup> This will explain that the antecedent of the reflexive (27) is *John* since the sentence describes John’s mental state.

(27) Pictures of himself<sub>i</sub> annoyed John<sub>i</sub>

However, peculiar properties of OE verbs seem to be limited to OE verb constructions that involve stative causation. Arad shows that an OE verb can be interpreted to involve either active causation or stative causation. In the former, the subject is interpreted as agent allowing an agentive modifier as shown in (28)a. In the latter case, on the other hand, the subject is not agent but ‘stimulus’ in Arad’s term. (28)b illustrates the stative causation.

- (28) a. Nina frightened Laura deliberately/to make her go away.  
 b. John/John’s behavior/nuclear war frightened Nina

(Arad 1999: 3)

Furthermore, she shows that only the stative reading of OE verbs show the well-known peculiarities of OE verbs. Thus, when the subject is animate/human, backward binding seems to disappear as in (29).<sup>9</sup>

(29) \*Friends of each other<sub>i</sub> annoyed them<sub>i</sub>

Thus, there seems to be a non-human subject restriction on backward binding. For those who claim that the anaphors in (27) and (29) are a kind of logophor have to say

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<sup>8</sup> Or PIVOT, which is ‘one with respect to whose (space-time) location the content of the proposition is evaluated.’ Sells does not discuss English reflexives. He claims that the Icelandic long distance anaphor, *sig*, is SELF oriented while Japanese long distance anaphor, *zibun*, is PIVOT oriented (Sells 1987: 474).

<sup>9</sup> Given Arad’s observation, it should be the case that backward binding is possible in (29) if the animate subject is interpreted as non-agent. The judgment seems to be difficult to obtain given the difficulty of getting the non-agent interpretation with an animate subject.



somehow that *John* in (27) is SELF, but is not in (29). It is not clear to me why *them* in (29) cannot be SELF.

Secondly, even if they can manage to account for the contrast between (27) and (29), this is not the end of the story because backward binding in OE verb constructions is not limited to anaphors. As we saw in chapter 1, a pronoun in OE verb constructions can be interpreted as a bound pronoun even though its quantificational antecedent does not c-command it as shown in (30).

(30) Rumors about his<sub>i</sub> mother upset/worried/frightened everybody<sub>i</sub>

Furthermore, Fiengo and May (1994) report that VP ellipsis constructions with OE verbs in (31) contrast with those with regular verbs in (32) in that the former allow only strict readings whereas the latter allow both strict and sloppy readings.<sup>10</sup>

- (31) a. Mary's picture of John amused him, and Mary's picture of Bill did, too  
b. A picture of John amused him, and a picture of Bill did, too

(Fiengo and May 1994: 109-111 (42) & (45))

- (32) a. Max's mother loves him, and Oscar's mother does, too  
b. Everybody in Tokyo rides its subways, but nobody in New York does

(Fiengo and May 1994: 108 (39))

Below are some more examples.

- (33) a. John's pictures amused him, and Bill's pictures did, too  
b. John's pictures worried him, and Bill's pictures did, too.  
(34) a. John's pictures amused him more than Bill's pictures did  
b. John's pictures amused him though Bill's pictures didn't

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<sup>10</sup> The VP ellipsis facts here were brought into my attention by Satoshi Tomioka.

In general, a sloppy reading of VP ellipsis is available in the environment where a bound pronoun is available. The fact that these sentences all resist sloppy readings suggests that the pronouns in (31), (33), and (34) cannot be interpreted as bound pronouns. Given that bound pronouns are licensed syntactically, availability of a bound pronoun reading in (30) and lack of sloppy readings in (31), (33), and (34) require a syntactic account. It is not clear how pragmatic accounts can handle these cases.

### 3.4 Baker 1997

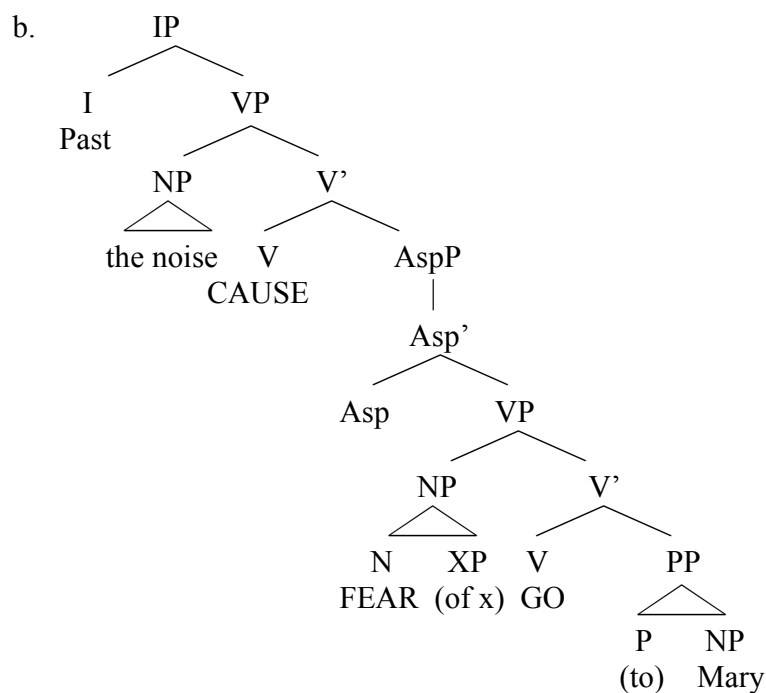
Baker (1997) shares with Pesetsky the assumption that the thematic role of the subject of OE predicates is different from that of the object of SE predicates. However, in order to maintain the absolute UTAH, rather than the RUTAH, he adopts Dowty's concept of proto-roles, and assumes that there are three roles, proto-agent, proto-theme, and proto-goal, which are relevant in the formation of UTAH. These three roles match the three positions in syntax, hence no relativization is necessary. Baker thus suggests that *John* in (35)a is classified as a proto-agent since John is sentient, while *John* in (35)b is a proto-patient since he is the undergoer of a change. Furthermore, *the article* in (35)b should be seen as a proto-agent, since it has one of the properties of Agent Proto Role stated in (23)c: causing an event or change of state in another participant.

- (35) a. John is angry at the article  
       b. The article angered John

Baker manages to link the experiencer to the subject position in SE verbs and to the object position in OE verbs.

Unlike Arad and Bouchard, Baker maintains syntactic account for the backward binding facts. Let us look more closely at Baker's suggestion. Though he does not offer a concrete proposal, he suggests that *frighten* be decomposed into “x cause [[FEAR (of z)] to go to y],” and this lexical semantic representation will give us the derivation in (36)b for the OE construction in (36)a.

(36) a. The noise frightened Mary

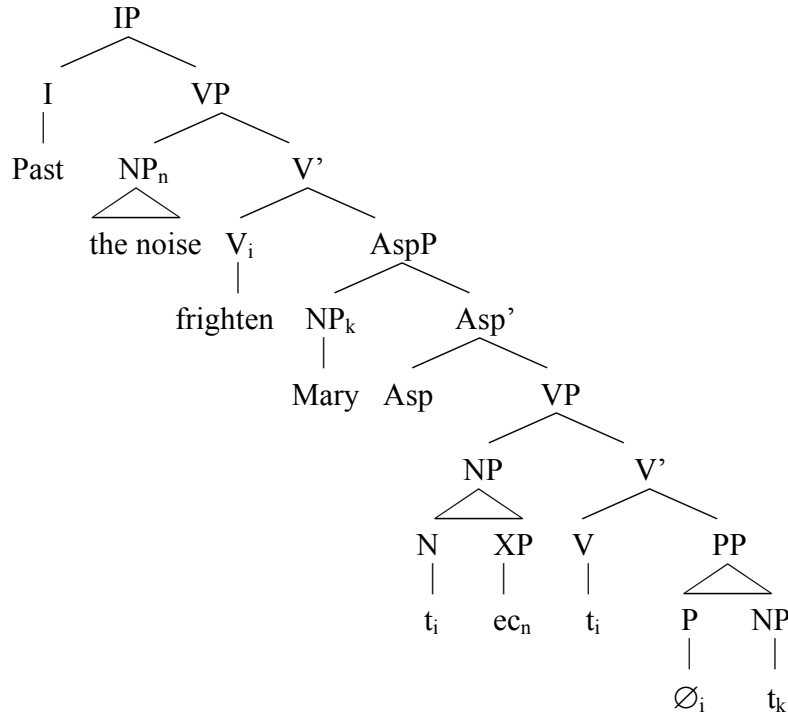


(Baker 1997: (66))

Baker states that the abstract elements of CAUSE, FEAR, and GO are combined into *frighten*, either pre-syntactically in the sense of Hale and Keyser (1993), or by a combination of syntactical operations such as incorporation proposed by Baker (1988) and a post-syntactic late insertion rule along the lines of Halle and Marantz (1993). The

experiencer *Mary* moves to the specifier of AspP, and the complement of the abstract notion FEAR is bound by the causer NP *the noise*. The derivation ends as in (37).

(37)



(Baker 1997: (69))

The experiencer *Mary* in spec AspP c-commands the empty category, *ec*, inside the NP in spec VP, which is bound by the causer subject. Therefore, the binding configuration is established at this point.

It is not fair to criticize this analysis given that this is not a fully developed proposal. Hence, I simply point out that movement of GO to FEAR to CAUSE is not natural. Since FEAR is the head of an NP which occupies the specifier of VP, this movement is from head to specifier to head, which is not observed in general. This suggests that justification of such movement is not an easy task.

Relevant to our discussion is the assumption that experiencer occupies the same position as agent/causer. In other words, experiencer is treated as a proto-agent in this type of approach. This amounts to saying that experiencer is the external argument in SE verb constructions. Although concepts of proto-roles are also necessary in the analysis presented below in order to understand the whole range of what we call “psych verbs,” I will show that the assumption that experiencer is a proto-agent cannot be maintained for SE-OE alternating verbs given that OE verbs in Japanese are mono-clausal causatives made from an SE verb and a causative morpheme rather than bi-clausal causatives.

In this chapter, four analyses were presented, and their problems discussed. Given the bound pronoun and VP ellipsis facts, it seems plausible to conclude that backward binding facts of OE verbs should be accounted for in syntax. Although B&R, Pesetsky, and Baker all account for backward binding facts syntactically, their analyses all present serious problems. Thus, the psych verb puzzles await another account.

## Chapter 4: OE constructions in Japanese

In this chapter, a new analysis of OE verb constructions in Japanese based on theta-driven movement will be presented. Section 4.1 will introduce some basic facts about psych verbs that show both SE and OE patterns. Section 4.2 will show that OE verbs are mono-clausal causatives by applying three tests. In section 4.3, derivation of OE verb constructions will be discussed. I follow Pesetsky (1995) in assuming that the  $\theta$ -roles involved in SE constructions and OE constructions are not identical and adopt B&R's movement analysis in order to account for backward binding facts as well as scope facts. If we allow theta-driven movement, we can maintain both ideas of Pesetsky and B&R. In section 4.4 to 4.9, I will give accounts for various facts about OE verbs: backward binding constructions and some restrictions on them, scope interpretation facts, the condition of thematic diversity, and constructions of a possessor of feelings or mental states.

### 4.1 Facts

As mentioned in Chapter 1, Japanese has received much attention to psych verbs in the literature because it gives us a morphological clue as to what is going on. Specifically, OE verbs are formed by suffixing a causative morpheme, *-sase*, to an SE verb stem. The fact that OE verbs involve the causative morpheme supports Pesetsky's claim that

the subject of OE verbs is the causer. Let us first look at the basic patterns of SE-OE alternating verbs, and then turn to the backward binding constructions and scope interpretation facts.

#### 4.1.1 SE-OE alternating verbs

Psych verbs in Japanese that show both SE and OE patterns are illustrated below. Many OE verbs are composed of an SE verb stem and a causative morpheme *-sase* or its variant *-sas*. For instance, an OE verb *nayam-ase* ‘worry’ is made up with its related SE verb, *nayam* ‘worry about’ and *-sase*.<sup>1</sup> Some other OE verbs are composed of an SE verb and idiosyncratic suffixes such as in *kurushi-m-e* ‘distress’ and *obi-y-akas* ‘frighten.’ These verbs below can be classified into three types in terms of the case marker on the object of the SE form of the verb. SE verbs of the first type take a dative marked object.<sup>2</sup> Those of the second type take an accusative marked object. Finally, the third type allows both a dative marked object and an accusative marked object. Though this classification will not be relevant until Chapter 5, let us list OE sentences with their related SE sentences in three groups below.

##### Type A

- (1) a. Kaisha-no keiei-ga Taroo-o *nayam-ase-ta*  
 company-Gen management-Nom -Acc worry-caus-past  
 ‘Management of the company worried Taroo’

---

<sup>1</sup> *-Ase* is an allomorph of *-sase*. *-Sase* is suffixed to a vowel final stem, and *-ase* is to a consonant final stem.

<sup>2</sup> Although I call the particle *-ni*, dative, I do not commit myself in claiming it is a structural case here. See chapter 5 for a discussion concerning the case on the object of SE verbs.

- b. Taroo-ga kaisha-no keiei-ni nayan-da  
 -Nom company-Gen management-Dat worry.about-past  
 ‘Taroo worried about management of the company’
- (2) a. Hanabi-no oto-ga Hanako-o odorok-ase-ta  
 firework-Gen sound-Nom -Acc surprised-caus-past  
 ‘The sound of fireworks surprised Hanako’
- b. Hango-ga hanabi-no oto-ni odoroi-ta  
 -Nom firework-Gen sound-Dat surprised-past  
 ‘Hanako got surprised at sound of fireworks’
- (3) a. Shiken-no kekka-ga Taroo-o shituboos-ase-ta  
 exam-Gen result-Nom -Acc disappointed-caus-past  
 ‘The result of the exam disappointed Taroo’
- b. Taroo-ga shiken-no kekka-ni shitsubooshi-ta  
 -Nom exam-Gen result-Dat disappointed-past  
 ‘Taroo got disappointed at the result of the exam’
- (4) a. Shiken-no kekka-ga Taroo-o gakkari-ase-ta  
 exam-Gen result-Nom -Acc disappointed-caus-past  
 ‘The test result disappointed Taroo’
- b. Taroo-ga shiken-no kekka-ni gakkarishi-ta  
 -Nom exam-Gen result-Dat disappointed-past  
 ‘Taroo got disappointed at the test result’
- (5) a. Nakama-no ijime-ga Hanako-o kurushi-m-e-ta  
 fellow-Gen bully-Nom -Acc distressed-get-caus-past



‘Bully from her fellows distressed Hanako’

- b. Hanako-ga nakama-no ijime-ni kurushi-n-da  
-Nom fellow-Gen bully-Dat distressed-get-past

‘Hanako got distressed with bully from her fellows’

- (6) a. Hanabi-no oto-ga Kyoko-o obiy-akashi-ta  
fireworks-Gen sound-Nom -Acc frightened-caus-past

‘The sound of fireworks frightened Kyoko’

- b. Kyoko-ga hanabi-no oto-ni obiye-ta  
-Nom fireworks-Gen sound-Dat frightened-past

‘Kyoko got frightened at the sound of fireworks’

#### Type B

- (7) a. Shiai-ni maketa-koto-ga Mariko-o kuyashi-gar-ase-ta  
game-Dat lost-fact-Nom -Acc chagrin-GAR<sup>3</sup>-caus-past

‘The fact that she lost the game chagrined Mariko’

- b. Mariko-ga shiai-ni maketa-koto-o kuyashi-gar-tta  
-Nom game-Dat lost-fact-Acc chagrin-GAR-past

‘Mariko showed her chagrin with the lost the game’

- (8) a. Kaminari-no oto-ga Kyoko-o kowa-gar-ase-ta  
thunder-Gen sound-Nom -Acc scared-GAR-caus-past

The sound of thunders scared Kyoko’

---

<sup>3</sup> I will discuss what the morpheme *-gar* is in section 5.1. Though the exact nature of this morpheme is unclear, I will show that *-gar* adds some meaning of agency to the subject of the stem verb. Sugamoto (1982: 435) calls *-gar* a non-stative verbal auxiliary of manifestation.

- b. Kyoko-ga kaminari-no oto-o kowa-gar-tta  
 -Nom thunder-Gen sound-Acc scared-GAR-past  
 ‘Kyoko showed her fear of the sound of thunders’
- (9) a. Gakusei-no hikoo-ga sensei-o shimpais-ase-ta  
 student-Gen delinquency-Nom teacher-Acc concerned-caus-past  
 ‘Students’ delinquency concerned the teacher’
- b. Sensei-ga gakusei-no hikoo-o shimpaishi-ta  
 teacher-Nom student-Gen delinquency-Acc concerned-past  
 ‘The teacher is concerned about students’ delinquency’

#### Type C

- (10) a. Sono kiji-ga Mariko-o okor-ase-ta  
 the article-Nom -Acc get.mad-caus-past  
 ‘The article made Mariko mad’
- b. Mariko-ga sono kiji-ni okot-ta  
 -Nom the article-Dat get.mad-past  
 ‘Mariko got mad at the article’
- (11) a. Sono shirase-ga Hanako-o yorokob-ase-ta  
 the news-Nom -Acc pleased-caus-past  
 ‘The news pleased Hanako’
- b. Hanako-ga sono shirase-ni/-o yorokon-da  
 -Nom the news-Dat/-Acc pleased-past  
 Hanako got pleased with the news’

- (12) a. Sono shirase-ga Taroo-o kanashi-m-ase-ta  
the news-Nom -Acc sad-get-caus-past  
‘The news saddened Taroo’
- b. Taroo-ga sono shirase-ni/-o kanashi-n-da  
-Nom the news-Dat/ACC sad-get-past  
‘Taroo got sad at the news’

Below is the list of the OE-SE alternating verbs introduced above.<sup>4</sup>

OE verb		SE verb	
nayam-ase/as <sup>5</sup>	‘worry’	nayam	‘worry about’
odorok-ase/as	‘surprise’	odorok	‘get surprised’
shituboos-ase	‘dissappoint’	shituboos	‘get dissappointed’
gakkaris-ase	‘dissappoint’	gakkaris	‘get dissappointed’
kurushi-m-e	‘distress’	kurushi-m	‘get distressed’
obi-y-akas	‘frighten’	obiye	‘get frightened’
kuyashi-gar-ase	‘mortify’	kuyashi-gar	‘get chagrined’
kowa-gar-ase/as	‘scare’	kowa-gar	‘show fear’
shimpais-ase	‘concern’	shimpais	‘become concerned’
okor-ase/as	‘make mad’	okor	‘get mad/scold’
yorokob-ase/as	‘please’	yorokob	‘get pleased’
kanashi-m-ase	‘sadden’	kanashi-m	‘get sad’

The verbs listed above are our main concern in this chapter. However, it is important to mention that there are other verbs that can be classified as psych verbs but do not fall under an SE-OE alternation. Examples include *suk* ‘like,’ *kiraw* ‘dislike,’ *nikum* ‘hate,’ and *aisur* ‘love’. These verbs certainly express psychological states of the subject, but they do not exhibit the SE-OE alternating pattern. There is no

<sup>4</sup> Keep in mind that some of the SE verbs are further decomposed into an adjective root and a suffix. Thus, the first part of *kurushi-m* ‘become distressed,’ *kanashi-m* ‘become sad,’ *kuyashi-gar* ‘get chagrined’ and *kowa-gar* ‘become scared’ are all adjectival. I will not discuss adjective forms in this thesis.

<sup>5</sup> Some OE verbs seem to allow two forms of causative morphemes, *sase* and *sas*, while others do not.

corresponding OE verb such as *suk-ase* ‘cause A to like B’ or *kiraw-ase* ‘cause A to dislike B’ that show the same patterns as the OE verbs listed above do. Given this fact, I assume that the psych verbs that participate in SE-OE alternation are a subset of what we can intuitively understand as psych verbs. Those verbs which are outside of this subset such as *suk*, *kiraw*, *nikum*, and *aisur* should be treated on a par with regular transitive verbs. In other words, for these verbs, the experiencer subject should be interpreted as a proto-agent along the line of Dowty (1991).

#### 4.1.2 Backward binding facts

As briefly introduced in Chapter 1, Japanese OE verbs allow backward binding of an anaphor unlike other transitive verbs. In general, the reflexive anaphor, *zibun*, requires a c-commanding antecedent. Consider the following:

- (13) a. Taroo<sub>i</sub>-ga zibun<sub>i</sub>-o hometa  
           boss-Nom       -Acc praised  
           ‘Taroo praised himself’
- b. Daremo<sub>i</sub>-ga zibun<sub>i</sub>-o hometa  
           everyone-Nom    -Acc praised  
           ‘Everyone praised himself’
- c. Taroo<sub>i</sub>-sae-ga zibun<sub>i</sub>-o hometa  
           -even-Nom       -Acc praised  
           ‘Even Taroo praised himself’
- (14) a. \* Taroo<sub>i</sub>-no jooshi-ga zibun<sub>i</sub>-o hometa  
           -Gen boss-Nom    -Acc praised

- ‘Taroo’s boss praised himself’
- b. \* Daremo<sub>i</sub>-no jooshi-ga zibun<sub>i</sub>-o hometa  
 everyone-Gen boss-Nom -Acc praised  
 ‘Everyone’s boss praised himself’
- c. \* Taroo<sub>i</sub>-sae-no jooshi-ga zibun<sub>i</sub>-o hometa  
 -even-Gen boss-Nom -Acc praised  
 ‘Even Taroo’s boss praised himself’
- (15) a. \* Zibun<sub>i</sub>-no ginkoo-ga Taroo<sub>i</sub>-o shootaishita  
 self-Gen bank-Nom -Acc invited  
 ‘A bank of himself invited Taroo’
- b. \* Zibun<sub>i</sub>-no ginkoo-ga daremo<sub>i</sub>-o shootaishita  
 self-Gen bank-Nom everyone-Acc invited  
 ‘A bank of himself invited everyone’
- c. \* Zibun<sub>i</sub>-no ginkoo-ga Taroo<sub>i</sub>-sae-o shootaishita  
 self-Gen bank-Nom -even-Acc invited  
 ‘A bank of himself invited even Taroo’

Contrast between (13) on the one hand and (14) and (15) on the other can be accounted for in terms of c-command. *Taroo/daremo/Taroo-sae* in (13) c-command *zibun*; hence, the sentences are acceptable. The sentences in (14) and (15) are unacceptable with the

intended meaning since *Taroo/daremo/Taroo-sae* do not c-command *zibun*.<sup>6</sup> SE verbs parallel regular transitive verbs as (16) through (18) exemplify.

- (16) a. Taroo<sub>i</sub>-ga zibun<sub>i</sub>-ni odoroi-ta  
 -Nom self-Dat surprised-past  
 ‘Taroo got surprised at himself’
- b. Daremo<sub>i</sub>-ga zibun<sub>i</sub>-ni odoroi-ta  
 -Nom self-Dat surprised-past  
 ‘Everyone got surprised at himself’
- c. Taroo<sub>i</sub>-sae-ga zibun<sub>i</sub>-ni odoroi-ta  
 -even-Nom self-Dat surprised-past  
 ‘Even Taroo got surprised at himself’

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<sup>6</sup> There is a concern about treating *zibun* as a syntactically bound anaphor. It has been noted in the literature that *zibun* can be discourse bound as shown below (Aikawa 1993, Fukui 1984, and Koster 1982, among others).

- (i) A: John<sub>i</sub>-ga dareka-o okutta nodesu-ka?  
 ‘Did John<sub>i</sub> send someone?’  
 B: Iiem zibun<sub>i</sub>-ga kitan-desu  
 ‘No, self<sub>i</sub> came’
- (ii) a. Masao-ga zibun-o semeta  
 -Nom self-Acc blamed  
 ‘Masao<sub>i</sub> blamed himself<sub>i</sub>/me’  
 b. Yoshiko-zyanakute, zibun-ga warui-n-zyanai!  
 -not self-Nom bad it is that  
 ‘It’s you, not Yoshiko, who is bad!’

(Fukui 1984: 40, citing Koster 1982)

(Aikawa 1999: 158)

In (i), the antecedent of *zibun* is in the previous utterance. In (ii), *zibun* can refer to the speaker (iia) or the hearer (iib). Given that *zibun* in these cases does not require a c-commanding antecedent within the sentence it appears that the validity of *zibun* as a syntactic anaphor should be questioned. Instead, Kuno and Kaburaki (1977) and Sells (1987) among others account for *zibun* as a discourse anaphor, which is called logophor.

However, the fact that *zibun* can be bound by a quantifier as in the (b) examples above strongly suggests the syntactic nature of *zibun*. It seems that we have to treat the discourse bound *zibun* separately from the syntactic *zibun* as Aikawa (1993: 24 footnote 10) suggests. Iida (1996) offers a conjunctive analysis of syntax and discourse. For discussion of *zibun*, see section 4.4.1 and the references cited there.

- (17) a. \* Taroo<sub>i</sub>-no jooshi-ga zibun<sub>i</sub>-ni odoroi-ta  
           -Gen boss-Nom     -Dat surprised-past  
           ‘Taroo’s boss got surprised at himself’
- b. \* Daremo<sub>i</sub>-no jooshi-ga zibun<sub>i</sub>-ni odoroi-ta  
           everyone-Gen boss-Nom     -Dat surprised-past  
           ‘Everyone’s boss got surprised at himself’
- c. \* Taroo<sub>i</sub>-sae-no jooshi-ga zibun<sub>i</sub>-ni odoroi-ta  
           -even-Gen boss-Nom     -Dat surprised-past  
           ‘Even Taroo’s boss got surprised at himself’
- (18) a. \* Zibun<sub>i</sub>-no ginkoo-ga Taroo<sub>i</sub>-ni odoroi-ta  
           self-Gen bank-Nom     -Dat surprised-past  
           ‘A bank of himself got surprised at Taroo’
- b. \* Zibun<sub>i</sub>-no ginkoo-ga daremo<sub>i</sub>-ni odoroi-ta  
           self-Gen bank-Nom everyone-Dat surprised-past  
           ‘A bank of himself got surprised at everyone’
- c. \* Zibun<sub>i</sub>-no ginkoo-ga Taroo<sub>i</sub>-sae-ni odoroi-ta  
           self-Gen bank-Nom     -even-Dat surprised-past  
           ‘A bank of himself got surprised at even Taroo’

In contrast, *zibun* in OE verb constructions can take as its antecedent an element which does not c-command it.<sup>7</sup> Compare the sentences in (19) to (30) below with (15) and (18). (19) to (30) are OE verb constructions with *zibun* inside the subject. *Zibun* in

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<sup>7</sup> *Zibun* in OE verb constructions also violates subject orientation, which is another well-known characteristic of *zibun*. I will discuss this issue in section 4.4.1.

all of these sentences can take the object as its antecedent even though the object does not c-command *zibun*. In the (a) sentences, *zibun* is bound by *Taroo/Hanako/Kyoko/Mariko* or *sono sensei* ‘the teacher.’ In the (b) sentences, it is bound by a quantificational expressions *daremo* ‘everyone’/*dono NP* ‘every NP.’ In (c) sentences, it is bound by a DP with a focus particle *-sae* ‘even.’<sup>8</sup>

#### Type A

- (19) a. Zibun<sub>i</sub>-no warui uwasa-ga Taroo<sub>i</sub>-o nayam-ase-ta  
 self-Gen bad rumor-Nom Taroo-Acc worry-caus-past  
 ‘His bad rumor worried Taroo’
- b. Zibun<sub>i</sub>-no warui uwasa-ga daremo<sub>i</sub>-o nayam-ase-ta  
 self-Gen bad rumor-Nom everyone-Acc worry-caus-past  
 ‘His/her bad rumor worried everyone’
- c. Zibun<sub>i</sub>-no warui uwasa-ga Taroo<sub>i</sub>-sae-o nayam-ase-ta  
 self-Gen bad rumor-Nom -even-Acc worry-caus-past  
 ‘His bad rumor worried even Taroo’
- (20) a. Zibun<sub>i</sub>-no shinbun-kiji-ga Hanako<sub>i</sub>-o odorok-ase-ta  
 self-Gen newspaper-article-Nom -Acc surprised-caus-past  
 ‘The newspaper article about herself surprised Hanako’
- b. Zibun<sub>i</sub>-no shinbun-kiji-ga daremo<sub>i</sub>-o odorok-ase-ta  
 self-Gen newspaper-article-Nom everyone-Acc surprised-caus-past

<sup>8</sup> (i) is an psych verb sentence with backward binding. Saito and Hoji (1983) judge (i) as unacceptable with ‘\*?’

(i) Hanako-ga zibun<sub>i</sub>-o kiratteiru koto-ga daremo<sub>i</sub>-o/dareka<sub>i</sub>-o yuutu-ni shiteiru  
 ‘The fact that Hanako dislikes him<sub>i</sub> has depressed everyone<sub>i</sub>/someone<sub>i</sub>  
 (Saito and Hoji 1983: (13))

However, all of my informants accept sentences of backward binding with more or less equal ease.



‘The newspaper article about himself/herself surprised everyone’

- c. Zibun<sub>i</sub>-no shinbun-kiji-ga Hanako<sub>i</sub>-sae-o odorok-ase-ta  
self-Gen newspaper-article-Nom -even-Acc surprised-caus-past

‘The newspaper article about herself surprised even Hanako’

- (21) a. Zibun<sub>i</sub>-ga senshu-ni erabare-nakatta-koto-ga Taroo<sub>i</sub>-o  
self-Nom player-Dat selected-not-fact-Nom -Acc  
shituboos-ase-ta  
disappointed-caus-past  
‘The fact that he was not chosen to be a player disappointed Taroo’
- b. Zibun<sub>i</sub>-ga senshu-ni erabare-nakatta-koto-ga daremo<sub>i</sub>-o  
self-Nom player-Dat selected-not-fact-Nom everyone-Acc  
shituboos-ase-ta  
disappointed-caus-past  
‘The fact that he/she was not chosen to be a player disappointed everyone’
- c. Zibun<sub>i</sub>-ga senshu-ni erabare-nakatta-koto-ga Taroo<sub>i</sub>-sae-o  
self-Nom player-Dat selected-not-fact-Nom -even-Acc  
shituboos-ase-ta  
disappointed-caus-past  
‘The fact that he was not chosen to be a player disappointed even Taroo’
- (22) a. Zibun<sub>i</sub>-ga senshu-ni erabare-nakatta-koto-ga Taroo<sub>i</sub>-o  
self-Nom player-Dat selected-not-fact-Nom -Acc  
gakkaris-ase-ta

disappointed-caus-past

‘The fact that he was not chosen to be a player disappointed Taroo’

- b. Zibun<sub>i</sub>-ga senshu-ni erabare-nakatta-koto-ga daremo<sub>i</sub>-o  
self-Nom player-Dat selected-not-fact-Nom everyone-Acc  
gakkaris-ase-ta

disappointed-caus-past

‘The fact that he/she was not chosen to be a player disappointed everyone’

- c. Zibun<sub>i</sub>-ga senshu-ni erabare-nakatta-koto-ga Taroo<sub>i</sub>-sae-o  
self-Nom player-Dat selected-not-fact-Nom -even-Acc  
gakkaris-ase-ta

disappointed-caus-past

‘The fact that he was not chosen to be a player disappointed even Taroo’

- (23) a. Zibun<sub>i</sub>-ga kiraw-are-teiru-koto-ga Hanako<sub>i</sub>-o kurushi-m-e-ta  
self-Nom dislike-pass-be-fact-Nom -Acc distressed-get-caus-past  
‘That she was disliked distressed Hanako’

- b. Zibun<sub>i</sub>-ga kiraw-are-teiru-koto-ga daremo<sub>i</sub>-o  
self-Nom dislike-pass-be-fact-Nom everyone-Acc  
kurushi-m-e-ta

distressed-get-caus-past

‘That he/she was disliked distressed everyone’

- c. Zibun<sub>i</sub>-ga kiraw-are-teiru-koto-ga Hanako<sub>i</sub>-sae-o kurushi-m-e-ta  
self-Nom dislike-pass-be-fact-Nom -even-Acc distressed-get-caus-past

‘That she was disliked distressed even Hanako’

- (24) a. Zibun<sub>i</sub>-no otoroeyoo-ga Kyoko<sub>i</sub>-o obiy-akashi-ta<sup>9</sup>  
self-Gen weakening-Nom -Acc frightened-caus-past  
‘Her weakening frightened Kyoko’
- b. Zibun<sub>i</sub>-no otoroeyoo-ga daremo<sub>i</sub>-o obiy-akashi-ta  
self-Gen weakening-Nom everyone-Acc frightened-caus-past  
‘His/her weakening frightened everyone’
- c. Zibun<sub>i</sub>-no otoroeyoo-ga Kyoko<sub>i</sub>-sae-o obiy-akashi-ta  
self-Gen weakening-Nom -even-Acc frightened-caus-past  
‘Her weakening frightened even Kyoko’

Type B

- (25) a. Zibun<sub>i</sub>-ga maketa-koto-ga Mariko<sub>i</sub>-o kuyashi-gar-ase-ta  
self-Nom lost-fact-Nom -Acc chagrin-GAR-caus-past  
‘Her loss chagrined Mariko’
- b. Zibun<sub>i</sub>-ga maketa-koto-ga daremo<sub>i</sub>-o kuyashi-gar-ase-ta  
self-Nom lost-fact-Nom everyone-Acc chagrin-GAR-caus-past  
‘His/her loss chagrined everyone’
- c. Zibun<sub>i</sub>-ga maketa-koto-ga Mariko<sub>i</sub>-sae-o kuyashi-gar-ase-ta  
self-Nom lost-fact-Nom -even-Acc chagrin-GAR-caus-past  
‘Her loss chagrined even Mariko’

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<sup>9</sup> One of my informants judged this sentence as unacceptable. He told me that the judgment improves when the OE verb *obiyakas* is replaced with *obiye-sase*.

- (26) a. Zibun<sub>i</sub>-no ie-no yaneura-ga Kyoko<sub>i</sub>-o kowa-gar-ase-ta  
 self-Gen house-Gen attic-Nom -Acc scared-GAR-caus-past  
 ‘The attic of her house scared Kyoko’
- b. Zibun<sub>i</sub>-no ie-no yaneura-ga daremo<sub>i</sub>-o kowa-gar-ase-ta  
 self-Gen house-Gen attic-Nom everyone-Acc scared-GAR-caus-past  
 ‘The attic of his/her house scared everyone’
- c. Zibun<sub>i</sub>-no ie-no yaneura-ga Kyoko<sub>i</sub>-sae-o kowa-gar-ase-ta  
 self-Gen house-Gen attic-Nom -even-Acc scared-GAR-caus-past  
 ‘The attic of her house scared even Kyoko’
- (27) a. Zibun<sub>i</sub>-no gakusei-no hikoo-ga sono sensei<sub>i</sub>-o  
 self-Gen student-Gen delinquency-Nom the teacher-Acc  
 shimpais-ase-ta  
 concerned-caus-past  
 ‘His/her student’s delinquency concerned the teacher’
- b. Zibun<sub>i</sub>-no gakusei-no hikoo-ga dono sensei<sub>i</sub>-o-mo  
 self-Gen student-Gen delinquency-Nom every teacher-Acc-Q<sup>10</sup>  
 shimpais-ase-ta  
 concerned-caus-past  
 ‘His/her student’s delinquency concerned every teacher’
- c. Zibun<sub>i</sub>-no gakusei-no hikoo-ga sono sensei<sub>i</sub>-sae-o  
 self-Gen student-Gen delinquency-Nom the teacher-even-Acc

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<sup>10</sup> *Mo* is a particle that adds the meaning of a universal quantifier to the element with *dono* ‘which.’

shimpais-ase-ta

concerned-caus-past

‘His/her student’s delinquency concerned even teacher’

Type C

- (28) a. Zibun<sub>i</sub>-ni taisuru chushoo kiji-ga Mariko<sub>i</sub>-o okor-ase-ta  
self-Dat against defamatory article-Nom -Acc get.mad-caus-past  
‘A defamatory article against her made Mariko mad’

- b. Zibun<sub>i</sub>-ni taisuru chushoo kiji-ga daremo<sub>i</sub>-o  
self-Dat against defamatory article-Nom everyone-Acc  
okor-ase-ta  
get.mad-caus-past

‘A defamatory article against her/him made everyone mad’

- c. Zibun<sub>i</sub>-ni taisuru chushoo kiji-ga Mariko<sub>i</sub>-sae-o okor-ase-ta  
self-Dat gainst defamatory article-Nom -even-Acc get.mad-caus-past  
‘A defamatory article against her made even Mariko mad’

- (29) a. Zibun<sub>i</sub>-ga senshu-ni erabareta-koto-ga Hanako<sub>i</sub>-o yorokob-ase-ta  
self-Nom player-Dat selected-fact-Nom -Acc pleased-caus-past  
‘The fact that she was chosen to be a player pleased Hanako’

- b. Zibun<sub>i</sub>-ga senshu-ni erabareta-koto-ga daremo<sub>i</sub>-o  
self-Nom player-Dat selected-fact-Nom everyone-Acc  
yorokob-ase-ta  
pleased-caus-past

‘The fact that he/she was chosen to be a player pleased everyone’

- c. Zibun<sub>i</sub>-ga senshu-ni erabareta-koto-ga Hanako<sub>i</sub>-sae-o yorokob-ase-ta  
 self-Nom player-Dat selected-fact-Nom -even-Acc pleased-caus-past  
 ‘The fact that she was chosen to be a player pleased even Hanako’
- (30) a. Zibun<sub>i</sub>-ni odori-no sainoo-ga nai-koto-ga Hanako<sub>i</sub>-o  
 self-Dat dance-Gen talent-Nom not-fact-Nom -Acc  
 kanashi-m-ase-ta  
 sad-get-caus-past  
 ‘That she has no talent for dancing saddened Hanako’
- b. Zibun<sub>i</sub>-ni odori-no sainoo-ga nai-koto-ga daremo<sub>i</sub>-o  
 self-Dat dance-Gen talent-Nom not-fact-Nom everyone-Acc  
 kanashi-m-ase-ta  
 sad-get-caus-past  
 ‘That he/she has no talent for dancing saddened everyone’
- c. Zibun<sub>i</sub>-ni odori-no sainoo-ga nai-koto-ga Hanako<sub>i</sub>-sae-o  
 self-Dat dance-Gen talent-Nom not-fact-Nom -even-Acc  
 kanashi-m-ase-ta  
 sad-get-caus-past  
 ‘That she has no talent for dancing saddened even Hanako’

The examples in (19) to (30) confirm that OE verbs in Japanese allow backward binding of anaphors.

#### 4.1.3 Scope interpretation

As Fujimaki (2000) and Matsuoka (2001) discussed, OE verbs show scope ambiguity unlike regular transitive verbs.

Let us first illustrate some basic facts about scope interpretation in Japanese. It has been said that Japanese is a scope rigid language. For example, in (31)a, a quantified DP in the subject position obligatorily takes scope over a quantified DP in the object position. On the other hand, in (31)b, word order is reversed by scrambling, and scope interpretation is ambiguous.

- (31) a.     Sannin-no zyosee-ga     futari-no dansee-o     syootaishita  
             three-Gen females-Nom two-Gen males-Acc invited  
             ‘Three women invited two men’  
             3>2 (3 females 6 males)  
             \* 2>3 (2 males 6 females)
- b.     Futari-no dansee<sub>i</sub>-o sannin-no zyosee-ga     t<sub>i</sub> syootaishita  
             two-Gen males-Acc three-Gen females-Nom     invited  
             ‘Three women invited two men’  
             3>2 (3 females 6 males)  
             2>3 (2 males 6 females)

(Matsuoka 2001: 20, citing Kitagawa 1994: 228)

Based on these facts, it is assumed that scope relation is rigid when the surface word order respects its base order, but it shows ambiguity if movement alters the word order.<sup>11</sup>

Now, consider the following OE verb constructions:

- (32) a. Futatsu-no ginkoo-ga sannin-no keieisha-o nayam-ase-ta  
 two-Gen bank-Nom three-Gen manager-Acc worry-caus-past  
 ‘Two banks worried three managers’  
 $2 > 3$  (2 banks 6 managers)  
 $3 > 2$  (3 managers 6 banks)
- b. Nimai-no shashin-ga sannin-no kodomo-o odorok-ase-ta  
 two-Gen photo-Nom three-Gen children-Acc surprised-caus-past  
 ‘Two photos surprised three managers’  
 $2 > 3$  (2 photos 6 children)  
 $3 > 2$  (3 children 6 photos)

In both sentences, the scope of the subject and the object is ambiguous. These results suggest that the word order of the subject and the object in OE verb constructions is altered by movement.

#### 4.1.4 Non-human subject restriction

It has been noted in the literature that there is a non-human subject restriction on backward binding constructions: backward binding of anaphors seems to be allowed only when the subject of the OE verb sentence is non-human (Arad 1999). The same

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<sup>11</sup> See Yatsushiro (1999) for scope relations in Japanese and references cited there.



restriction seems operative in Japanese as well. Thus, when the subject of an OE verb is human, backward binding becomes harder to obtain, if not impossible.<sup>12</sup> Instead, *zibun* seems to be interpreted as the speaker of the sentence.

- (33) Zibun<sub>i/\*j</sub>-no jooshi-ga Taroo<sub>j</sub>-o nayam-ase-ta  
 self-Gen boss-Nom Taroo-Acc worry-caus-past  
 ‘Self’s boss worried Taroo’
- (34) Zibun<sub>i/\*j</sub>-no jooshi-ga Hanako<sub>j</sub>-o odorok-ase-ta  
 ‘Self’s boss surprised Hanako’
- (35) Zibun<sub>i/\*j</sub>-no jooshi-ga Taroo<sub>j</sub>-o shituboos-ase-ta  
 ‘Self’s boss disappointed Taroo’
- (36) Zibun<sub>i/\*j</sub>-no jooshi-ga Taroo<sub>j</sub>-o gakkaris-ase-ta  
 ‘Self’s boss disappointed Taroo’
- (37) Zibun<sub>i/\*j</sub>-no jooshi-ga Hanako<sub>j</sub>-o kurushime-ta  
 ‘Self’s boss distressed Hanako’
- (38) Zibun<sub>i/\*j</sub>-no jooshi-ga Kyoko<sub>j</sub>-o obiy-akashi-ta  
 ‘Self’s boss frightened Kyoko’
- (39) Zibun<sub>i/\*j</sub>-no jooshi-ga Mariko<sub>j</sub>-o kuyashi-gar-ase-ta  
 ‘Self’s boss chagrined Mariko’
- (40) Zibun<sub>i/\*j</sub>-no jooshi-ga Kyoko<sub>j</sub>-o kowa-gar-ase-ta  
 ‘Self’s boss scared Kyoko’

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<sup>12</sup> ‘Human’ is meant here to indicate some agency. For instance, in a situation where her boss’s corpse worried Hanako, backward binding is possible as in (i).

(i) Zibun<sub>i</sub>-no jooshi-no shitai-ga Hanako<sub>j</sub>-o nayam-ase-ta  
 self-Gen boss-Gen corpse-Nom -Acc worry-caus-past  
 ‘Her boss’s corpse worried Hanako’

- (41) Zibun<sub>i</sub>/\*j-no jooshi-ga Kyoko<sub>j</sub>-o shimpais-ase-ta  
 ‘Self’s boss concerned Kyoko’
- (42) Zibun<sub>i</sub>/\*j-no jooshi-ga Mariko<sub>j</sub>-o okor-ase-ta  
 ‘Self’s boss made Mariko mad’
- (43) Zibun<sub>i</sub>/\*j-no jooshi-ga Hanako<sub>j</sub>-o yorokob-ase-ta  
 ‘Self’s boss pleased Hanako’
- (44) Zibun<sub>i</sub>/\*j-no jooshi-ga Hanako<sub>j</sub>-o kanashi-m-ase-ta  
 ‘Self’s boss saddened Hanako’

Similarly, scope relation between the subject and the object of OE verb are unambiguous when the subject is animate as noted in Matsuoka (2001: 117). Consider the following:

- (45) a. Hutari-no seito-ga sannin-no kyooshi-o nayam-ase-ta  
 two-Gen student-Nom three-Gen child-Acc worry-caus-past  
 ‘Two students worried three teachers’  
 $2 > 3$  (2 students 6 teachers)  
 \*?  $3 > 2$  (3 teachers 6 students)
- b. Futari-no seito-ga sannin-no kyooshi-o odorok-ase-ta  
 two-Gen student-Nom three-Gen teacher-Acc surprised-caus-past  
 ‘Two students surprised three teachers’  
 $2 > 3$  (2 students 6 teachers)  
 \*?  $3 > 2$  (3 teachers 6 students)

In both cases, when the subject is human, the scope ambiguity disappears.

#### 4.1.5 Two-argument fact on backward binding constructions

Another fact related to backward binding in OE verb constructions is reported by Fujimaki (1997). He notes that backward binding is not possible when an OE verb appears with three arguments: causer, experiencer, and theme. Consider the following.

- (46) a.     Zibun<sub>i</sub>-no warui uwasa-ga   Taroo-o   nayam-ase-ta  
          self-Gen   bad   rumor-Nom       -Acc worry-caus-past  
          ‘A bad rumor about himself<sub>i</sub> worried Taroo<sub>i</sub>’
- b.     \*?Zibun<sub>i</sub>-no warui uwasa-ga   Taroo<sub>i</sub>-ni kodomo-no shoorai-no-  
          self-Gen   bad   rumor-Nom       -Dat child-Gen   future-Gen-  
          koto-ni    nayam-ase-ta  
          thing-Dat worry-caus-past  
          ‘A bad rumor about himself<sub>i</sub> made Taroo<sub>i</sub> worried about future of his  
          child’

(46)a has two arguments: the causer subject, *zibun-no warui uwasa* ‘a bad rumor about himself,’ and the experiencer/causee object, *Taroo*. In this construction, *zibun* inside the subject can take the object as its antecedent. Thus, backward binding is possible in an OE verb construction with two arguments. On the other hand, (46)b has three arguments: the causer, *zibun-no warui uwasa* ‘a bad rumor about himself,’ the experiencer/causee, *Taroo*, and the theme, *kodomo-no shoorai* ‘future of his child.’ In this case, backward binding is not possible. In brief, backward binding of an anaphor is only possible when an OE verb has two arguments, but it is not possible when three

arguments appear with an OE verb. I will call this the two-argument fact for convenience.

The above observation is based on the assumption that a sentence with three arguments is acceptable if no anaphor appears. That amounts to saying that, unlike English, Japanese does not show the T/SM restriction. Recall Pesetsky's observation in section 3.2 that English does not allow OE verbs with three arguments, which he calls the T/SM restriction. As will be discussed in section 4.7, however, it turns out that OE verbs with three arguments are cases of bi-clausal causatives, and thus do not display the relevant interpretation independently of *zibun*. This amounts to saying that Japanese OE verbs also have T/SM restriction.

To summarize, basic facts about SE-OE alternating verbs, backward binding constructions, scope interpretation of OE verbs, and their related facts. In what follows, it will be shown that OE verbs in Japanese are mono-clausal causative as opposed to bi-clausal causative.

#### 4.2 OE verbs are mono-clausal causatives<sup>13</sup>

Most Japanese OE verbs can be decomposed into an SE verb and a causative morpheme *-sase/sas*. The causative morpheme *-sase* thus gives us evidence that OE verbs are causatives. It has not been made clear in the literature, however, whether these are cases of bi-clausal causatives or mono-clausal causatives. Some treat OE verbs as bi-clausal causative (Kuroda 1993, Shibatani 1976), and others treat them as mono-clausal causative (Katada 1997). Such inconsistency comes from the fact that the

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<sup>13</sup> This section is an extension of Motomura (2003b).

causative morpheme *-sase* sometimes ambiguously appears in a mono-clausal causative environment as well as a bi-clausal causative environment as discussed in Kuroda (1993), Miyagawa (1989, 1998), and Nishiyama (1998).

In this section, it will be shown that OE verbs are mono-clausal causatives rather than bi-clausal causatives based on three tests: the adverbial modification test (Harley 2002, Shibatani 1973, 1976), the double causative test (Kuroda 1993), and the agency test (Kuroda 1993, Miyagawa 1989, and Shibatani 1973, 1976 among others).

Before starting the discussion, let us briefly clarify what I mean by bi-clausal causative and mono-clausal causative. Traditional definitions of lexical causative and productive/syntactic causative may be misleading given that some lexical causatives in Japanese are composed of a root predicate plus a causative morpheme, *-sas* or *-sase*, showing a semi-productive behavior. To avoid such a misconception, I use ‘mono-clausal’ and ‘bi-clausal’ instead of ‘lexical’ and ‘productive’ respectively. Mono-clausal is used to mean that a verb expresses a single event regardless of the word’s morphological makeup.<sup>14</sup> On the other hand, bi-clausal causatives involve two events: one that is a causing event and the other that is a caused event. In the case of bi-clausal causatives, it also holds that the verb must be composed of a root verb and the causative morpheme *-sas/sase*.

#### 4.2.1 Adverbial modification test

Shibatani (1973, 1976) shows that mono-clausal causatives and bi-clausal causatives behave differently when they are modified by adverbs. When a bi-clausal causative

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<sup>14</sup> See the discussion of events in section 4.3.2.

sentence is modified by an adverb as in (47)b, interpretation of the adverb is ambiguous to whether it modifies the causing event or the caused event. In this example, the person who was silent can be either *Taroo* or *Hanako*. On the other hand, when a mono-clausal causative sentence is modified, as in (47)a, no such ambiguity is observed, and the person who was silent must be *Taroo*.

(47) a. Mono-clausal causative

Taroo-wa Hanako-o heya-ni damatte ire-ta

-Top -Acc room-to silently put-past

‘Taroo put Hanako into the room silently’

b. Bi-clausal causative

Taroo-wa Hanako-o heya-ni damatte hair-ase-ta

-Top -Acc room-to silently enter-caus-past

‘Taroo made Hanako come into the room silently’

Let us now apply the adverbial modification test to OE verbs. One type of adverbial phrase that can be used in OE verb constructions is what Harley (2002) called a DE-phrase. A DE-phrase is headed by *de/te*, which roughly means ‘by,’ and the implicit subject of DE-phrase is controlled by the subject of the clause it modifies. As with the manner adverb above, a DE phrase is ambiguous in a bi-clausal causative environment, but it is not in a mono-clausal causative environment as shown below.

(48) a. Mono-clausal causative

Taroo-wa [koron-de] Hanako-o koroshi-ta

-Top fall-DE -Acc kill-past

‘Taroo killed Hanako by falling’

Faller: Taoo/\*Hanako

b. Bi-clausal causative

Taroo-wa [utat-te] Hanako-ni hanashi-o tsutae-sase-ta

-Top sing-DE      -Dat story-Acc convey-caus-past

‘Taroo made Hanako convey a story by singing’

Singer: Taroo/Hanako

c. Bi-clausal causative

Taroo-wa [arui-te] Hanako-o ik-ase-ta

-Top walk-DE      -Acc go-caus-past

‘Taroo made Hanako go by walking’

Walker: Taroo/Hanako

(Harley 2002: handout 21)

With the mono-clausal causative verb *koros* ‘kill’ in (48)a, the implicit subject of the DE phrase must be the causer, *Taroo*, and cannot be the causee, *Hanako*. On the other hand, with bi-clausal causative verbs, such as *tsutae-sase* ‘make (someone) convey’ and *ik-ase* ‘make (someone) go,’ the subject of the DE phrase can be either the causer, *Taroo*, or the causee, *Hanako*.

If OE verbs are mono-clausal causatives, the implicit subject of DE phrase should be interpreted only as the causer but not the experiencer (the causee). On the other hand, if OE verbs are bi-clausal causatives, the implicit subject should be interpreted as either the causer or the experiencer. First, let us make sure a DE phrase can modify the experiencer subject of an SE verb that is the base of an OE verb. (49)

shows that the DE phrase *shiken-ni uka-tte* ‘passing the exam’ can modify the experiencer subject of the SE verb construction.

- (49) Taroo-ga [shiken-ni uka-tte] yorokon-da  
-Nom exam-Dat pass-by pleased-past  
‘Taroo was pleased by passing the exam’

Next, (50) is the OE verb construction that is derived from the SE verb in (49).

- (50) Mariko-wa [shiken-ni uka-tte] Taroo-o yorokob-ase-ta  
-Top exam-Dat pass-by -Acc pleased-caus-past  
‘Mariko pleased Taroo by passing the exam’  
Passer: Mariko/\*Taroo

In (50), the implicit subject of DE-phrase has to be the causer but not the experiencer.

This suggests that OE verbs are mono-clausal causatives.

#### 4.2.2 Double causative test

Kuroda (1993) presents a double causative test, originally introduced by Martin (1975). Kuroda states that ‘... a mono-clausal causative can be productively causativized, but, Martin judges, bi-clausal causatives cannot be doubly productively causativized. Basically, I share this judgment of Martin’s; at best, double bi-clausal causatives are quite awkward.’ (Kuroda 1993: 9). In other words, a causative morpheme *-sase* can attach to a mono-clausal causative verb, but it cannot attach to a bi-clausal causative verb.<sup>15</sup> Consider the following.

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<sup>15</sup> To be more precise, the double causative test was intended to see whether a complex verb which is composed of a root verb plus a causative morpheme *-sas*, instead of *-sase*, is a bi-clausal causative or a mono-clausal causative. It has been noted that there are two variants of causative morphemes, *-sase* and



(51) a. Mono-clausal causative

Syootaicho-ga                      heitai-tachi-o (hidari-e) ugok-as-u  
platoon.commander-Nom soldiers-Acc left-to move-caus-present  
‘The platoon commander moves soldiers (one step to the left)’

b. Bi-clausal causative

Syootaicho-ga                      heitai-tachi-o (zutto) hatarak-as-u  
platoon.commander-Nom soldiers-Acc always work-caus-present  
‘The platoon commander makes soldiers work (always)’

(52) a. Mono-clausal causative

Rentaicho-ga                      syootaicho-ni                      heitai-tachi-o  
regiment.commander-Nom platoon.commander-Dat soldiers-Acc  
ugok-as-ase-ru  
move-cause-prsnts  
‘The regiment commander makes a platoon commander move soldiers’

b. Bi-clausal causative

\* Rentaicho-ga                      Syootaicho-ni                      heitai-tachi-o  
regiment.commander-Nom platoon.commander-Dat soldiers-Acc  
hatarak-as-ase-ru  
work-cause-prsnt  
‘The regiment commander makes a platoon commander make soldiers  
work’

---

*-sas*, in Japanese, and Kuroda states that these two forms are not free variants (1993: 71, footnote 4). The double causative test, however, seems to be applied to complex verbs composed of a root verb plus *sase*.

(Kuroda 1993: 8-9, with minor modification)

*Ugok* ‘move’ in (51)a and *hatarak* ‘work’ in (51)b are followed by a morpheme *-as*, which is a variant of *-sase*. When *-sase* is further attached to *ugok-as* and *hatarak-as*, the sentence is still acceptable with *ugok-as* as in (52)a, but it becomes unacceptable with *hatarak-as* as in (52)b. Given the contrast in (51)b and (52)b, Kuroda, following Martin, concludes that *ugok-as* is a mono-clausal causative and *hatarak-as* is a bi-clausal causative.

Furthermore, Kuroda points out that if we suppress one of the causative morphemes *-sase*, acceptability of the sentence is reversed. (53)a is a double causative construction with a mono-clausal causative verb *okos* ‘awake.’ When one of the *sases* is suppressed, the sentence becomes unacceptable as shown in (53)b. On the other hand, (53)b is a double causative construction with a bi-clausal causative verb, *oki-sas* ‘cause someone to wake up,’ and this sentence is not acceptable. However, when one *-sase* is suppressed, it becomes acceptable as in (54)b.<sup>16, 17</sup>

(53) a. Mono-clausal causative verb + *-sase*

George-ga Naomi-ni Ken-o okos-ase-ru

-Nom -Dat -Acc awake-caus-prsnt

‘George makes Naomi awake Ken’

b. Bi-clausal causative verb + *-sase*

\* George-ga Naomi-ni Ken-o oki-sas-ase-ru

-Nom -Dat -Acc wake.up-caus-cause-prsnt

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<sup>16</sup> Shibatani (1976: 244) also reports the same fact.

<sup>17</sup> (131)b and (132)b are from Kuroda (1993: 9-10) with minor modification.

‘George makes Naomi make Ken wake up’

- (54) a. Mono-clausal causative

\* George-ga Naomi-ni Ken-o okos-u

-Nom -Dat -Acc awake-prsnt

‘George makes Naomi awake Ken’

- b. Bi-clausal causative

George-ga Naomi-ni Ken-o oki-sase-ru

-Nom -Dat -Acc wake.up-caus-prsnt

‘George makes Naomi make Ken wake up’

Let us see what happens when we apply this test to OE verbs.

- (55) a. Taroo-ga Kyoko-ni Mariko-o kanashi-m-as-sase-ta

-Nom -Dat -Acc sad-get-caus-caus-past

- b. \* Taroo-ga Kyoko-ni Mariko-o kanashi-m-ase-ta

-Nom -Dat -Acc sad-get-caus-past

‘Taroo made Kyoko saddened Mariko’

- (56) a. Taroo-ga Kyoko-ni Mariko-o nayam-ase-sase-ta

-Nom -Dat -Acc worry-caus-caus-past

- b. \* Taroo-ga Kyoko-ni Mariko-o nayam-ase-ta

-Nom -Dat -Acc worry-caus-past

‘Taroo made Kyoko worry Mariko’

The OE verb *kanashi-m* ‘become sad’ in (55)a allows double *-sase* and does not allow suppression of *-sase* in (55)b. (56) shows the same result. Thus, the double causative test also suggests that OE verbs are mono-clausal causatives.

#### 4.2.3 Agency test

As discussed in Shibatani (1973, 1976), Miyagawa (1989), and Kuroda (1993) among others, a bi-clausal causative requires a volitional entity as a causee. In other words, the causee must be agentive. On the other hand, volition of the causee is absent in the case of mono-clausal causative. Consider:

(57) Inchoatives

- a. Sono ki-ga (\*wazato) taore-ta  
the tree-Nom deliberately fall-past  
'The tree fell (deliberately)'
- b. Taroo-ga (wazato) taore-ta  
'Taroo fell (deliberately)'

(58) Mono-clausal causatives

- a. Hanako-ga sono ki-o (wazato) taoshi-ta  
-Nom the tree-Acc deliberately throw-past  
'Hanako knocked down the tree (deliberately)'  
(‘deliberately’ modifying *Hanako*’s action)
- b. Hanako-ga Taroo-o (wazato) taoshi-ta  
-Nom -Acc deliberately throw-past  
'Hanako knocked down Taroo (deliberately)'  
(‘deliberately’ modifying *Hanako*’s action)

(59) Bi-clausal causatives

- a. \*Hanako-ga sono ki-o (wazato) taore-sase-ta  
-Nom the tree-Acc deliberately fall-caus-past

‘Hanako made the tree fall deliberately’

- b. Hanako-ga Taroo-o (wazato) taore-sase-ta  
-Nom -Acc deliberately fall-caus-past

‘Hanako deliberately made Taroo fall/

Hanako made Taroo deliberately fall’

(‘deliberately’ modifying either *Hanako* or *Taroo*’s action)

(57)a and (57)b are sentences with an inchoative verb, *taore* ‘fall’. The subject of this verb can be a non-volitional entity as in (57)a or a volitional entity as in (57)b. *Wazato* ‘deliberately’ is an adverb modifying an event that stems from an intentional action, and therefore, requires an agent. When the subject is not agentive, *wazato* cannot modify the sentence as in (57)a, but it can when the subject is agentive as in (57)b. (58)a and (58)b involve a mono-clausal causative verb *taos* ‘fell.’ In both sentences, *wazato* unambiguously modifies the causer subject, *Hanako*. This suggests that the causee of mono-clausal causatives cannot be interpreted as an agent. In contrast, the bi-clausal causative, *taore-sase*, in (59) requires an agent causee. (59)a is not acceptable regardless of *wazato* since *sono ki* ‘the tree’ cannot be interpreted as agent. On the other hand, (59)b is acceptable since *Taroo* can be an agent. Thus, *wazato* can ambiguously modify *Hanako* or *Taroo*.

Let us now consider psych verb constructions. First, consider (60).

- (60) Taroo-ga (\*wazato) kaisha-no keiei-ni nayan-da  
 -Nom deliberately company-Gen management-Dat worry.about-past  
 ‘Taroo deliberately worried about management of the company’

The SE verb construction in (60) does not allow the agentive adverb, *wazato*. This suggests that the experiencer subject of SE verbs cannot have the relevant mental state, which is expected given that the canonical meaning of psych verbs is such that a mental state emerges spontaneously in the experiencer’s mind as a result of the causing event/entity. Then we can conclude that the subject of SE verbs is a non-volitional entity parallel to (57)a.

Next, if OE verbs are bi-clausal causatives, we predict that the OE verb counterpart of (60) will be unacceptable parallel to (59)a. However, the result given below is acceptable. (61) is consistent with the mono-clausal causative constructions in (58).

- (61) Hanako-ga (wazato) Taroo-o nayam-ase-ta  
 -Nom deliberately -Acc worry-caus-past  
 ‘Hanako (deliberately) worried Taroo’  
 (‘deliberately’ modifying *Hanako*)

In (61), *wazato* unambiguously modifies the causer. This is the pattern of mono-clausal causative we saw in (58). Note that (61) suggests that the subject of OE verbs can be agent. Thus, we can conclude that OE verbs are mono-clausal causatives.<sup>18</sup>

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<sup>18</sup> To be more precise, it is controversial whether lack of an agentive causee automatically means that the causative form is mono-clausal. Shibatani (1976: 267) assumes that OE verbs are bi-clausal causatives. Kuroda argues that a bi-clausal causative with a nonvolitional causee is possible with the appropriate context. According to Kuroda, a bi-clausal causative *katamuk-ase* ‘cause to lean’ with a nonvolitional

So far, I have shown evidence that OE verbs are mono-clausal causatives. However, Kuroda (1993) suggests that OE verbs are bi-clausal causatives based on the following sentence.

- (62) Zyoozi-no nyuugaku-no sirase-ga Naomi-o [zibun-no koto-no yooni]  
 -Gen admittance-Gen news-Nom -Acc self-Gen thing-Gen as.if  
 yorokob-ase-ta  
 pleased-caus-past

‘George’s admittance to the school made Naomi rejoice as if it were her own’

In (62), the antecedent of *zibun* is the surface object *Naomi*. Given the well known property of *zibun* that the antecedent must be the subject, it is plausible that *Naomi* is the subject at some point in the derivation. This means that the sentence is bi-clausal rather than mono-clausal. Therefore, Kuroda concludes that the OE verb is a bi-clausal causative. This potential counter-example to our claim will be discussed in section 4.4.3 after an analysis of *zibun* is presented.

In this section, I have shown that OE verbs are mono-clausal causatives based on the three tests: the DE phrase test, the double causative test, and the agency test.

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causee in (i) is appropriate in a situation where ‘we are concerned with the ever more leaning Tower of Pisa, and we debate among ourselves if anything can be done to stop it from eventually falling down, but in the end nobody comes up with a good idea’ (Kuroda 1993: 42).

- (i) Katamuku mamani katamuk-ase-te oku yori shikataga nai  
 lean as lean-cause leave than means not.be  
 ‘There is nothing to do but leave it to lean’

However, it is not clear to me if this sentence shows us what Kuroda claims it does. All of the sentences Kuroda uses have a particular interpretation, which he calls noninterventive causation. This interpretation seems available only when the causative verb is followed by *-te oku* ‘leave someone/something (do).’ Thus, when *katamuk-ase* appears without *-te oku*, the noninterventive reading is hard to obtain.

Besides these results, there are OE verbs that do not fall under the general pattern of SE verb plus *-sase*. For instance, OE counterpart of *kurushi-m* ‘get distressed’ is *kurushi-m-e* ‘distress’ and that of *obie* ‘get frightened’ is *obi-y-akas* ‘frighten.’ It is reasonable to assume these OE verbs are mono-clausal causatives.<sup>19</sup>

We are now ready to account for OE verb constructions.

#### 4.3 The derivation and peculiar properties of OE verbs<sup>20</sup>

##### 4.3.1 The derivation of OE verb constructions

Based on the conclusion we reached above that OE verbs are mono-clausal causatives, I propose (63)b as derivation of (63)a.

- (63) a.      Kaisha-no      keiei-ga      Taroo-o nayam-ase-ta  
                  company-Gen conduct-Nom      -Acc worry-caus-past  
                  ‘Management of the company worried Taroo’

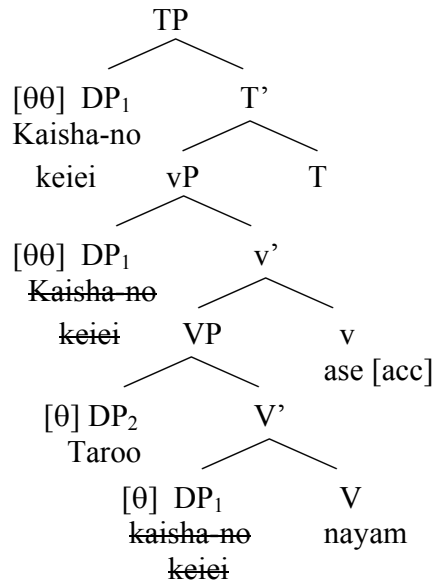
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<sup>19</sup> As stated in footnote 9, some people prefer *obiye-sase* for OE counterpart of *obiye*.

<sup>20</sup> This section is developed out of Hornstein and Motomura (2002) and Motomura (2003b, c, d) which adopt basic proposals of Fujimaki (1997).



b. OE verb construction



The derivation starts by merging DP<sub>1</sub>, *kaisha-no keiei*, with a root V, *nayam* ‘worry.’ DP<sub>1</sub> receives the theme role from V. Then DP<sub>2</sub>, *Taroo*, merges with the root, obtaining an experiencer role. This completes the VP. Next, a light v merges with the VP. DP<sub>1</sub> moves to spec vP and receives its second theta-role, causer. Then it moves further to spec TP to check Case.<sup>21</sup> All of the copies of DP<sub>1</sub> except for the upper most copy are deleted. In effect, the causative verb *-sase* in OE verb constructions is a type of traditional control predicate. This treatment differs from the traditional view of control in that control is attributed to movement as discussed in Chapter 2.<sup>22, 23</sup>

<sup>21</sup> For the realization of structural case, I adopt the Mechanical Case Parameter proposed by Harley (1995). See section 4.9 for details of this parameter.

<sup>22</sup> The idea that OE verbs involve control is not new. It has been proposed by Kuroda (1965) in the form of the Recurring Object Deletion transformation in (i), and later adopted by Fujimaki (1997).

(i) NP<sub>1</sub>-ga X [<sub>COMP</sub> Y NP<sub>2</sub>-o V] sase-ru → NP<sub>1</sub>-ga X [<sub>COMP</sub> Y V] sase-ru,  
where NP<sub>1</sub> = NP<sub>2</sub>.

One may wonder if the movement of DP<sub>1</sub> to spec vP over DP<sub>2</sub> violates locality. If we adopt a notion of equidistance in Chomsky (1995b: Chapter 3), violation of a locality condition such as the Shortest Move Condition (SMC) (or the Minimal Link Condition (MLC)) can be avoided. The SMC can be defined as (64) with closeness defined in terms of c-command and equidistance. Equidistance is defined as (65) with definitions of the relevant domains given in (66).

- (64)  $\alpha$  can raise to theme K only if there is no legitimate operation Move  $\beta$  targeting K, where  $\beta$  is closer to K

(Chomsky 1995: 296)

- (65) If  $\alpha, \beta$  are in the same minimal domain, they are equidistant from  $\gamma$

(Chomsky 1995: 184)

- (66) a. Domain of a head  $\alpha$

The set of nodes contained in  $\text{Max}(\alpha)$  that are distinct and do not contain  $\alpha$ , where  $\text{Max}(\alpha)$  is the least full-category maximal projection dominating  $\alpha$ <sup>24</sup>

- b. *Minimal domain of  $\alpha$*

The smallest subset K of S (= the domain of  $\alpha$ ) such that for any  $\gamma \in S$ , some  $\beta \in K$  reflexively dominates  $\gamma$

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<sup>23</sup> In Hornstein and Motomura (2002), we reached the conclusion that the embedded predicate of OE verbs must be adjectival for English. However, the analysis there cannot be extended to Japanese psych verbs given that the stems of OE verbs are clearly verbal, not adjectival.

<sup>24</sup> The notions of domination and containment are defined as;

- (i) a category  $\alpha$  dominates  $\beta$  if every segment of  $\alpha$  dominates  $\beta$   
(ii) a category  $\alpha$  contains  $\beta$  if some segment of  $\alpha$  dominates  $\beta$

(Chomsky 1995: 178)

Given (66) and (65), DP<sub>1</sub> and DP<sub>2</sub> in (63)b are equidistant with respect to spec vP. Therefore, the movement of DP<sub>1</sub> over DP<sub>2</sub> to spec vP does not violate SMC; hence, it is legitimate.

#### 4.3.2 An OE verb is composed of a single layer of a v-VP complex

In (63)b above, the experiencer role is discharged by a V head to its specifier position rather than by a light v head. This means that the experiencer occupies a position distinct from causer/agent. This must be the case because if it were discharged as proto-agent as illustrated in (67), we would expect the OE verb construction to be a bi-clausal causative.<sup>25</sup>

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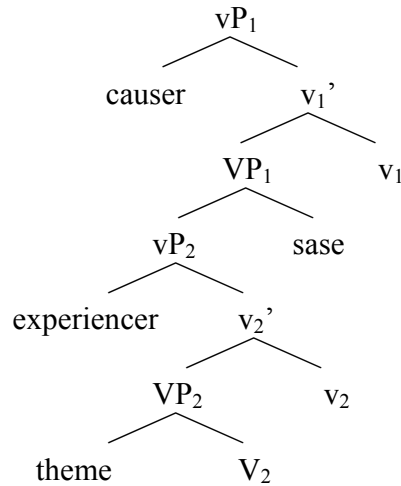
<sup>25</sup> In this thesis, it is assumed that *-sase* in mono-clausal causatives is a realization of a functional (light) v and *-sase* in bi-clausal causatives is a realization of a lexical V. Though no argument can be offered at this point, I believe it is not implausible to make such distinction given that bi-clausal causatives show a pattern of object control. It is well-known that bi-clausal causatives in Japanese have two patterns.

Consider (i):

- (i) a. Taroo-ga Hanako-ni hashir-ase-ta  
          -Nom       -Dat run-caus-past  
          ‘Taroo let Hanako run’  
      b. Taroo-ga Hanako-o hashir-ase-ta  
          -Nom       -Acc run-caus-past  
          ‘Taroo made Hanako run’

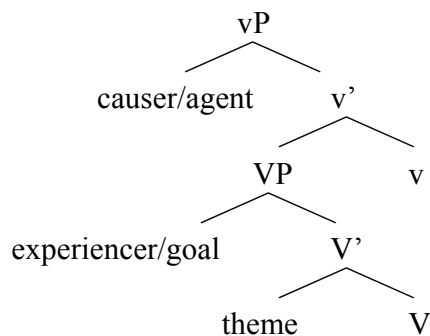
(ia) has a dative marked causee and it is interpreted as the causer allowing the causee to do something whereas in (ib), the causee is marked accusative, and the sentence is interpreted as the causer making the causee do something. Thus, the former is sometimes called ‘let’ causatives and the latter ‘make’ causatives. Harley (1995) claims that *-sase* in ‘make’ causatives is a two place predicate selecting a DP and a clause as causer and theme respectively. On the other hand, *-sase* in ‘let’ causatives is a three-place predicate selecting two DPs for a causer and a goal and a clause for theme, and the goal DP controls the causee subject of the embedded clause. In other words, a ‘let’ causative can be analyzed as an object control verb. Parallel to regular object control verbs such as *settokusur* ‘convince’ *tanom* ‘ask,’ which are analyzed as V, I assume that *sase* in ‘let’ causatives is a lexical V rather than a functional v. Given lack of evidence to the contrary, I assume that *-sase* in ‘make’ causatives is also a lexical V. See Miyagawa (1999) and references cited there for discussion of Japanese causatives.

(67)



In (67), there are two layers of v-VP complex. The experiencer appears in the lower spec vP<sub>2</sub> and the causer in the upper spec vP<sub>1</sub>. This is the structure of a bi-clausal causative construction. However, it was shown in the preceding section that OE verbs are mono-clausal causative rather than bi-clausal causative. Thus we are led to conclude that the experiencer appears internal to VP. This means that the experiencer appears as a proto-goal in spec VP rather than a proto-agent as illustrated in (68).<sup>26</sup>

(68)



<sup>26</sup> What is alluded in the discussion here is that a mono-clausal causative cannot be generated based on a transitive or an unergative verb. However, see Pylkkänen (2002) for a way of generating a mono-clausal causative from a transitive or an unergative verb.

As mentioned in 1.3, I do not distinguish an experiencer from an goal. In other words, an experiencer can be interpreted as the proto-goal.

In summary, an OE verb is composed of a single layer of a v-VP complex. I assume that the light v is realized as *-sase* along the lines of Harley (1995) and Miyagawa (1998).<sup>27</sup> The light v assigns the external theta-role (agent/causer role) and checks Case of the element in spec vP, following Chomsky (1995: chapter 4). It has been argued that the external argument, the one that carries the causer role in our case, is introduced by a separate head from the head that selects internal arguments (Chomsky 1995, Harley 1995, Kratzer 1996, and Marantz 1997, among others).

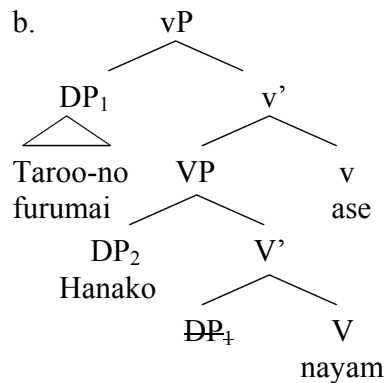
The idea that an OE verb is composed of a complex v-VP structure, however, may raise the following question: having the two heads, v and V, why can't an OE verb be interpreted as having two separate events, one causally related to another, each of which involves agent/causer?<sup>28</sup> For instance, consider the OE sentence in (69)a with its verbal structure in (69)b:

- (69) a. Taroo-no furumai-ga Hanako-o nayam-ase-ta  
          -Gen behavior-Nom    -Acc worried-caus-past  
          'Taroo's behavior worried Hanako'

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<sup>27</sup> Adopting the notion of late insertion from Distributed Morphology (Halle and Marantz 1993, Harley 1995, Harley and Noyer 1999, 2000, among others), Miyagawa (1998) argues that *-sase* is inserted under the light v in morphology as an elsewhere case when no more specific morpheme is available to form a mono-clausal causative. See footnote 34 below for a brief summary of Distributed Morphology.

<sup>28</sup> This question was raised by Paul Pietrski.



Given (69)b, why can't we say that V expresses a caused event with DP<sub>2</sub> as agent and the light v expresses a causing event with DP<sub>1</sub> as another agent (causer)?

I follow Pietroski (2000b, forthcoming) and assume that mono-clausal causative constructions involve a single big event and sub-events which are part of the big event rather than involving two separate events one of which is causally related to the other. For instance, consider the following:

(70) John boiled the water

Pietroski proposes that two events are involved in (70). One is the whole event of John's boiling of water, and the other is the event of water boiling. The former terminates in the latter event. That is the two events are not separate events but the terminal event is part of the whole event. In his approach, the v-VP complex is interpreted as the whole event. Presumably, Thematic Diversity, which restricts all theta-roles assigned by a single predicate to be distinct from one another, rules out interpreting DP<sub>1</sub> and DP<sub>2</sub> in (69)b to both be agent.

The idea that the v-VP complex is interpreted as having a big event and sub-events which are part of the big event can be carried over to OE verbs. In (69)a, the whole event is Taroo's behavior worrying Hanako and a sub-event (or sub-state in this

### 4.3.3 Why are OE verbs special?

(71) a. Taroo-ga oyu-o wakashi-ta  
 -Nom hot.water-Acc boil-past  
 ‘Taroo boiled water’

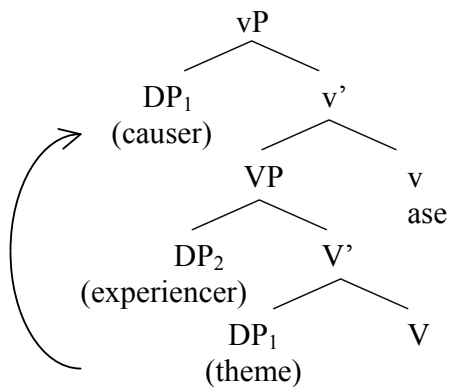
b. Oyu-ga wai-ta  
 hot.water-Nom boil-past  
 ‘Water boiled’

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- c. \*Oyu-ga Taroo-o wak-ase-ta  
hot.water-Nom -Acc boil-caus-past
- (72) a. Hanako-ga kabin-o kowashi-ta  
-Nom base-Acc break-past  
'Hanako broke the base'
- b. Kabin-ga koware-ta  
base-Nom break-past  
'The base broke'
- c. \* Kabin-ga Hanako-o koware-sase-ta  
base-Nom -Acc break-caus-past

Our analysis can give a partial answer to Dowty's question. Our analysis claims that the theme subject is base-generated in object position, and moves to the causer position over the experiencer argument. The relevant derivation is illustrated below:

(73)



Unlike familiar mono-clausal causative verbs, OE verbs are ditransitive that are derived from a transitive base verb. Crucially, the subject of the base, namely, the experiencer argument, is base-generated internal to the root/base V. Therefore, it is



possible to add a causer to generate a mono-clausal causative. Theta-driven movement makes it possible that the theme subject moves over the experiencer to the causer position.

My answer is partial since one may still ask another question. If OE verbs are ditransitive, do other non-psych ditransitive verbs also show the same behavior? The answer seems to be negative. There are at least three types of non-psych ditransitive verbs in Japanese. The first type is those that do not show a causative-inchoative alternation as exemplified in (74).

- (74) Taroo-ga Hanako-ni sono hon-o age-ta  
       -Nom   -Dat    the book-Acc give-past

‘Taroo gave the book to Hanako’

The other two types are those that show such a pattern. According to Matsuoka (2001: Chapter 4), there are two types of (non-psych) ditransitive verbs which show the causative-inchoative pattern. In one type, which he calls pass-type verbs, the subject of the inchoative verb has to be the theme object of the causative verb as shown in (75).<sup>30</sup>

- (75) Pass-type

- a. Taroo-ga Hanako-ni sono hon-o wata-shi-ta  
       -Nom       -Dat the book-Acc pass-LC-past

‘Taroo passed the book to Hanako’

- b. Sono hon-ga Hanako-ni wata-tta  
       the book-Nom       -Dat pass-past

---

<sup>30</sup> I follow Matsuoka and divide the ditransitive verb into a root morpheme and a suffix which is glossed as LC (lexical causative).

‘The booked passed to Hanako’

In the other type, which he dubs show-type verbs, the subject of the inchoative verb has to be the goal object of the causative verb as shown in (76).

(76) Show-type

- a. Taroo-ga Hanako-ni sono e-o mi-se-ta  
-Nom -Dat the painting-Acc see-LC-past

‘Taroo showed the painting to Hanako’

- b. Hanako-ga sono e-o mi-ta  
-Nom the painting-Acc see-past

‘Hanako saw the painting’

None of the three types of ditransitives allows a derivation in which the underlying object moves to the surface subject through another theta-position. The question is why. What is clear from the non-psych ditransitive verbs above is that, assuming that our analysis of OE verbs is correct, the peculiarity of OE verbs is partially due to the structural position of the experiencer. However, this cannot be the whole reason. This last question is beyond the scope of this thesis, and I leave it for future research.

#### 4.4 Backward binding facts

The fact that a reflexive anaphor *zibun* inside the subject takes a non-c-commanding object as its antecedent in OE verb constructions is straightforward in the analysis presented above. A relevant example and its derivation are repeated in (77) and (78) respectively.

- (77) Zibun<sub>i</sub>-no warui uwasa-ga Taroo<sub>i</sub>-o nayam-ase-ta  
 self-Gen bad rumor-Nom -Acc worry-cause-past  
 ‘His bad rumor worried Taroo’

- (78) [TP [DP Zibun<sub>i</sub>-no warui uwasa-ga]<sub>j</sub> [vP t<sub>j</sub> [VP Taroo<sub>i</sub>-o [v' t<sub>j</sub> nayam]]-ase]-ta]<sup>31</sup>

At the point where the VP is built, *Taroo* c-commands the DP which contains *zibun*. Therefore, *zibun* can be bound by *Taroo* at this point along the lines of B&R. Unlike B&R, however, the DP moves to spec vP on the way to spec TP, where it receives another theta-role, causer.

However, subject orientation, which is another well-known characteristic of *zibun*, is violated. In this section, I will first introduce a derivational account of *zibun*, proposed in Motomura (2001a, 2001b), which is based on theta-driven movement. In this account, subject orientation is derived from overt A-movement. Section 4.4.2 will show how to derive an OE verb construction with *zibun*. Given the derivational analysis of *zibun*, the fact that *zibun* in an OE verb construction violates subject orientation can be derived. Section 4.4.3 will discuss Kuroda’s (1993) counter example against the claim that OE verbs are mono-clausal causatives.

#### 4.4.1 An account of *zibun* based on theta-driven movement

The Japanese reflexive, *zibun*, can be characterized with the following properties.<sup>32</sup>

First, the antecedent must c-command *zibun*:

<sup>31</sup> Irrelevant parts of the derivation are omitted.

<sup>32</sup> See Aikawa (1999) and references cited there for other properties and various approaches to *zibun*.

- (79) Taroo<sub>i</sub>-no imooto<sub>j</sub>-ga zibun<sub>\*i/j</sub>-o hometa  
 -Gen sister-Nom self-Acc praised  
 ‘Taroo<sub>i</sub>’s sister<sub>j</sub> praised self<sub>\*i/j</sub>

In (79), the antecedent of *zibun* cannot be *Taroo* since *Taroo* does not c-command *zibun*. Instead, the antecedent must be *Taroo-no imooto* ‘Taroo’s sister,’ which c-commands *zibun*.

Second, *zibun* must take the subject as its antecedent. This is called ‘subject orientation.’ Consider:

- (80) a. Taroo<sub>i</sub>-ga Jiroo<sub>j</sub>-ni zibun<sub>i/\*j</sub>-o mise-ta  
 -Nom -Dat self-Acc show-past  
 ‘Taroo<sub>i</sub> showed Jiroo<sub>j</sub> himself<sub>i/\*j</sub>’  
 b. John<sub>i</sub> showed Bill<sub>j</sub> himself<sub>i/j</sub>

In (80)a, the antecedent of *zibun* must be the subject *Taroo* not the indirect object *Jiroo*. This contrasts with an English reflexive as in (80)b, which can take the indirect object or the subject as its antecedent.

Third, *zibun* can be long-distance bound by its antecedent:

- (81) a. Hanako<sub>i</sub>-ga [Taroo<sub>j</sub>-ga zibun<sub>i/j</sub>-o hometa-to] omotta  
 -Nom -Nom self-Acc praised-Comp thought  
 ‘Hanako thought that Taroo praised self’  
 b. John<sub>i</sub> thought that Bill<sub>j</sub> praised himself<sub>i/\*j</sub>

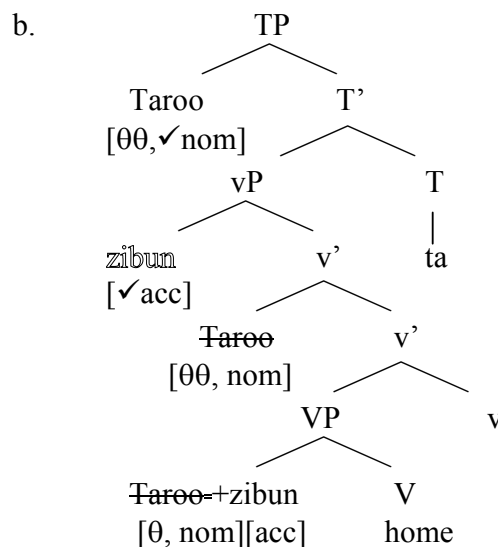
Unlike the English reflexive *himself* in (81)b, *zibun* in (81)a can be bound either by the matrix subject or the embedded subject. Thus, *zibun* in (81)a is ambiguous between the matrix reading and the embedded reading.

Adopting Hornstein's (2000) treatment of English reflexives, I argued in Motomura (2001a, b) that these properties of *zibun* can be accounted for by adopting theta-driven movement, a condition of Merge over Move (Chomsky 1995b: 348), a notion of phase (Chomsky 2000, 2001a), and the assumption that Japanese allows multiple specifiers (Kimura 1994, Ura 1994, 1996). In what follows, let us illustrate how the three properties mentioned above can be accounted for.

#### 4.4.1.1 The c-commanding antecedent

Accounting for the requirement of a c-commanding antecedent is straightforward given that a reflexive is a trace left behind by A-movement of its antecedent. The derivation of (82)a is given in (82)b.

- (82) a. Taroo-ga zibun-o home-ta  
 -Nom self-Acc praise-past  
 'Taroo praised himself'



First, *Taroo*+*zibun* merges with a verb *home* ‘praise’ where it receives a theme role. Second, *Taroo* moves to spec vP to get its second theta-role, agent, and moves further to spec TP to check nominative Case. Finally, *zibun* moves at LF to spec vP to check accusative Case.<sup>33, 34</sup> Assuming the copy theory of movement (Chomsky 1995b: section 4.4), the lower copy of *Taroo* is deleted.

Recall that the possessor of the subject cannot be the antecedent of *zibun* as shown in (79), repeated below:

- (83) Taroo<sub>i</sub>-no imooto<sub>j</sub>-ga zibun<sub>\*i/j</sub>-o hometa  
 -Gen sister-Nom self-Acc praised  
 ‘Taroo<sub>i</sub>’s sister<sub>j</sub> praised self<sub>\*i/j</sub>

This is because a DP cannot move into a possessor position inside the DP in spec vP. Such movement violates the extension condition (Chomsky 1995b: 190-191). The requirement of a c-commanding antecedent is thus accounted for.<sup>35</sup>

<sup>33</sup> Note that there is nothing crucial about adopting the LF movement approach to accusative Case checking for our purposes. Thus, it is equally possible to assume accusative Case checking/assignment takes place overtly along with overt verb raising along the lines of Koizumi (1993, 1995) and Lasnik (1999).

<sup>34</sup> One may wonder how *Taroo* alone moves out of the complex [*Taroo*+*zibun*]. This problem may be solved if we adopt Distributed Morphology (Halle and Mrantz 1993, Harley and Noyer 1999, 2000, among others). According to these authors, syntactic structure is built with morphemes with no phonetic content. Phonetic information is provided later. Thus, in the sentence (82)a may be represented syntactically as below:

(i) [TP {[N, 3d person, singular], θθ, nom} [vP {[N, 3d person, singular], θθ, acc} [v' {[N, 3d person, singular], θθ} [vP {[N, 3d person, singular], θ} V ] v ] T ]

where the subject and the object are represented by four occurrences of a single expression [N, 3d person, singular]. When Vocabulary Items which carry phonetic information are inserted later, the occurrence which carries nominative Case is realized as *Taroo* and the one carrying accusative Case is realized as *zibun*. Conditions such as when *zibun* is inserted and consequences of this approach should be worked out, however.

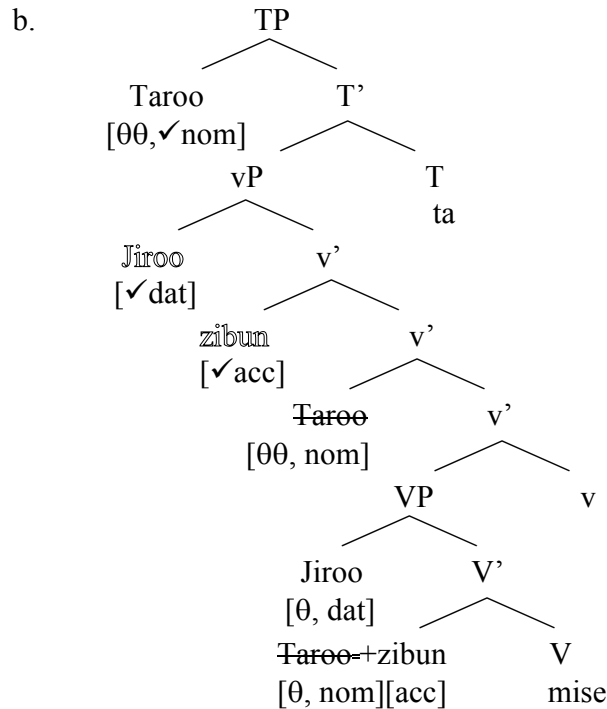
<sup>35</sup> One might ask why sideward movement cannot derive the possessor reading of (83). That is to move the object DP sideward to spec DP of the subject and the entire subject DP is merged into the structure which is already built. One possibility suggested in Boeckx and Hornstein (to appear) is to adopt the idea

#### 4.4.1.2 Subject orientation

The subject orientation of *zibun* can be handled by combining the notion of theta-driven movement with a condition of Merge over Move (Chomsky 1995b: 348).

(80)a is repeated in (84)a with its derivation illustrated in (84)b.

- (84) a. Taroo<sub>i</sub>-ga Jiroo<sub>j</sub>-ni zibun<sub>i/\*j</sub>-o mise-ta  
           -Nom       -Dat self-Acc show-past  
           ‘Taroo<sub>i</sub> showed Jiroo<sub>j</sub> himself<sub>i/\*j</sub>’



that the possessor of DP is base-generated as a predicate of a small clause which is the complement of D, and it moves to the specifier of DP. For example, the derivation for *John's friends* would be (i):

- (i) [<sub>DP</sub> John<sub>i</sub> [<sub>D</sub> 's] [<sub>SC</sub> friends t<sub>i</sub> ]]

This prevents sideward movement into a possessor position since that would require *John* to be both an argument receiving a theta-role from the main predicate and a predicate assigning a theta-role in the small clause. Whether this suggestion is plausible or not is beyond the scope of this thesis, so I leave it for future research.

As before, *Taroo*+*zibun* merges with a verb, *mise* ‘show,’ and gets the theme role. *Jiroo* is inserted to specifier of VP and receive the goal role. *Taroo* moves to spec vP to receive the agent role and moves further to spec TP. Movement of *Taroo* over *Jiroo* does not violate the MLC given that *Taroo* and *Jiroo* are in the same minimal domain; hence the two DPs are equidistant with respect to the target as we discussed in the preceding section. Finally, *zibun* as well as *Jiroo* moves at LF to check Case. Note that *Taroo* cannot move to spec VP instead of merging *Jiroo* because such movement violates the condition of Merge over Move. Given that Move is a complex operation of Copy plus Merge (Nunes 1995), Merge preempts Move. We can thus conclude that the subject orientation of *zibun* is a consequence of Merge over Move along with theta-driven movement.<sup>36</sup> Assuming ‘subject’ to be an element that checks Case in spec TP, the subject orientation is incorrect generalization since *zibun* can take a non-subject as its antecedent.

#### 4.4.1.3 Long distance antecedent

The ambiguity observed in (81) can be accounted for by adopting a notion of phase proposed by Chomsky (2000, 2001a) and the assumption that TP in Japanese allows multiple specifiers (Kimura 1994, Ura 1994, 1996). Chomsky argues that the computational system can have multiple accesses to a lexical array, which reduces computational complexity. Each sub-array has to be exhausted, and all of the

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<sup>36</sup> Recall that English does not show subject orientation, repeated here:

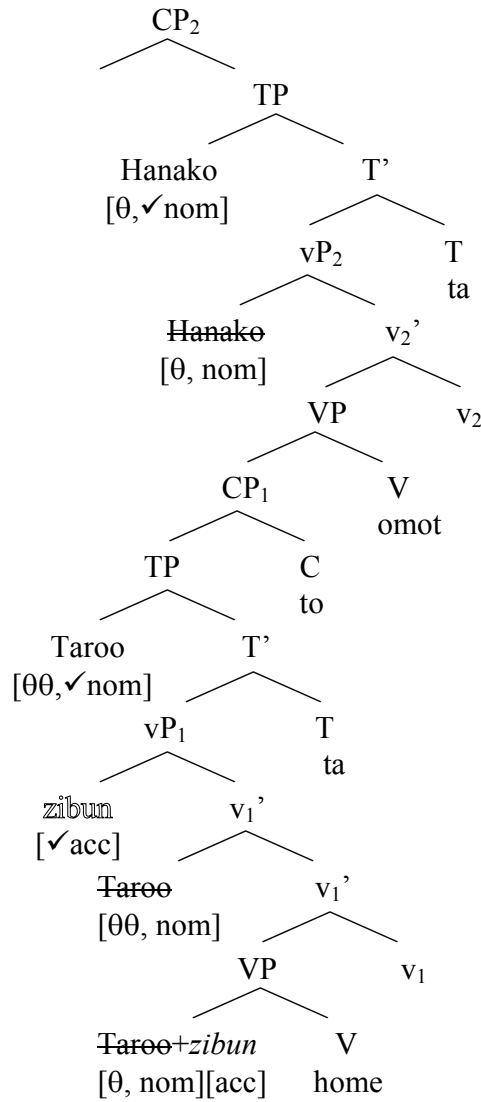
(i) John<sub>i</sub> showed Bill<sub>j</sub> himself<sub>i/j</sub>

If *zibun* and *himself* are both traces of A-movement, the fact that *himself* in (i) does not show subject orientation is a puzzle. I do not have any account to offer and leave it for future research.





b.



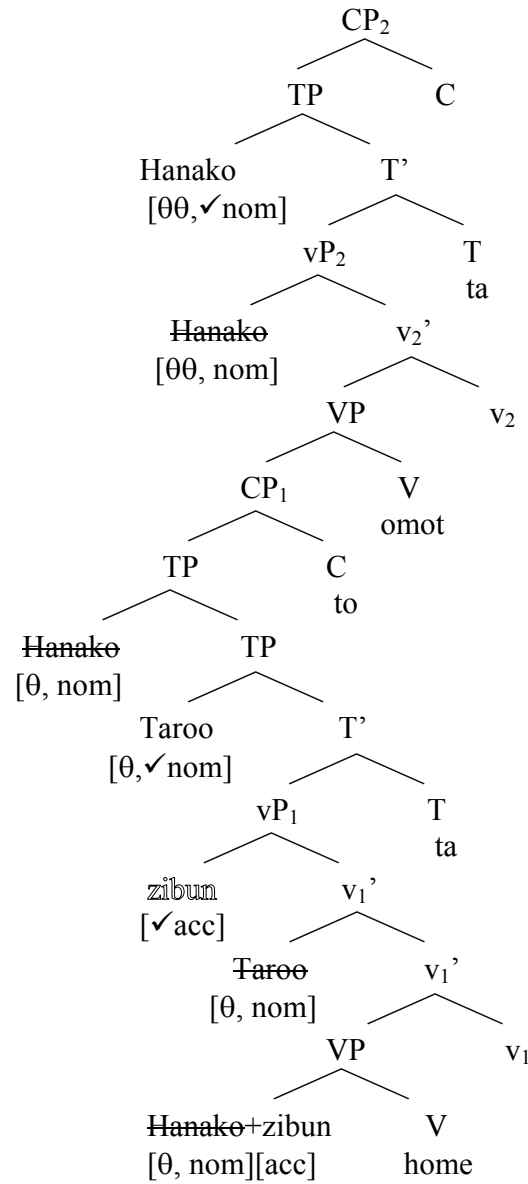
As shown in (86)a, the sub-array for the embedded clause  $CP_1$  includes only one DP, *Taroo*. The Derivation starts building the embedded clause. First, a complex *Taroo+zibun* merges with the verb, *home*. Since no other DP is available in  $CP_1$ , *Taroo* moves to spec  $vP$ , where it receives the agent role, while *zibun* moves at LF to the outer spec  $vP$  to check accusative Case. *Taroo* moves further to spec  $TP$  and checks nominative Case as well as other formal features.  $C^0$  is inserted. Since the sub-array of  $CP_1$  is exhausted, and all uninterpretable features are checked, derivation now starts the

next phase, CP<sub>2</sub>. Another DP, *Hanako*, is available in the sub-array, and it is inserted in spec vP<sub>2</sub>, where it receives the second agent role. The derivation continues accordingly and converges.

Derivation for the other reading in which *zibun* refers to the matrix subject is illustrated in (87).

- (87) a. Sub-array for CP<sub>1</sub>: {Taroo, Hanako, home, ta (PAST), to (COMP),  
...}  
Sub-array for CP<sub>2</sub>: {omou, ta, ...}

b.



In this derivation, the sub-array corresponding to  $CP_1$  includes both *Hanako* and *Taroo*. The derivation starts by merging *Hanako+zibun* with the verb as usual. Since another DP, *Taroo*, is available in the array, the condition of Merge over Move forces *Taroo* to be inserted in the spec  $vP$ , where it obtains the agent role. *Taroo* moves to spec  $TP$  to check nominative Case and other features, and *zibun* moves at LF to check accusative Case. Meanwhile, *Hanako* moves up to the matrix clause to the embedded  $TP$  by

adjunction. By adjoining to the embedded TP, *Hanako* and *Taroo* become equidistant to the target position, which is spec  $vP_2$ . Therefore, the movement of *Hanako* to spec  $vP_2$  does not violate a locality condition such as SMC or MLC.<sup>39, 40</sup>

#### 4.4.1.4 Ambiguity of *zibun* in bi-clausal causative constructions

Ambiguity of *zibun* is not limited to complex sentences involving an embedded CP. It is also observed in bi-clausal causative constructions. Consider the following:

- (88) Taroo<sub>i</sub>-ga Hanako<sub>j</sub>-ni zibun<sub>i/j</sub>-o bengos-ase-ta  
           -Nom           -Dat self-acc defense-caus-past  
           ‘Taroo made Hanako defense self’

*Zibun*, which is the object of the embedded clause, can be anteceded by either *Taroo* or *Hanako*. The ambiguity exhibited in (88) can be accounted for in a similar way to (86)/(87) in the preceding section.

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<sup>39</sup> As mentioned in Motomura (2001a), there is a problem concerning the Phase Impenetrability Condition in (i) proposed in Chomsky (2000).

(i) a. In phase  $\alpha$  with head H, the domain of H is not accessible to operations outside  $\alpha$ , but only H and its edge

b. ... [<sub>VP</sub> v<sup>0</sup> [<sub>CP</sub> DP<sub>1</sub> C<sup>0</sup> [<sub>TP</sub> DP<sub>2</sub> [<sub>TP</sub> T<sup>0</sup> [<sub>VP</sub> ...]]]]

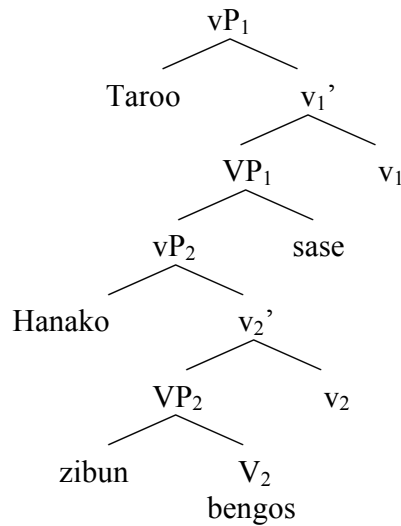
According to (ia), only DP<sub>1</sub> and C<sup>0</sup> in (ib) are accessible to a higher v<sup>0</sup>. However, the derivation in (87)b requires *Hanako* in the embedded spec TP be also accessible from the higher v<sup>0</sup>. Therefore, movement of *Hanako* from the embedded TP position to the matrix spec  $vP$  should not be allowed.

A possible solution to this problem is to assume that T to C movement takes place in Japanese. This will give the DP in spec TP a dual status of being in spec TP and in spec CP. Alternatively, the problem can be solved if the subject is in CP rather than in TP as Ueda (2003) argues.

<sup>40</sup> The idea of creating an escape hatch is adopted from Kimura (1994), who, following Ura’s (1994, 1996) proposal that Japanese allows multiple specifiers, argues that *zibun* moves at LF through spec AGRsP to matrix spec TP. The present analysis differs from Kimura in two respects. First, movement is triggered by a theta-feature; hence, it is overt. Second, when the DP moves out of the embedded clause, it adjoins to TP rather than checking features in some specifier position. This allows us to avoid a controversial assumption that *zibun* has inherent phi-features which must be checked in spec TP at LF. Given the fact that *zibun* can take an antecedent of any person/gender, it is not clear if *zibun* has inherent phi-features. For reasons why adjunction is assumed, see Motomura (2001a).

It is assumed that a bi-clausal causative verb is composed of two layers of v-VP complex.<sup>41</sup> Part of the structure of (88), then, would look like:

(89)



Given that vP also constitutes a phase, two interpretations can be accounted for as follows. For one interpretation where *Hanako* is the antecedent of *zibun*, *Hanako* is in the sub-array corresponding to vP<sub>2</sub> and *Taroo* in the sub-array of vP<sub>1</sub>. *Hanako+zibun* merges with V<sub>2</sub>, and *Hanako* moves to spec vP<sub>2</sub> to receive the agent role. *Taroo* is introduced in the next phrase and receives the causer role in spec vP<sub>1</sub>.

For another interpretation where *Taroo* is the antecedent of *zibun*, both *Taroo* and *Hanako* are in the sub-array of vP<sub>2</sub>, and, this time, *Taroo+zibun* merges with V<sub>2</sub>. Given the Merge over Move condition and since there is another DP *Hanako* in the array, *Hanako* must be inserted in spec vP<sub>2</sub>. *Taroo*, then, moves to spec vP<sub>1</sub> through adjunction to vP<sub>2</sub> over *Hanako*.

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<sup>41</sup> See section 4.3.2.

#### 4.4.1.5 Zibun in a possessor position

*Zibun* in all of the cases discussed so far appears as the argument of verb. However, *zibun* can also appear as the possessor of a noun as shown below:

- (90) a. Taroo<sub>i</sub>-no imoto<sub>i</sub>-ga zibun<sub>i/\*j</sub>-no hon-o ut-ta  
                    -Gen sister-Nom           -Gen book-Acc sell-past  
                    ‘Taroo’s sister sold his book’
- b. Taroo<sub>i</sub>-ga Hanako<sub>j</sub>-ni zibun<sub>i/\*j</sub>-no hon-o kashi-ta  
                    -Nom           -Dat self-Gen book-Acc lend-past  
                    ‘Taroo lent Hanako his book’

The possessor *zibun* in these sentences show the same patterns as the argument *zibun*. It requires a c-commanding antecedent as in (90)a, and the antecedent must be the subject as in (90)b. The above analysis of *zibun* based on theta-driven movement can be extended to these cases given that movement of a possessor is allowed in Japanese.

Possessor raising is a well-known phenomenon observed in Japanese. Consider the following:

- (91) a. Hanako-no kami-ga kirei-da  
                    -Gen hair-Nom beautiful-is  
                    ‘Hanako’s hair is beautiful’
- b. Hankao-ga kami-ga kirei-da  
                    -Nom hair-Nom beautiful-is

In (91)a, the possessor of the subject is marked with a genitive marker *-no*. In (91)b, on the other hand, the possessor of the subject is marked with a nominative marker *-ga*.

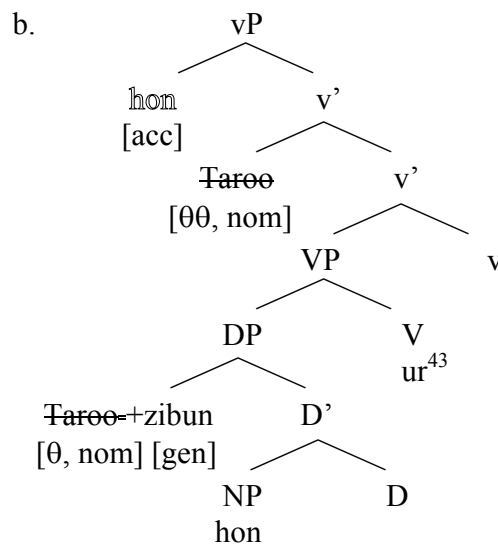
This is a multiple subject construction. The sentences have roughly the same meaning. Thus, it has been argued that (91)b is derived from (91)a by raising of the possessor from the host subject DP as illustrated in (92) (Sakai 1994, Ura 1996).<sup>42</sup>

- (92) Hanko<sub>i</sub>-ga [<sub>DP</sub> t<sub>i</sub> kami-ga] kirei-da  
 -Nom hair-Nom beautiful-is

Assuming that the possessor raising approach is correct, we can conclude that English does not allow movement of a possessor from its host DP (Ross 1967, Corver 1990). Then we can account for *zibun* in a possessor position as an instance of overt A-movement. (93)b illustrates the crucial part of the derivation for (93)a.

- (93) a. Taroo<sub>i</sub>-ga zibun<sub>i</sub>-no hon-o ut-ta  
 -Nom -Gen book-Acc sell-past

‘Taroo sold his book’



<sup>42</sup> Whether possessor raising takes place or not is controversial. See Fujii (2001) and the references cited there for base-generated approaches to the phenomenon.

<sup>43</sup> The final consonant of the verb *ur* ‘sell’ is deleted before the past tense morpheme *ta*, and becomes geminated as *ut-ta*.



*Taroo* moves from the possessor position of DP to spec vP where it receives the agent role.

There are two questions concerning the treatment of possessor *zibun* in (93) parallel to the case of possessor raising in (92). The first question is why *zibun* appears in the position of the trace in (93) but not in (92). The second question is why movement of a possessor from the object is possible in (93), unlike possessor raising. The unacceptability of (94)b suggests that possessor raising is not possible out of the object position. That is, no multiple object construction is possible in Japanese.

- (94) a. Hanako-ga [<sub>DP</sub> Taroo-no hige]-o sot-ta  
           -Nom           -Gen beard-Acc shave-past  
           ‘Hanako shaved Taroo’s beard’
- b. \* Hanako-ga Taroo<sub>i</sub>-o [<sub>DP</sub> t<sub>i</sub> hige]-o sot-ta  
           -Nom       -Acc       beard-Acc shave-past

In order to answer these questions, let us first summarize Ura’s (1996) analysis of possessor raising constructions.

Ura argues that possessor raising is possible only if the possessor-possessee relation is an inalienable one. Following Croft (1990), he assumes that body-part relations such as *Hanako-no kami* ‘Hanako’s hair’ and *Taroo-no hige* ‘Taroo’s beard’ and kinship relations such as *Hanako-no ototoo* ‘Hanako’s brother’ are inalienable, but relations such as *Taroo-no kuruma* ‘Taroo’s car’ are alienable.<sup>44</sup> Ura claims that the former involves movement of possessor out of the host DP whereas the latter is an

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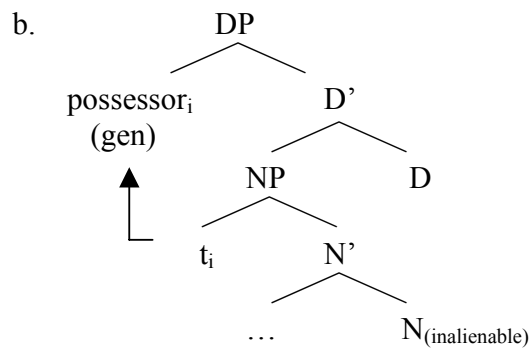
<sup>44</sup> See also Kikuchi (1994) for discussion of the difference between inalienable possession and alienable possession.

instance of major subject, which is assumed to be base-generated in the initial position of a clause (Kuroda 1978, 1986, Sakai 1994, Tateishi 1994). Let us illustrate the two types of derivations that Ura proposed below.

First, for an inalienable DP in (91)b/(92) repeated in (95)a, Ura proposes (95)b:

(95) Inalienable possessor

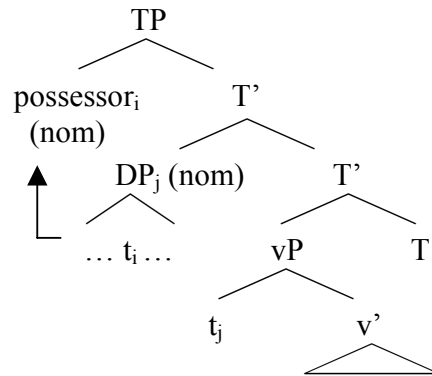
a. Hanako-ga [<sub>DP</sub> *t<sub>i</sub>* kami-ga] kirei-da  
               -Nom      hair-Nom beautiful-is



(Ura 1996: 113 (4.23) with some modification)

For the inalienable DP, the possessor *Hanako* is base-generated in spec NP and raises to spec DP to check a (structural) genitive Case. It is assumed that the D head in (95)b, however, is allowed to not check the genitive Case. When D has no genitive Case to check, the possessor can move out of its host DP and raise to spec TP to check nominative Case as illustrated below.

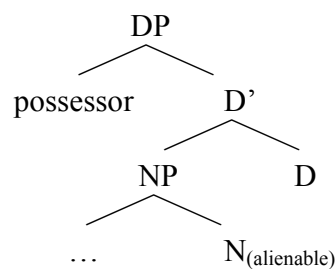
(96)



Note that the subject, which is the host DP, is also in spec TP. Assuming that T in Japanese allows multiple feature checking, the possessor as well as the subject can enter into a checking relation with T. This accounts for the multiple subject construction in (91)b/(92). Furthermore, Ura claims that a light v which checks accusative Case does not allow multiple feature checking. That is why possessor raising out of the object is not allowed as we saw in (94)b.

Second, for an alienable DP, Ura proposes (97).

(97) Alienable possessor



(Ura 1996: 114 with some modification)

In this case, a possessor is base-generated in spec DP where it receives the possessor role from the D head. It also receives an inherent Case that is morphologically identical with the structural genitive Case. Ura's claim that possessor raising is limited to

inalienable possessor implies that the inherent Case assignment of D head in (97) is obligatory.

To summarize Ura's claims, possessor raising is possible under the following two conditions (Ura 1996: 129):

- (98) a. the head responsible for the formal feature-checking of the possessor-DP to be raised may enter into multiple feature checking relations ( $T^0$  but not  $v^0$  in Japanese)
- b. the head of DP within which a possessor is to be raised is allowed to have no structural genitive Case

Let us assume that Ura's analyses of inalienable possessor and alienable possessor constructions are basically correct and go back to our two questions.

The first question was why *zibun* in (93)a appears as a trace, but not in (91)b.

The sentences in question are repeated here:

- (99) a. Taroo<sub>i</sub>-ga zibun<sub>i</sub>-no hon-o ut-ta  
-Nom -Dat book-Acc sell-past  
'Taroo sold his book'
- b. Hankao-ga kami-ga kirei-da  
-Nom hair-Nom beautiful-is  
'Hanako's hair is beautiful'

First of all, the two sentences are different in terms of alienability. Whereas the possessor-possessee relation in (99)b is inalienable, that of (99)a is alienable. Unlike Ura, who claims that possessor raising is not possible from an alienable DP, I assume that it is possible. It was concluded above that inherent Case assignment of the D head

of an alienable DP is obligatory. Therefore, I claim that movement of a possessor out of an alienable DP is possible only if *zibun* is inserted in order to discharge the inherent Case, resulting in (99)a.

The second question was why movement of a possessor from the object is possible in (93)a, but it is not in a possessor raising construction as in (94)b, repeated below.

- (100) a. Taroo<sub>i</sub>-ga zibun<sub>i</sub>-no hon-o ut-ta  
           -Nom       -Dat book-Acc sell-past  
           ‘Taroo sold his book’
- b. \*Hanako-ga Taroo<sub>i</sub>-o [<sub>DP</sub> t<sub>i</sub> hige]-o sot-ta  
           -Nom       -Acc       beard-Acc shave-past  
           ‘Hanako shaved Taroo’s beard’

Ura’s account for the ungrammaticality of (100)b is that (100)b does not satisfy the condition for possessor raising to occur stated in (98)a. That is the light *v*, which is responsible for accusative Case checking, does not allow multiple feature checking. Therefore, no feature of the light *v* can trigger movement of the possessor of the object. In our proposal, we allow the DP to move into a theta-position. Thus, we can claim that movement of the possessor in (100)a can be triggered by a theta-feature of the light *v*.

Our analysis of possessor *zibun* combined with Ura’s accounts for inalienable and alienable possessors can account for the following contrast:

- (101) a. Taroo-ga hige-o sot-ta  
           -Nom beard-Acc shave-past  
           ‘Taroo shaved himself’

- b. Hanako-ga ototoo-o shikat-ta  
 -Nom brother-Acc scold-past  
 ‘Hanako scolded her brother’
- (102) a. Taroo-ga kuruma-o arat-ta  
 -Nom car-Acc wash-past  
 ‘Taroo washed his/a car’
- b. Hanako-ga heya-o soojishi-ta  
 -Nom room-Acc clean-past  
 ‘Hanako cleaned her/a room’

In (101), the subject and the object hold an inalienable relation; therefore, interpretations of the sentences are such that in (101)a, *Taroo* shaved his own beard and not someone else’s, and in (101)b, *Hanako* scolded her own brother and not someone else’s brother. In contrast, in (102), the subject and the object do not have to have such a relation. That is, in (102)a, the car that *Taroo* washed may be his own or someone else’s, and in (102)b, the room that *Hanako* cleaned does not have to be her own room.

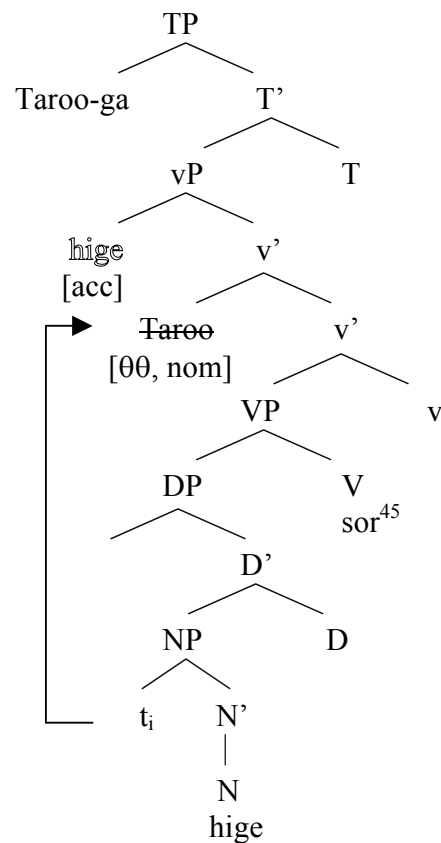
Such contrast in interpretation between (101) and (102) cannot be accounted for by simply adopting Ura’s analyses since for him, neither (101) nor (102) involves possessor raising. Under his approach, derivations for (101)a and (102)a might look like (103)a and (103)b respectively.

- (103) a. [TP Taroo<sub>i</sub>-ga [VP t<sub>i</sub> [VP [DP pro<sub>j</sub> [NP t<sub>j</sub> hige] D<sup>0</sup>]-o sot] v<sup>0</sup>]-ta]
- b. [TP Taroo<sub>i</sub>-ga [VP t<sub>i</sub> [VP [DP pro [NP kuruma] D<sup>0</sup>]-o arat] v<sup>0</sup>]-ta]

In order to obtain the correct interpretation, it is necessary to have an extra requirement for (103)a that the subject and *pro* in spec DP position of the object must be co-referential but not for (103)b.

If we allow theta-driven movement, on the other hand, the contrast between (101) and (102) is straightforward. While our analysis of (102)a is the same as (103)b, the derivation for (101)a is (104):

(104)



Given Ura's assumption that the D head that selects the inalienable NP can have no genitive Case feature, the possessor moves directly from its host NP to spec vP to get

<sup>45</sup> The final consonant of the verb *sor* 'shave' is deleted before the past tense morpheme *-ta* and becomes geminated as *sot-ta*.

the agent role. Then it moves to spec TP to check nominative Case. Thus, we can account for obligatory interpretation of the inalienable relation in (101).

To summarize, in this section, I have presented the accounts of the three properties of *zibun* proposed in Motomura (2001a, 2001b), and extended the accounts to *zibun* in a possessor position. Our conclusion about the subject orientation property of *zibun* is that it is not an intrinsic property of *zibun* but rather is a consequence of derivation.

#### 4.4.2 *Zibun* in OE verb constructions<sup>46</sup>

Let us now account for the backward binding constructions. A relevant example is repeated in (105).

- (105) *Zibun<sub>i</sub>-no warui uwasa-ga Taroo<sub>i</sub>-o nayam-ase-ta*  
self-Gen bad rumor-Nom Taroo-Acc worry-caus-past  
'His bad rumor worried Taroo'

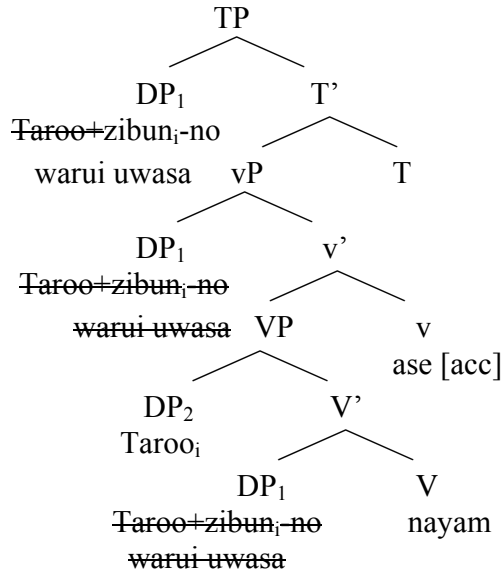
The issue is that given the generalization that *zibun* shows a subject orientation, (105) is exceptional because the antecedent of *zibun* is not the subject. However, the theta-driven movement approach to *zibun* can give a straightforward account for (105).

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<sup>46</sup> In Motomura (2001a, 2001b), I accounted for backward binding of anaphors in Japanese OE verb constructions in parallel fashion to Kiguchi's PRO-gate constructions. I do not adopt the previous analysis in this thesis since the previous analysis can not account for the correlation between SE verb and OE verb observed in section 4.1.1.



(106)



The derivation here is basically the same with regular OE verb constructions. The only difference is that the experiencer *Taroo* is base-generated inside the theme DP. A complex *Taroo+zibun* starts as a possessor of DP<sub>1</sub>.<sup>47</sup> After DP<sub>1</sub> is merged with V, *Taroo* moves to spec VP and receives the experiencer role. The causer assigning light v is merged with the VP, and DP<sub>1</sub> moves to spec vP and to then spec TP.

Note that the copy of *Taroo* that is realized in PF is the one in spec VP, and all other copies are deleted including the upper-most copy inside DP<sub>1</sub> in spec TP. This can be accounted for if we adopt a deterministic deletion, following Hornstein (2001: 80-82). Deletion is deterministic in a sense that ‘expressions delete only if retaining them would crash the derivation.’ In other words, expressions must delete if they retain

<sup>47</sup> The possessor-possessee relation in DP<sub>1</sub> is alienable given that the sentence in (i) is ambiguous:

(i) Taroo-wa warui uwasa-o shinjinakat-ta  
 -Top bad rumor-Acc believe-not-past  
 ‘Taroo did not believe his/a bad rumor’

The rumor can be either *Taroo*’s or someone else’s. This is the characteristic of alienable possession that we observed in the previous section.

uninterpretable features because uninterpretable features cause a derivation to crash, given that Full Interpretation requires every item to be interpretable at the interfaces. In (106), a copy of *Taroo* in spec VP checks accusative Case (by moving to spec vP either overtly or covertly), so all other copies of *Taroo* are caseless. Therefore, all the copies except for the one in spec VP must be deleted.

#### 4.4.3 Kuroda's (1993) counter-example

At the end of section 4.2, I introduced the following sentence as Kuroda's (1993) counter-example to our claim that OE verbs are mono-clausal causatives.

(107) Zyoozi-no nyuugaku-no sirase-ga Naomi-o [zibun<sub>i</sub>-no koto-no yooni]

-Gen admittance-Gen news-Nom -Acc self-Gen thing-Gen as.if

yorokob-ase-ta

pleased-caus-past

'George's admittance to the school made Naomi rejoice as if it were her own'

In this sentence, the antecedent of *zibun* is *Naomi*, which is the object. Given the subject orientation of *zibun*, one can expect that *Naomi* is the subject at some point in the derivation. This means that the sentence involves a complex clause rather than a single clause. Therefore, Kuroda concludes that OE verbs are bi-clausal causative.

Subject orientation of *zibun* is illustrated in (108) again. First, consider a case of *zibun* in a regular (di-)transitive verb construction below.

(108) Taroo<sub>i</sub>-ga Jiroo<sub>j</sub>-ni zibun<sub>i/\*j</sub>-o mise-ta

-Nom -Dat self-Acc show-past

'Taroo<sub>i</sub> showed Jiroo<sub>j</sub> himself<sub>i/\*j</sub>'

In (108), the antecedent of *zibun* must be the subject *Taroo* and not the indirect object *Jiroo*. Thus, it is said that the antecedent of *zibun* must be the subject.

Next, consider the case of a mono-clausal causative in (109).<sup>48</sup> *Zibun* inside the adverbial phrase must take the causer but not the causee as its antecedent.

- (109) Taroo<sub>i</sub>-ga Mariko<sub>j</sub>-no heya-ni Hanako<sub>k</sub>-o [zibun<sub>i/j/\*k</sub>-no mono-no yooni] ire-ta  
 -Nom -Gen room-in -Acc self -Gen thing-Gen as.if put-past  
 ‘Taroo put Hanako into Mariko’s room as if she (Hanako) were his own property’

Thus, mono-clausal causative verbs pattern with regular (non-causative) verbs with respect to anaphor binding.

Now, consider the case of a bi-clausal causative in (110):

- (110) Taroo<sub>i</sub>-ga Hanako<sub>i</sub>-ni musuko-no goukaku-o [zibun<sub>i/j</sub>-no koto-no yooni]  
 -Nom -Dat son-Gen acceptance-Acc self-Gen thing-Gen as.if  
 iwaw-ase-ta  
 celebrate-caus-past  
 ‘Taroo<sub>i</sub> made Hanako<sub>j</sub> celebrate his son’s acceptance (to college) as if it were self<sub>i/j</sub>’s own’

In this case, the antecedent of *zibun* can be either the causer or the causee. This fact suggests that the causee of a bi-clausal causative behaves as the subject of the embedded clause.

Going back to Kuroda’s case in (107), *zibun* can take the causee as its antecedent patterning with the bi-clausal causative verb in (110) rather than the

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<sup>48</sup> *Irer* ‘put’ is a mono-clausal causative verb in Japanese. Its inchoative counterpart is *hair* ‘enter.’

mono-clausal causative in (109). Based on this fact, Kuroda concludes that OE verbs are bi-clausal causative.

However, *zibun* in the *as-if* clause in (107) shows a behavior that is not observed with regular *zibun*.<sup>49</sup> First, consider the following:

- (111) Kaigai-funin-no hanashi-ga Taroo<sub>i</sub>-o [zibun<sub>\*i</sub>/kare<sub>i</sub>-no hahaoya-ga  
 overseas-assignment-Gen offer-Nom -Acc self/his-Gen mother-Nom  
 kanashimu-nara] nayam-ase-rudaroo  
 become.sad-if worry-caus-will

‘An offer of overseas assignment will worry Taroo if his mother becomes sad’

In this example, *zibun* in an *if* clause cannot take the object as its antecedent. Instead, a pronoun must appear in order to carry the relevant meaning. Thus, the sentences in (107) and (111) conflict with respect to anaphor binding.

Second, it has been noted in the literature that when *zibun* is bound by a non-local antecedent, it can be replaced with a pronoun (Kuno 1973: chapter 26).<sup>50</sup>

- (112) Taroo<sub>i</sub>-ga Hanako-ni [zibun<sub>i</sub>/kare<sub>i</sub>-ga sono kodomo-o sodateru-to] itta  
 -Nom -Dat self/he-Nom the child-Acc raise-C said

‘Taroo told Hanako that he would raise the child’

But consider the following:

- (113) a. Taroo<sub>i</sub>-ga sono sirase-o zibun<sub>i</sub>/kare<sub>\*i</sub>-no koto-no yooni yorokonda  
 -Nom the news-Acc self/he-Gen thing-Gen as.if pleased

‘Taroo rejoiced at the news as if it were his own’

<sup>49</sup> I owe Tomohiro Fujii for the discussion below.

<sup>50</sup> The alternation between *zibun* and a pronoun is not free, however, as Kuno (1973) discussed.

- b. Taroo<sub>i</sub>-ga sono sirase-o zibun<sub>i</sub>/kare<sub>i</sub>-no hahaoya-ga kanashimu-nara  
 -Nom the news-Acc self/he-Gen mother-Nom become.sad-if  
 nayam-udaroo  
 worry-will  
 ‘Taroo will worry about the news if his mother becomes sad’

*Zibun* in an *as-if* clause cannot be replaced with a pronoun in (113)a, but *zibun* in an *if* clause can in (113)b. These facts suggest that *zibun* in *as-if* clauses behave differently from *zibun* in other constructions. Whatever the explanation of these facts turns out to be, we can conclude that (107) is not a real threat to our conclusion that OE verbs are mono-clausal causatives.

#### 4.5 Scope interpretation

An account of scope ambiguity in OE verb constructions is also straightforward. As shown in section 4.1.3, the scope relations of the subject and the object in OE verb constructions is ambiguous unlike other verbs.

- (114) Futatsu-no ginkoo-ga sannin-no keieisha-o nayam-ase-ta  
 two-Gen bank-Nom three-Gen manager-Acc worry-caus-past  
 ‘Two banks worried three managers’  
 $2 > 3$  (2 banks 6 managers)  
 $3 > 2$  (3 managers 6 banks)

Our analysis of OE verb construction is consistent with the fact that scope ambiguity results when word order is altered by scrambling as we saw in section 4.1.3. The relevant examples are repeated below:

- (115) a. Sannin-no zyosee-ga futari-no dansee-o syootaishita  
 three-Gen females-Nom two-Gen males-Acc invited  
 ‘Three women inveted two men’  
 3>2 (3 females 6 males)  
 \* 2>3 (2 males 6 females)
- b. Futari-no dansee<sub>i</sub>-o sannin-no zyosee-ga t<sub>i</sub> syootaishita  
 two-Gen males-Acc three-Gen females-Nom invited  
 ‘Three women inveted two men’  
 3>2 (3 females 6 males)  
 2>3 (2 males 6 females)

(Matsuoka 2001: 20, citing Kitagawa 1994: 228)

When word order of the subject and the object reflects their base positions, no ambiguity is observed as in (115)a. On the other hand, when word order is altered by scrambling, ambiguity results as in (115)b. This suggests that movement makes scope relations ambiguous.

According to our analysis, the derivation of (114) looks like:

- (116) [TP futatsu-no ginkoo<sub>i</sub>-ga [<sub>VP</sub> t<sub>i</sub> [<sub>VP</sub> sannin-no keieisha-o [<sub>V</sub> t<sub>i</sub> nayam]]-ase]-ta]

In (116), the word order of the universal quantifier and the existential quantifier is altered by movement. Therefore, our analysis predicts that the scope interpretation of (114) is ambiguous.

#### 4.6 Non-human subject restriction

In section 4.1.4, it was shown that there is a non-human subject restriction on backward binding constructions as well as scope interpretation of OE verbs. Let us first consider the non-human subject restriction. We have observed that backward binding of anaphora becomes impossible when the subject of the OE verb construction is human. A representative sentence is repeated below.

- (117) a.      Zibun<sub>i</sub>-no warui uwasa-ga    Taroo<sub>i</sub>-o    nayam-ase-ta  
                 self-Gen bad    rumor-Nom Taroo-Acc worry-caus-past  
                 ‘His bad rumor worried Taroo’
- b.      Zibun<sub>i/\*j</sub>-no jooshi-ga    Taroo<sub>j</sub>-o    nayam-ase-ta  
                 self-Gen boss-Nom Taroo-Acc worry-caus-past  
                 ‘Self’s boss worried Taroo’

The subject of (117)a is a non-human concept, and the anaphor inside this DP can take the object as its antecedent. On the other hand, the anaphor inside the human subject in (117)b cannot take the object as its antecedent. Instead, the anaphor is interpreted as the speaker of the sentence.

The question is: what is it that rules out (117)b but not (117)a? I propose that the restriction can be attributed to a selectional restriction on the object of SE verbs. Consider the contrast in (118) and (119) observed in McCawley (1976).<sup>51</sup>

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<sup>51</sup> There are verbs which do not have such selectional restrictions. Inoue (1976: 129) and Matsuoka (2001: 108) observe that verbs such as *urayam* ‘envy,’ *netam* ‘feel jealous,’ *kowagar* ‘frightened,’ and *osore* ‘fear’ can select an animate object. I believe *urayam* does not have a corresponding lexical OE verb as shown below:

- (i)      a.      Taroo-ga Hanako-o urayan-da  
                 -Nom      -Acc envy-past  
                 ‘Taroo envied Hanako’

- (118) a. Hiroshi-wa Michiko-no kokorogawari-ni nayan-da  
 Hiroshi-Top Michiko-Gen change.of.mind-Dat worry.about-past  
 ‘Hiroshi was worried about Michiko’s change of mind’
- b. \*?Hiroshi-wa Michiko-o/ni nayan-da  
 Hiroshi-Top Michiko-Acc/dat worry.about-past  
 ‘Hiroshi worried about Michiko’
- (119) a. Michiko-no kokorogawari-ga Hiroshi-o nayam-ase-ta  
 Michiko-Gen change.of.mind-Nom Hiroshi-Acc worry-caus-past  
 ‘Michiko’s change of mind worried Hiroshi’
- b. Michiko-wa Hiroshi-o nayam-ase-ta  
 Michiko-Top Hiroshi-Acc worry-caus-past  
 ‘Michiko worried Hiroshi’

- 
- b. \* Hanako-ga Taroo-o urayam-ase-ta  
 -Nom -Acc envy-caus-past  
 ‘Hanako made Taroo envious of her’
- Netamu, kowagar* and *osore* seem to have corresponding OE verbs. Consider the following:
- (ii) a. Taroo-ga zibun-no tomodachi-o netan-da  
 -Nom self-Gen friend-Acc feel.jealous-past  
 ‘Taroo felt jealous of his friend’
- b. ? Zibun-no tomodachi-ga Taroo-o netam-ase-ta  
 self-Gen friend-Nom -Acc feel.jealous-caus-past  
 ‘His friend made Taroo jealous of him’
- (iii) a. Hanako<sub>i</sub>-ga zibun<sub>i</sub>-no sensei-o kowaga-tta  
 -Nom self-Gen teacher-Acc frightened-past  
 ‘Hanako was frightened at her teacher’
- b. Zibun<sub>i</sub>-no sensei-ga Hanako<sub>i</sub>-o kowagar-ase-ta  
 self-Gen teacher-Nom -Acc frightened-caus-past  
 ‘Her teacher frightened Hanako’
- (iv) a. Hanako<sub>i</sub>-ga zibun<sub>i</sub>-no sensei-o osore-tta  
 -Nom self-Gen teacher-Acc fear-past  
 ‘Hanako feared her teacher’
- b. Zibun<sub>i</sub>-no sensei-ga Hanako<sub>i</sub>-o osore-sase-ta  
 self-Gen teacher-Nom -Acc fear-caus-past  
 ‘Her teacher frightened Hanako’

In the (b) sentences, backward binding seems possible only if we disallow the agent subject interpretation which is dominant.

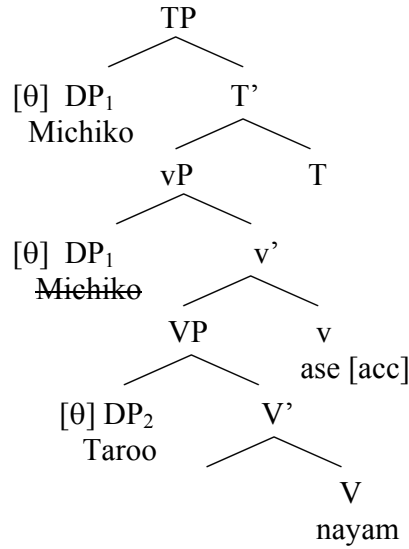


(McCawley 1976: 68-69 with minor modification)

The Sentences in (118) show that a SE verb imposes a selectional restriction on its object. It selects a characteristic of a person or an event, as shown in (118)a, but it does not select a human as shown in (118)b. On the other hand, the OE verb, *nayam-ase*, accepts a human subject (119)b as well as a non-human subject (119)a. Note that the contrast in (118) and (119) supports Pesetsky's claim that the object of SE verbs and the subject of OE verbs do not share the same theta-roles, as Matsuoka (2001) pointed out.

If the OE verb construction in (119)b is derived from the SE verb construction in (118)b by simply moving the theme to the athematic subject position as B&R claim, (119)b should be as bad as (118)b. However, (119)b is perfect. Therefore, we must conclude that the derivation of (119)b is different from that of (119)a, which is claimed to involve movement of the underlying object to the surface subject position as shown in the preceding sections. I propose the following derivation for (119)b.

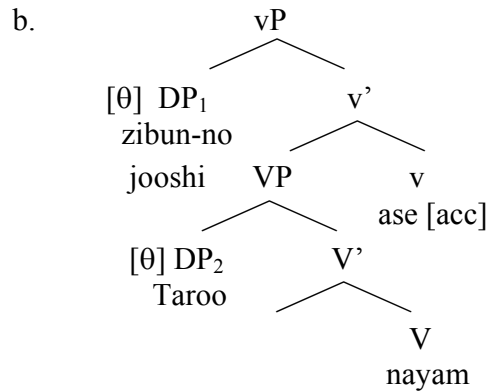
(120)



Suppose that the numeration of this derivation includes two human DPs: *Michiko* and *Taroo*. Since the verb *nayam* ‘worry about’ does not select an animate object as we saw in (118)b, the theme position cannot be filled with these DPs. The only possible derivation given the numeration is to insert each of the animate DPs, *Taroo* and *Michiko*, directly to specifier of VP and to specifier of vP as shown in (120). *Taroo* first merges with the root V receiving the experiencer role. Then *Michiko* directly merges into the spec vP, where it gets the causer role. Thus, *Michiko* is the causer without being a theme. This is consistent with the interpretation of (119)b, which is that *Michiko* invoked some worry in *Taroo* about *Michiko*, say, her careless behaviors, but the existence of *Michiko* itself is not the target of *Taroo*’s worry.

Now, the non-human subject restriction observed in (117)b, repeated in (121)a, is straightforward. The crucial part of the derivation is repeated in (121)b.

- (121) a.      Zibun<sub>i</sub>/\*<sub>j</sub>-no jooshi-ga Taroo<sub>j</sub>-o nayam-ase-ta  
                  self-Gen boss-Nom Taroo-Acc worry-caus-past  
                  ‘Self’s boss worried Taroo’



As in the case of (120), a human DP *zibun-no jooshi* ‘self’s boss’ is inserted into spec vP directly. Thus, *zibun* is never c-commanded by the object *Taroo* at any point in the derivation. As a result, a binding configuration is not established, and hence *Taroo* cannot be the antecedent of *zibun*. Since *zibun* lacks an antecedent in the sentence, it is interpreted to refer to the speaker of the sentence.<sup>52</sup>

Note that selectional restrictions are presumably an interface condition given that it is a matter of interpretation rather than a matter of syntax. Therefore, it is not the case that the derivation for the impossible interpretation in (121) is never built, but rather such derivation is built and later filtered out by an interface condition.

<sup>52</sup> One may object that leaving the theme position empty is problematic given the bare phrase structure of Chomsky (1995a, 1995b: chapter 4). It might be said that the unpronounced object is incorporated into the V head in this case. As we will see in section 4.8, Thematic Diversity prohibits both the causer and the theme to be realized independently. There might be two ways to avoid violation of the condition. One is to have a single argument get both roles by movement as proposed above. Another way is to incorporate the unpronounced object. The latter option basically makes the verb intransitive. This may give a reason for Katada’s (1997) claim that SE verbs are weakly transitives, meaning roughly SE verbs are optionally intransitive verbs. See section 6.1 for discussion of Katada’s proposal and weakly transitives.

Finally, it is clear why the OE verb sentences with a human subject do not show scope ambiguity. The relevant sentence is repeated below:

- (122) Hutari-no seito-ga sannin-no kyooshi-o nayam-ase-ta  
 two-Gen student-Nom three-Gen child-Acc worry-caus-past

‘Two students worried three teachers’

2 > 3 (2 students 6 teachers)

\*? 3 > 2 (3 teachers 6 students)

Recall that scope ambiguity is a result of movement. If the human subject is base-generated in the causer position, no movement is involved that alters the word order of the subject and the object. Therefore, an unambiguous scope relation is expected.

#### 4.7 Two-argument restriction on backward binding constructions

As we saw in section 4.1.5, backward binding is possible when an OE verb takes two arguments: causer and experiencer, but it is not possible when an OE verb takes three arguments: causer, experiencer, and theme. Relevant examples are repeated in (123).

- (123) a. Zibun<sub>i</sub>-no warui uwasa-ga Taroo<sub>i</sub>-o nayam-ase-ta  
 self-Gen bad rumor-Nom -Acc worry-caus-past

‘A bad rumor about himself<sub>i</sub> worried Taroo<sub>i</sub>’

- b. \*?Zibun<sub>i</sub>-no warui uwasa-ga Taroo<sub>i</sub>-ni kodomo-no shoorai-no-  
 self-Gen bad rumor-Nom -Dat child-Gen future-Gen-  
 koto-ni nayam-ase-ta  
 thing-Dat worry-caus-past

‘A bad rumor about himself<sub>i</sub> made Taroo<sub>i</sub> worried about future of his child’

Proposing basically the same idea as ours, Fujimaki (1997) argues that when movement of the theme to the causer position takes place, a backward binding configuration is established, and only two arguments surface as the result of such a derivation. On the other hand, (123)b is a case where all of the three theta-roles, causer, experiencer, and theme, are realized. In this derivation, no movement is possible since the three positions are filled in by three distinct DPs. Thus, he attributes the lack of backward binding (123)b to a lack of movement.

It turns out, however, that OE verbs with three arguments are unacceptable with the relevant interpretation independently of *zibun*. The correct generalization is that OE verb constructions with three arguments are unacceptable because some of the OE verb constructions with three arguments violate the T/SM restriction, and some are generated as bi-clausal causatives that disallow a non-agentive causee.

Let us illustrate the first reason. The OE verbs with three arguments in (124) are simply unacceptable.

- (124) a. \* Fukeeki-ga Taroo-ni kaisha-no keiei-o kurushi-  
 depression-Nom -Dat company-Gen management-Acc distressed-  
 -m-e-ta  
 get-caus-past  
 ‘The depression distressed Taroo with management of the company’
- b. \* Kurayami-ga Kyoko-ni shisha-no boorei-o obiy-akashi-ta  
 darkness-Nom -Dat the.dead-Gen ghost-Acc frightened-caus-past

‘Darkness frightened Kyoko with ghosts of the dead’

These sentences show that Japanese also exhibits the T/SM restriction, which disallows OE verbs with three theta-roles (causer, experiencer, and theme) as Pesetsky discussed.

The second reason is that some of the OE verbs with three arguments are generated as bi-clausal causatives, which disallow a non-agentive causee. Relevant to our discussion here is a contrast in the following sentences discussed in Matsuoka (2001: 146-150).

- (125) a. Taroo-ga Hanako-o wazato yorokob-ase-ta  
          -Nom       -Acc deliberately pleased-caus-past  
          ‘Taroo made Hanako get pleased deliberately’
- b. Taroo-ga Hanako-ni wazato sono purezento-o yorokob-ase-ta  
          -Nom           -Dat deliberately the present-Acc pleased-caus-past  
          ‘Taroo deliberately made Hanako get pleased with the present/ Taroo  
          made Hanako deliberately get pleased with the present

(Matsuoka 2002: 148-149 with some modification)

As mentioned in 4.2.3, *wazato* ‘deliberately’ modifies an event that stems from an agent’s action. That is to say, *wazato* requires an agent. In (125)a, which is a case of an OE verb with two arguments, *wazato* can modify *Taroo* but not *Hanako*. In other words, *wazato* can modify the causer’s action but it cannot modify the causee’s action (or state). This is a characteristic of mono-clausal causatives. Therefore, we can conclude that (125)a is a mono-clausal causative construction. On the other hand, (125)b is a case of the OE verb sentence with three arguments. In this sentence, *wazato* can modify either *Taroo*’s causing event or *Hanako*’s caused event as the translation indicates.

Matsukoka suggests that a plausible situation for (125)b would be that *Taroo* is a movie director and *Hanako* is an actress, and *Taroo* ordered *Hanako* to act as being pleased in one scene. This suggests that the causee in (125)b is interpreted as an agent. In other words, (125)b does not have the canonical interpretation of the OE verb. This is what we expect if (125)b is a case of a bi-clausal causative construction because the causee of bi-clausal causatives must be agent as we saw in section 4.2.3. Therefore, (125)b is a bi-clausal causative construction. To conclude, OE verbs with three arguments are bi-clausal causatives.

Further example is given below.

- (126) a.    Nenkin-no    mondai-ga    Hanako-o nayam-ase-ta  
                  pension-Gen problem-Nom        -Acc worry-caus-past  
                  ‘Pension problems worried Hanako’
- b.    ?? Nenkin-no    mondai-ga    Hanako-ni shoorai-no koto-o  
                  pension-Gen problem-Nom        -Dat future-Gen thing-Acc  
                  nayam-ase-ta  
                  worry-caus-past  
                  ‘Pension problems worried Hanako about her future’

We can attribute the contrast between (126)a and (126)b to the lexical and bi-clausal causative distinction. The former is a mono-clausal causative and the latter is a bi-clausal causative. Given that the causee of bi-clausal causatives must be an agent, (126)b is not acceptable.<sup>53</sup>

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<sup>53</sup> (126)b is not so bad as predicted. In fact, some people accept this sentence with no difficulty. It seems that the agent restriction on causee in bi-clausal causatives becomes weakened when the causee is

It is now clear why backward binding is not possible in OE verb constructions with three arguments. OE verbs with three arguments are bi-clausal causatives; therefore, the sentences are unacceptable independently of *zibun*.

Let us illustrate why regular bi-clausal causatives do not allow backward binding. Consider (127):

- (127) ?\*Zibun<sub>i</sub>-no fuchuuy-ga Taroo<sub>i</sub>-ni kaisha-o yame-sase-ta  
 self-Gen carelessness-Nom -Dat company-Acc leave-caus-past  
 ‘Self’s carelessness made Taroo leave the company’

The verb *yame-sase* is a bi-clausal causative composed of a verb *yamer* ‘quit’ and a causative *-sase*. In this sentence, the anaphor *zibun* inside the subject cannot take the causee *Taroo* as its antecedent. This is so because the subject is base-generated above *Taroo* as shown in (128). Thus, *zibun* is never c-commanded by *Taroo* during the derivation. As a result, a binding configuration is not met.

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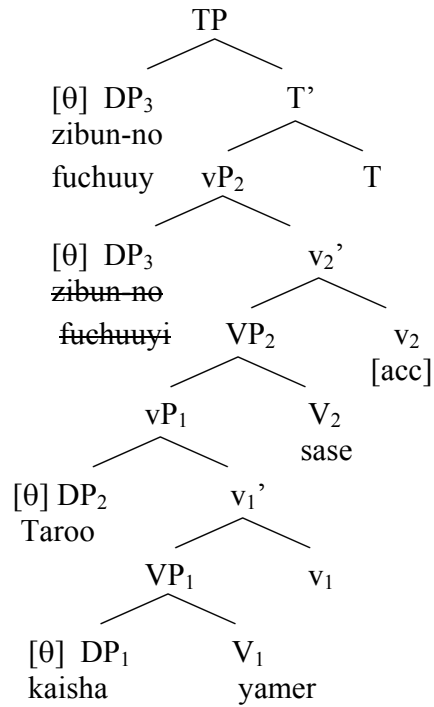
non-human. However, when the causer is human as in (i), the sentence is not acceptable with a canonical interpretation of the OE verb.

- (i) \* Taroo-ga Hanako-ni shoorai-no koto-o nayam-ase-ta  
 -Nom -Dat future-Gen thing-Acc worry-caus-past  
 ‘Taroo worried Hanako about her future’

Non-agent causee seems more acceptable when the causer is a non-human abstract entity or notion. I do not know why this is so.



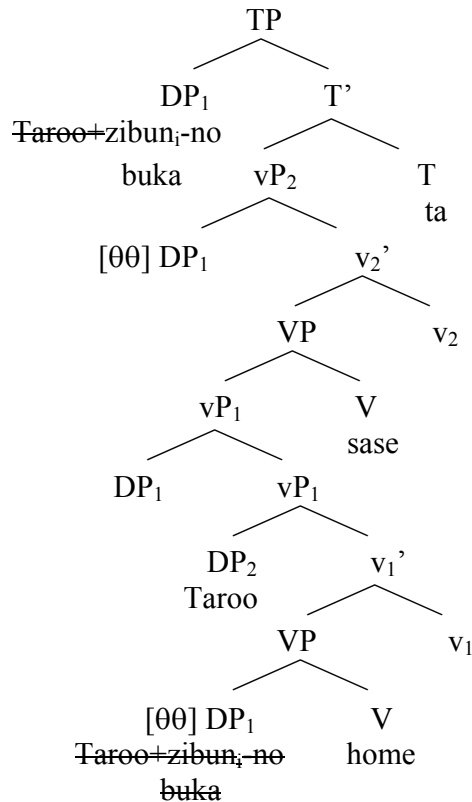
(128)



One question arises at this point. Why is (129) unacceptable with the interpretation given? In other words, why is the derivation in (130) impossible?

- (129) \*Zibun<sub>i</sub>-no buka-ga Taroo<sub>i</sub>-ni home-sase-ta  
 self-Gen subordinate-Nom -Dat praise-caus-past  
 ‘His<sub>j</sub> subordinate<sub>i</sub> made Taroo<sub>j</sub> praise him<sub>i</sub>’

(130)



In (130), DP<sub>1</sub> is base-generated in the complement of the lower verb and moves to the specifier of the upper vP and to spec TP through adjunction to the lower vP. Recall that it is assumed in section 4.4.1.4 that movement out of the lower vP is possible through adjoining to the lower vP. Therefore, movement of DP<sub>1</sub> over DP<sub>2</sub> should be possible without violating locality, and this derivation should be licit, but it is not.

For now, I simply suggest that the accusative Case of the embedded light *v* must be discharged in bi-clausal causative constructions such as in (130), unlike OE verb constructions where the dative case of the root verb does not have to be discharged. I have to leave the justification for this suggestion for future research.

#### 4.8 Thematic diversity

In the preceding section, I concluded that OE verb constructions in Japanese also display the T/SM restriction. Our analysis can predict that only two DPs surface in a given OE verb construction. However, it is still not clear why that must be the case. In other words, why must a single DP receive two theta-roles? One answer is to stipulate that *-sase* in OE verb constructions is a special type of control verb for which the causer must control the theme but not the experiencer, and say nothing more. In what follows, I will explore another possibility, which is to introduce the thematic diversity discussed in Pesetsky (1995) and subsequently adopted by Hornstein and Motomura (2002).

##### 4.8.1 Thematic Diversity and T/SM restriction

Recall the discussion of Pesetsky in section 3.2. He notes that OE verbs do not allow all of the three theta roles, causer, experiencer, and theme, to be realized by three distinct arguments. This is called the T/SM restriction. The relevant examples are repeated here.

- (131) a. \* The article in the Times angered Bill at the government  
b. \* The Chinese dinner satisfied Bill with his trip to Beijing  
c. \* The television set worried John about the veracity of Bill's alibi.

Pesetsky suggests the possibility of attributing this fact to the Thematic Diversity defined as in (132).<sup>54</sup>

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<sup>54</sup> Pesetsky does not conclude that the T/SM restriction is due to Thematic Diversity, however.

(132) Thematic Diversity

If  $\alpha$  and  $\beta$  are distinct arguments of a predicate P, the thematic role assigned to  $\alpha$  must be distinct from the thematic role assigned to  $\beta$ .

(Pesetsky 1995: 62)

This principle roughly says that the same theta role cannot be realized on two distinct arguments in a relevant domain, which we will call the thematic domain for the purpose of this discussion.<sup>55</sup>

Hornstein and Motomura (2002) adopt Pesetsky's idea and claim that the Thematic Diversity can rule out all the sentences in (131). Let us illustrate how it rules out (131)c. First, consider the SE-OE pair in (133).

- (133) a. John worried about the television set  
b. The television set worried John

(133)a entails (133)b, but (133)b does not entail (133)a.<sup>56</sup> That is, if John worries about the television set, the television set necessarily worries John, but the television set's worrying John does not necessarily mean that John worries about the television set itself. For instance, Pesetsky (1995: 57) gives the following situation: John is a

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<sup>55</sup> I will discuss what the thematic domain is below.

<sup>56</sup> Paul Pietroski (personal communication) told me that it is not clear if (133)a entails (133)b for the following reason. Consider the sentences below:

- (i) a. John boiled the water  
b. John caused the water to boil

The truth conditions of these two sentences can be different. In a situation where John set a house on fire, and the water in a pot in the kitchen boiled as a result, (ib) is true, but (ia) is not. The causer of mono-clausal causatives requires a certain property that is not necessary for the causer of bi-clausal causatives. That is, the former is related to the event more directly than the latter. At this point, however, I will assume the entailment holds given that no situation can be found in which (133)a is true but (133)b is not.

detective, and the television set in a suspect's living room invokes some worry in John because he knows that the suspect is blind. In this situation, the cause of his emotion is the television set, but the theme (the target) of the emotion is not. This fact suggests that the theme of SE verbs must be interpreted as causer as well, but the causer of OE verbs does not have to be interpreted as theme. Next, consider the following:

- (134) a. John worried about the veracity of Bill's alibi  
       b. The veracity of Bill's alibi worried John  
       c. \*The television set worried John about the veracity of Bill's alibi

Parallel to (133), (134)a entails (134)b but not vice versa. This suggests *the veracity of Bill's alibi* in (134)a is interpreted as causer as well as theme. In (134)c(=(131)c), however, there is another causer, namely, *the television set*. Thus, the sentence is interpreted as having two causers, *the television set* and *the veracity of Bill's alibi*. The former is interpreted as causer in the syntax and the latter by entailment. Having two causers is a violation of thematic diversity. Therefore, (134)c is unacceptable. Other sentences in (131) are also ruled out in a parallel fashion.<sup>57</sup>

Hornstein and Motomura (2002) point out that the principle is not limited to arguments, but it is also observed in wider range of phrases and sentences.

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<sup>57</sup> Paul Pietroski provided me with the following sentence:

- (i) With regard to Bill's alibi, the television set worried John  
 If the circumstantial topic phrase 'with regard to Bill's alibi' is the theme, which is also interpreted as causer, Thematic Diversity should rule out (i), but the sentence is acceptable. However, it is not clear what thematic role the topic phrase takes as Norbert Hornstein pointed out. Consider the following:  
 (ii) As regards the Yankees, Clement usually wins on weekends  
 In (ii), the thematic role of the topic phrase 'as regards the Yankees' is not clear either. Hornstein suggested to me that circumstantial topic phrases seem to be loosely related to the sentence with wide latitude, and presumably Thematic Diversity does not impose any restriction on such phrases.

- (135) a. John's portrait  
       b. John's portrait of Rembrandt  
       c. John's portrait of Rembrandt by Rubens

(136) \*John met Bill on Tuesday on Thursday

In (135)a, *John* is three-way ambiguous: it can be the subject of the portrait, its owner, or its painter. *John* in (135)b is two-way ambiguous: it can be either the owner or the painter, but not the subject. Finally in (135)c, *John* cannot be interpreted as the painter nor the subject but must be interpreted as the owner. In other words, it is not possible to interpret both *John* and *Rubens* as the painter in (135)c. These facts can be accounted for by thematic diversity. In (135)c, for instance, it is not possible to interpret both *John* and *Rubens* as the painter because thematic diversity prevents the same role, agent, from being discharged to the two arguments: *John* and *Rubens*.<sup>58</sup> Thematic diversity can also account for the ungrammaticality of (136). Notice that there is nothing wrong with the meaning of (136). It would simply have the meaning of 'John met Bill on Tuesday and Thursday,' but juxtaposition of time adverbial phrases is not allowed. (136) shows that thematic diversity also restricts adjuncts.<sup>59</sup>

The cases of OE verbs with three arguments in Japanese discussed in the preceding section can be accounted for by thematic diversity. Consider the following:

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<sup>58</sup> If we want to describe a situation in which *John* and *Rubens* painted the portrait together, some other ways of describing the situation must be employed such as the following:

- (i) a. John and Rubens' portrait of Rembrandt  
       b. A portrait of Rembrandt by John and Rubens

<sup>59</sup> (i) may violate Thematic Diversity since *on Tuesday* and *at 3* both express time.

(i) John met Bill on Tuesday at 3  
 However, the sentence is perfect. I assume that [*on Tuesday at 3*] forms a unit and interpreted as expressing a single role with respect to Thematic Diversity, following Howard Lasnik's suggestion (personal communication).

- (137) a. Taroo-ga kaisha-no keiei-ni kurushi-n-da  
 -Nom company-Gen management-Dat distressed-get-past  
 ‘Taroo got distressed with management of the company’
- b. Kaisha-no keiei-ga Taroo-o kurushi-m-e-ta  
 company-Gen management-Nom -Acc distressed-get-caus-past  
 ‘Management of the company distressed Taroo’
- c. \* Fukeeki-ga Taroo-ni kaisha-no keiei-o kurushi-  
 depression-Nom -Dat company-Gen management-Acc distressed-  
 -m-e-ta  
 become-caus-past  
 ‘The depression distressed Taroo with management of the company’

(137)a entails (137)b but not vice versa. Therefore the theme, *kaisha-no keiei* ‘management of the company,’ can be interpreted as causer. In (137)c, two causers, *fukeehi* ‘depression’ and *kaisha-no keiei* appear. Thus, the sentence violates thematic diversity. Consequently, the sentence is ungrammatical.

The idea of thematic diversity that a single role should be expressed by a single element in a given domain is in accordance with Parson’s (1990: 74) view on thematic roles. He writes; ‘Each of these roles [agent, theme, goal, benefactive, instrument (=performer), and experiencer] relates an event (or a state) and a thing. No event stands in one of these relations to more than one thing; thus, each event possesses at most one Agent, at most one Experiencer, and so on.’ I add to the idea an assumption that this condition must be satisfied in two ways: an element bears a particular theta-role through its syntactic position (by receiving the theta-feature), and it is interpreted to

#### 4.8.2 Thematic domain

(138) Thematic Diversity

(Pesetsky 1995: 62)

(139) a. Taroo-ga Hanako-ni hon-o yom-ase-ta  
 -Nom -Dat book-Acc read-caus-past  
 ‘Taroo made Hanako read a book’

(i) With regard to Bill's alibi, the television set worried John. The question raised here is beyond the scope of this thesis, and I will leave it for future research.



- b. Taroo-ga sensei-ni Hanko-ga Jiroo-ni sono pai-o ageta-to itta  
 -Nom teacher-Dat -Nom -Dat the pie-Acc gave-comp told  
 ‘Taroo told the teacher that Hanako gave the pie to Jiroo’

In these examples, agent role is expressed by two separate DPs, namely *Taroo* and *Hanako*.<sup>61</sup> Moreover, the goal role also appears twice in (139)b. Both sentences are perfectly grammatical sentences of Japanese, however. It is reasonable, then, to assume that thematic diversity is confined to particular domains, which we call the thematic domain. Particularly important is the contrast between the bi-clausal causative sentence (139)a and the mono-clausal causative (OE verb) sentence in (137)c, both of which are repeated in (140).

- (140) a. Taroo-ga Hanako-ni hon-o yom-ase-ta  
 -Nom -Dat book-Acc read-caus-past  
 ‘Taroo made Hanako read a book’
- b. \* Fukeeki-ga Taroo-ni kaisha-no keiei-o kurushi-  
 depression-Nom -Dat company-Gen management-Acc distressed-  
 -m-e-ta  
 get-caus-past  
 ‘The depression distressed Taroo with management of the company’

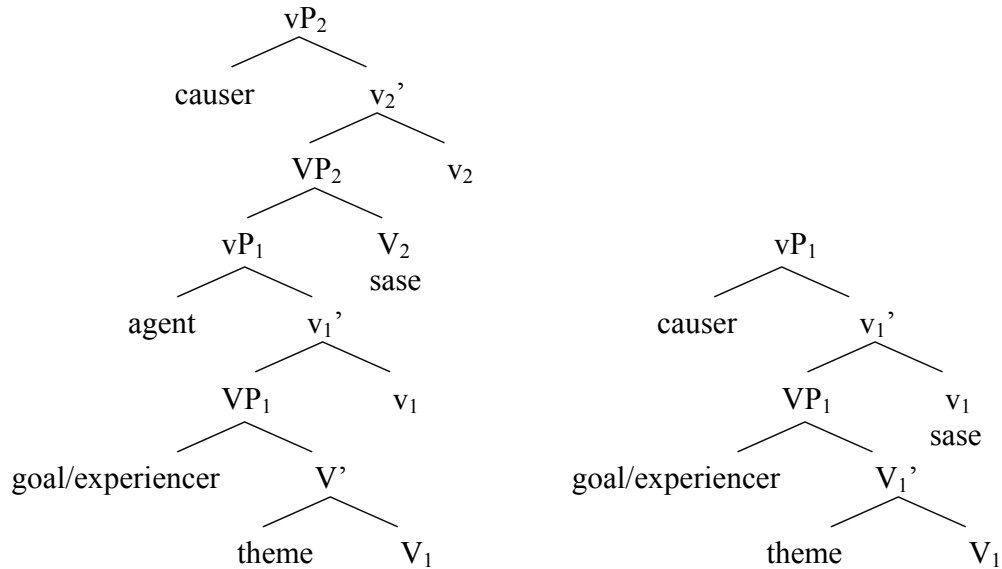
In (140)a, thematic diversity can be violated, but not in (140)b. Thus, we must draw the line for the thematic domain between these two constructions. Let us compare the two structures given below.

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<sup>61</sup> In (194)a, *Taroo* is a causer while *Hanako* is an agent. Recall, however, that we treat causer and agent as the same since both are assumed to be base-generated in the same structural position.

(141) a. Bi-clausal causative

b. Mono-clausal causative



Recall that *sase* is ambiguous between a bi-clausal causative and a mono-clausal causative, and I assume that the bi-clausal causative *sase* is a lexical V whereas the mono-clausal causative *sase* is a functional light v.<sup>62</sup> Given the two structures, it seems plausible to assume that the thematic domain is confined to a lexical head. In other words, whenever a lexical head is introduced in the derivation, a new thematic domain is created.

That lexical heads introduce a thematic domain is consistent with the English OE verb sentences discussed in Hornstein and Motomura (2002).

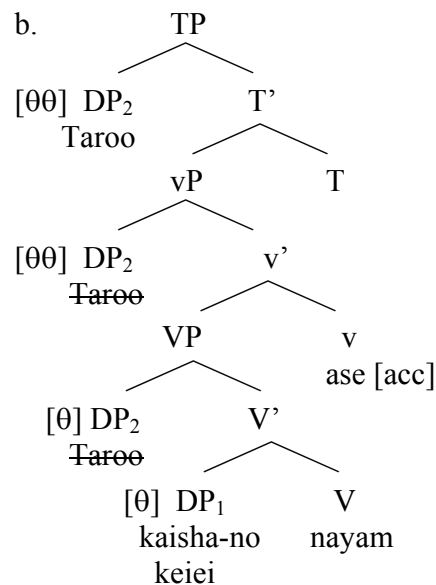
(142) a. \*The article in the Times angered Bill at the government

b. The article in the Times made [<sub>AP</sub> Bill angry at the government]

<sup>62</sup> I assume that the two heads, v and V, are realized with the same morpheme, *sase*, by chance. In other words, it could in principle be that they ended up with completely different morphemes just like English lexical and bi-clausal causatives.

### 4.8.3 Another derivation ruled out by Thematic Diversity

(143) a. \*Taroo-ga kaisha-no keiei-o nayam-ase-ta  
 -Nom company-Gen management-Acc worry-caus-past  
 ‘Taroo caused himself to worry about management of the company’



Note that there is nothing incoherent with the meaning of (143)a as the English translation shows. Thus, we need to account for why (143)a is not acceptable.

There are at least two possibilities. One is to claim simply that *-sase* in OE constructions is a special type of control predicate and that the causer must control the theme, not the experiencer. However, this is entirely stipulative.

Another possibility is to handle (143)a with thematic diversity. First, consider the SE-OE pair in (144).

- (144) a. Taroo-ga kaisha-no keiei-ni nayan-da  
-Nom company-Gen management-Dat worry.about-past  
'Taroo worried about management of the company'
- b. Kaisha-no keiei-ga Taroo-o nayam-ase-ta  
company-Gen management-Nom -Acc worry-caus-past  
'Management of the company worried Taroo'

(144)a entails (144)b; therefore, the theme *kaisha-no keiei* 'management of the company' in (144)a is interpreted as causer at some level. Given this, we could say that in (143), DP<sub>1</sub> is interpreted as causer. DP<sub>2</sub> also receives the causer role at spec vP. As a consequence, both DP<sub>1</sub> and DP<sub>2</sub> are interpreted as causer in (143). This is a violation of thematic diversity. Hence, the sentence is ungrammatical.

#### 4.9 A possessor of feelings or mental states

The analysis presented above gives us another preferable result. Hasegawa (2000) observes interesting constructions of a possessor of feelings or mental states that involve psych predicates. Consider (145).

- (145) a.      Kyoko-no   kimochi-ga   sono hitokoto-ni   nagon-da  
                                  -Gen feeling-Nom the   one.word-Dat calm-past  
                                  'Kyoko's feelings calmed with that word'
- b.      Sono hitokoto-ga      Kyoko-no kimochi-o   nagom-ase-da  
                          the   one.word-Nom                   -Gen feeling-Acc calm-caus-past  
                          'That word calmed Kyoko's feelings'
- c.      Kyokoo-ga sono hotokoto-ni   kimochi-o   nagom-ase-da  
                                  -Nom the   one.word-Dat feeling-Acc calm-caus-past  
                                  'Kyoko got (her) feelings calmed with that word'

(145)a is an SE construction where the experiencer is a possessor of the subject *kimochi* ‘feelings.’ (145)b is its OE version. (145)c is another type of OE verb where the subject is the possessor of the feeling rather than the causer.<sup>63</sup>

Hasegawa proposes the following structure for (145)c.

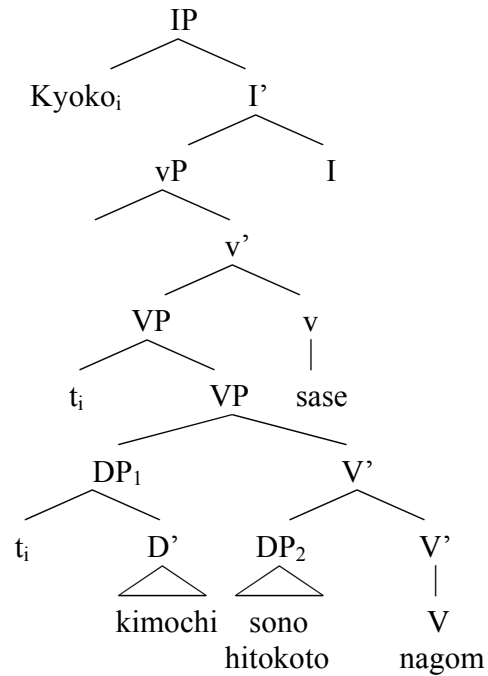
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<sup>63</sup> Satoshi Tomioka pointed out that these sentences may not be subject to syntactic operations given that *kimochi* ‘feeling’ in (145)c cannot be clefted as shown in (i).

(i) \*Kyoko-ga sono hitokoto-ni nagom-ase-ta-no-wa kimochi-da  
 -Nom the one.word-Dat calm-caus-past-Comp-Top feeling-be  
 It is (her) feelings that Kyoko got calmed with that word’

This might be because *kimochi-ga nagom* ‘feelings calm’ behaves like an idiom. However, given that the three patterns in (145) can be seen with other expressions such as *kokoro-ga ugok* ‘one’s mind moves’ and *sesuji-ga koor* ‘spine chills’ I assume these patterns should be accounted for in syntax.

(146)



(Hasegawa 2000: 24)

In this derivation, *Kyoko-no kimochi* ‘Kyoko’s feeling’ and *sono hitokoto* ‘that word’ are base-generated internal to VP, and the possessor of the feeling moves from a spec DP<sub>1</sub> to spec IP by way of adjunction to VP.<sup>64</sup> A problem is that this derivation produces the word order of DP<sub>1</sub> DP<sub>2</sub> when the correct word order is DP<sub>2</sub> DP<sub>1</sub>. Hasegawa noted this problem but did not offer an account.

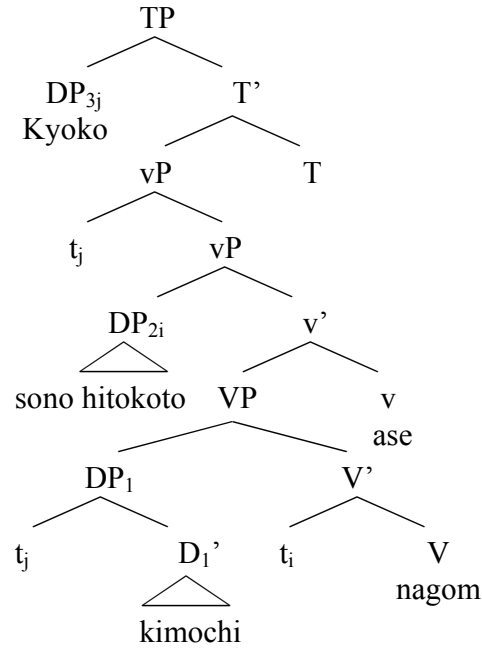
<sup>64</sup> No argument appears in spec vP in (146). Hasegawa claims that there are four types of light v based on its feature specification for Object Case and external role:

- (i) a. [+ Object Case, + external role]
- b. [+ Object Case, - external role]
- c. [- Object Case, + external role]
- d. [+ Object Case, - external role]

The light v in (146) is the type (b), which is the one that does not assign an external role but checks Object Case. Therefore, no argument is assigned in spec vP in (146).

The current analysis can derive all the sentences above without facing the word order problem that Hasegawa faced. (145)a and (145)b are derived as regular SE and OE constructions. The derivation for (145)c is given below.

(147)



DP<sub>1</sub> *Kyoko-no kimochi* ‘Kyoko’s feeling’ and DP<sub>2</sub> *sono hitokoto* ‘that word’ are base-generated inside VP as experiencer and theme respectively. DP<sub>2</sub> moves to spec vP to receive the causer role. The possessor of DP<sub>1</sub> *Kyoko* moves to spec TP through adjunction to vP. By postulating an extra movement of DP<sub>2</sub> into the causer position, we can get the correct word order.

Three comments are in order here. First, the extra step of the adjunction is necessary because movement of *Kyoko* from spec DP<sub>1</sub> to spec TP would violate locality given that DP<sub>2</sub> is closer to the target than *Kyoko* in spec DP<sub>1</sub>. Recall our discussion in section 4.4.1.4 that Japanese allows vP adjunction as an escape-hatch. By



adjunction to vP, movement of *Kyoko* from spec DP<sub>1</sub> to spec TP obviates any violation of locality.<sup>65</sup>

Second, note that *Kyoko* is an inalienable possessor of *kimochi* ‘feeling’ given that *kimochi* is unambiguously interpreted as *Kyoko*’s. Thus, *Kyoko* can move out of the DP<sub>1</sub> and checks Case in spec TP.

Finally, what Case do DP<sub>1</sub> and DP<sub>2</sub> get and where? For structural positions of Case, let us simply assume that DP<sub>1</sub> and DP<sub>2</sub> move to outer specifiers of vP to check accusative Case and dative Case respectively. For realization of Case on these DPs, I adopt the Mechanical Case Parameter (MCP) proposed by Harley (1995: chapter 4).

(148) The Mechanical Case Parameter<sup>66, 67</sup>

- a. If one case feature is checked structurally in a clause, it is realized as  
Nominative (mandatory case)
- b. If two case features are checked structurally in a clause, the second is  
realized as Accusative
- c. If three case features are checked structurally in a clause, the second is  
realized as Dative and the third as Accusative

<sup>65</sup> The movement of *Kyoko* from DP<sub>1</sub> to vP to TP is not a case of improper movement. I take adjunction to vP is an instance of short scrambling, which can be seen with a ditransitive verb as shown below:

(i) a. Taroo<sub>i</sub>-ga [<sub>vP</sub> t<sub>i</sub> [<sub>vP</sub> Hanako-ni sono hon-o age]]-ta  
-Nom -Dat the book-Acc give-past  
‘Taroo gave the book to Hanako’

b. Taroo-ga [<sub>vP</sub> sono hon<sub>j</sub>-o [<sub>vP</sub> t<sub>i</sub> [<sub>vP</sub> Hanako-ni t<sub>j</sub> age]]]-ta

Tada (1993: section 2.1) shows that short scrambling is an instance of A-movement based on Weak Crossover, Reciprocal binding, Strong Crossover, and Adjunct Extraction.

<sup>66</sup> See Harley (1995: 152-154) for more details.

<sup>67</sup> Genitive case is not part of this parameter.

- d. The mandatory case in a multiple-case clause is assigned in spec TP and spec vP<sup>68</sup>

(Harley 1995: 163 with modification)

What underlies the MCP is the idea that realization of structural case is a purely mechanical morphological process. Realization depends on how many DPs need structural Case in a clause, and it proceeds in a top-down fashion. Given (148), Cases in (147) are realized as follows. There are three DPs that need Case in (147). The DP<sub>3</sub> is the top, so it is mandatorily realized as nominative by (148)a. DP<sub>2</sub> is the second, so it is realized as dative, and DP<sub>1</sub> is realized as accusative since it is the third one by (148)c.

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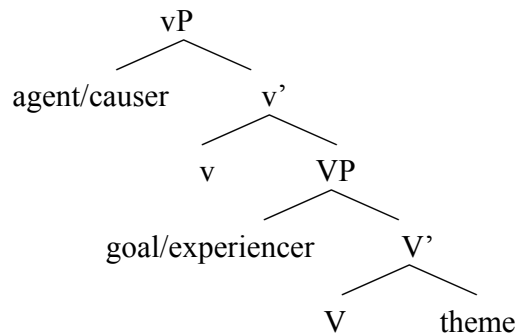
<sup>68</sup> In the original definition, (148)d is stated as:

The mandatory case in a multiple-case clause is assigned in the top/bottom ArgP  
I modified it in accordance with the T/vP system that I adopt in this thesis.

## Chapter 5: SE constructions in Japanese

In section 4.2, it was argued that OE verbs in Japanese are mono-clausal causatives. Crucial to this analysis was that an experiencer argument is base-generated internal to a base SE verb. In other words, the experiencer is an internal argument of the SE verb rather than an external argument, which appears in spec vP. I claim that SE verbs in Japanese lack the external argument, consisting of a VP in (1) with the experiencer role base-generated in specifier of VP.

(1)



I claim that the experiencer role occupies a syntactically distinct position from the agent/causer role as illustrated in (1). As we saw in chapter 3, Baker (1997) as well as Dowty (1991), Arad (1999), and Bouchard (1995) all assume that the experiencer is simply a realization of a proto-agent, appearing as the external argument in SE verb constructions. It will be shown, however, that the fact that some of the SE verbs in

Japanese resist passivization supports the claim that SE verbs lack the external argument.

As mentioned in section 3.1, it is well-known that unaccusative verbs resist passivization. This characteristic has been attributed to unaccusative verbs' lack of an external argument in the literature.<sup>1</sup> For example, Marantz (1984) proposes that a passive morpheme carries [-log(ical) sub(ject)] and [-transitive], which trigger absorption of the external argument and movement of the underlying object to surface subject position, and that the No Vacuous Affixation Principle prevents the application of the passive morpheme to unaccusative verbs which lack the external argument. Alternatively, Baker, Johnson, and Roberts (1989) claim that the passive morpheme is an argument carrying a theta-role assigned to the external argument. If a verb lacks the theta-role assigned to the external argument, the passive morpheme would have no theta-role, resulting in the Theta Criterion violation.

If SE verbs do not have an external argument, the same characteristic can be observed in SE verbs. That is to say that SE verbs in Japanese resist passivization. Things are not so simple, however. In order to understand the structure of SE verbs, it is necessary to consider the case properties of the object of SE verb sentences.

Section 5.1 will first discuss SE verb constructions in Japanese in detail. It will be shown that SE verbs can be classified into three types: SE verbs that take only a dative object, SE verbs that take only an accusative object, and SE verbs that take either a dative or an accusative object. I claim that the structure of the SE verb with a dative

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<sup>1</sup> This property was captured in 1-Advancement Exclusiveness Law of Relational Grammar (Perlmutter 1978, Perlmutter and Postal 1984, among others).

object is a bare VP whereas that of the SE verb with an accusative object has a vP which discharges the agent role and checks an accusative Case.<sup>2</sup> I also claim that the base of an OE verb is the SE verb with a dative object, that is VP rather than vP.

In section 5.2, it will be argued that passivization of SE verbs is possible if the verb can take an accusative object. This is predicted in our analysis given that passivization is possible only if a verb has an external argument, and that the external argument is assigned by a light v which is also responsible for accusative Case checking.

#### 5.1 The dative object and the accusative object of SE verbs

Sugioka (1992) shows that SE verbs can be classified into three types in terms of a case maker on the object. SE verbs in Type A take a dative object, and those in Type B take an accusative object. SE verbs in Type C allow both a dative and an accusative objects.<sup>3</sup>

##### Type A

- (2) Taroo-ga kaisha-no keiei-**ni** nayan-da

-Nom company-Gen management-Dat worry.about-past

‘Taroo worried about management of the company’

- (3) Hanko-ga hanabi-no oto-**ni** odoroi-ta

-Nom firework-Gen sound-Dat surprised-past

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<sup>2</sup> At the end of chapter 4, I adopted Mechanical Case Parameter (MCP), assuming that realization of a case feature is a property of morphology. Thus it does not make sense to say that a light v carries an accusative Case feature. In stead, it should be stated that a light v carries a Case feature with no feature value. However, I will continue to mention ‘accusative Case’ for clarity’s sake.

<sup>3</sup> Sugioka puts *nayam* ‘worry’ in the Type C whereas I classify it as a Type A verb.

‘Hanako got surprised at the sound of fireworks’

- (4) Taroo-ga shiken-no kekka-**ni** shitsubooshi-ta  
-Nom exam-Gen result-Dat disappointed-past  
‘Taroo got disappointed at the test result’

- (5) Taroo-ga shiken-no kekka-**ni** gakkarishi-ta  
-Nom exam-Gen result-Dat disappointed-past  
‘Taroo got disappointed at the test result’

- (6) Hanako-ga nakama-no ijime-**ni** kurushi-n-da  
-Nom fellow-Gen bully-Dat distressed-get-past  
‘Hanako got distressed with bully from her fellows’

- (7) Kyoko-ga hanabi-no oto-**ni** obie-ta  
-Nom fireworks-Gen sound-Dat frightened-past  
‘Kyoko got frightened at the sound of fireworks’

#### Type B

- (8) Kyojin-fan-no Taroo-ga Hanshin-no yuushoo-**o** kuyashi-gar-tta  
-fan-Gen -Nom -Gen championship-Acc chagrined-GAR-past  
‘Taroo, who is a Kyojin fan, got chagrined at Hanshin’s championship’

- (9) Juumin-ga mina sono booryokudan-**o** kowa-gar-tta  
resident-Nom all the gang-Acc scared-GAR-past  
‘Residents all got scared at the gang’

- (10) Sensei-ga gakusei-no gakuryoku teika-**o** shimpaishi-ta  
teacher-Nom student-Gen academic.ability decline-Acc concerned-past  
‘The teacher is concerned about decline in students’ academic ability’

### Type C

- (11) a. Mariko-ga Taroo-**ni** okot-ta  
          -Nom       -Dat get.mad-past  
          ‘Mariko got mad at Taroo’  
      b. Mariko-ga Taroo-**o** oko-tta  
          -Nom       -Acc scold-past  
          ‘Mariko scolded at Taroo’
- (12) Ookuno fan-ga Hanshin-no yuushoo-**o/-ni**                   yorokon-da  
      many fan-Nom       -Gen win.championship-Acc/Dat pleased-past  
      ‘Many fan got pleased at Hanshin’s winning the championship’
- (13) Ookuno fan-ga sono kashu-no shi-**o/-ni** kanashi-m-da  
      many fan-Nom singer-Gen death-Acc/Dat sad-get-past  
      ‘Many fan got sad at the death of the singer’

In what follows, I will illustrate the derivation of an SE verb with a dative object as well as that of an SE verb with an accusative object.

#### 5.1.1 Derivations of SE verbs with the dative object and the accusative object

Let us first examine a Type C verb *okor* in (11) repeated below. This verb has two meanings each of which is realized with a distinct case marker on the object.

- (14) a. Mariko-ga Taroo-**ni** okot-ta  
          -Nom       -Dat get.mad-past  
          ‘Mariko got mad at the article’

- b. Mariko-ga Taroo-o oko-tta  
       -Nom    -Acc scold-past  
       ‘Mariko scolded at Taroo’

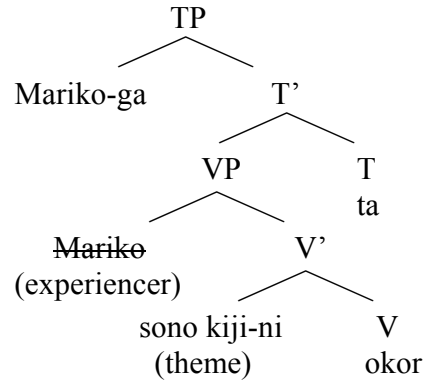
(14)a and (14)b are minimally different in that the former has a dative object whereas the latter has an accusative object, yet contrast in meaning between the two sentences is clear. Let us call an the SE sentence with a dative object ‘dative SE’ and the SE sentence with an accusative object ‘accusative SE’ regardless of the verb types. In (14)a, the subject *Mariko* is interpreted as the experiencer, and the sentence means that Mariko holds anger towards Taroo. On the other hand, (14)b means that Mariko expresses her anger towards Taroo verbally. That is, *Mariko* is interpreted as an agent as well as an experiencer. If Mariko is simply mad at Taroo in her mind but does not show her anger in anyway, (14)b is not appropriate to describe the situation. We can thus conclude that the subject of accusative SE constructions is interpreted as the experiencer and the agent at the same time.<sup>4</sup> For (14)a, I propose the derivation in (15).

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<sup>4</sup> Paul Pietroski pointed out to me that ‘scold’ may not be the correct translation of *okor* in (14)b because the subject of *scold* does not necessarily hold anger towards the object though it usually does. Thus, the meaning of *scold* may be more accurately expressed by another verb *shikar* in Japanese. However, given lack of the English verb with exactly the same meaning as the accusative version of *okor*, I will continue to gloss *okor* with *scold*.



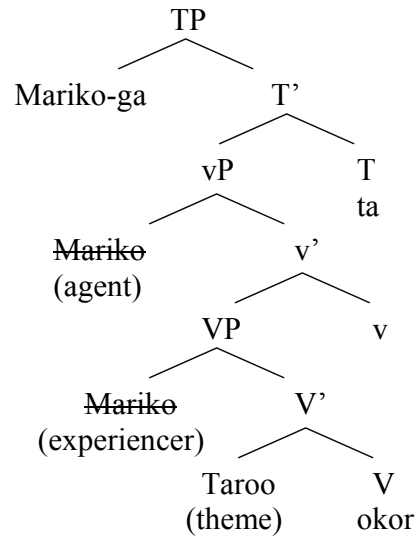
(15) Dative SE construction



The experiencer subject and the theme object are base-generated in specifier and complement of the VP respectively. The experiencer subject moves to spec TP to get a nominative Case and the theme object is dative marked.<sup>5</sup>

For (14)b, I propose derivation in (16).

(16) Accusative SE construction



<sup>5</sup> The case pattern of (15) does not follow the Mechanical Case Parameter introduced in section 4.9. It seems that the dative case of the object is not a structural Case. However, I refrain from deciding the nature of the dative case *-ni* that appears in SE verb constructions. See Sadakane and Koizumi (1995) for diagnostics to distinguish *-ni* of a structural case marker and *-ni* of a postposition.

I assume that the accusative SE construction has the same root as the dative SE, which is VP. The difference is that the former involves a light *v* that selects an agent theta-role and checks an accusative Case. The derivation proceeds as follows: *Taroo* is base-generated in complement of VP receiving a theme role and *Mariko* in specifier of VP receiving an experiencer role. After a light *v* merges with the VP, *Mariko* moves to spec vP and receives the agent role. It moves further to spec TP to check a nominative Case. In this derivation, *Mariko* is the agent and the experiencer at the same time, which accords with the interpretation of (14)a as we saw above.

Note that the structure in (16) is that of a regular transitive verb. I claimed in section 4.3.2 that OE verbs have a structure of mono-clausal causative verb which is identical to a regular transitive verb. In other words, both an accusative SE construction and an OE verb construction have the structure of a regular transitive verb. The difference is that the light *v* of the former type discharges the agent role whereas the light *v* of the latter type discharges the causer role. There is no structural difference between the two. However, I assume that Japanese distinguishes the two types of light *v*s morphologically. The light *v* that discharges the causer role is morphologically realized as *-sase*, and the one that discharges the agent role is realized as null.<sup>6</sup> Structures for dative SE verbs, accusative SE verbs, and OE verbs are illustrated below.

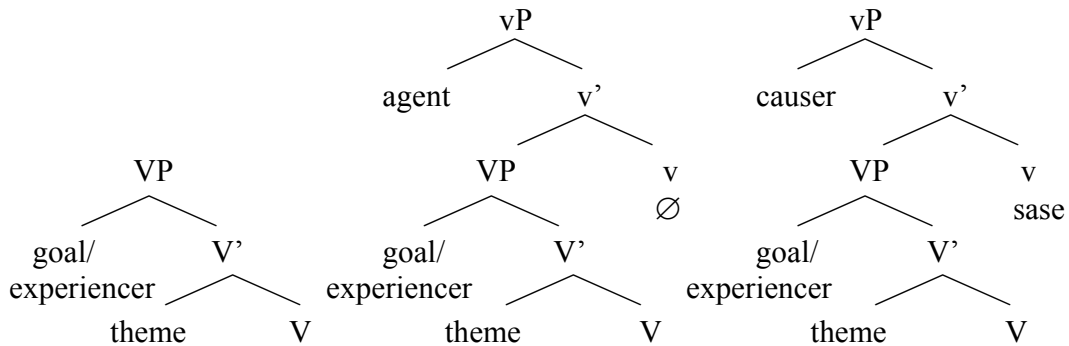
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<sup>6</sup> To be more precise, *-sase* is not a realization of just a *v* but a realization of a complex *v*-V. I follow Miyagawa (1998) and assume that *-sase* is inserted as an elsewhere case after incorporation of V to *v* or after morphological merger of *v* and V takes place along the lines of Distributed Morphology. Thus, if a more specific word is available for the complex *v*-V, *-sase* is not inserted. For instance, OE verbs, *kurushi-m-e* 'distress' and *obi-y-akas* 'frighten,' are derived from *kurushi-m* 'get distress' and *obiye* 'get frightened' respectively.

(17) a. Dative SE

b. Accusative SE

b. OE verbs



The Type A verbs in (2)-(7) take only a dative object; therefore, the derivation of the Type A verbs is parallel to (15). The Type B verbs in (8)-(10) take only an accusative object; therefore, the derivation of the Type B verbs is parallel to (16). Finally, the Type C verbs in (12)-(13) allow either a dative object or an accusative object as the verb *okor*. Therefore, when the verbs take a dative object, the derivation is that of (15), and when the verbs take an accusative object, the derivation is that of (16).

Although the two derivations in (15) and (16) can account for the Case patterns of the SE verbs, it is not clear if the subject of the accusative SE sentences can be interpreted as an agent as well as an experiencer at the same time. The verb *okor* shows a clear meaning distinction. When the verb takes an accusative object, the subject is clearly interpreted as an agent as we saw above. However, *okor* is the only verb that shows such a clear distinction. In the next section, I will argue that the subject of the Type B verbs and the Type C verbs with an accusative object show some agency.

### 5.1.2 Agency of the subject of accusative SE constructions

Let us first examine the cases of the Type C verbs, repeated in (18) and (19). In these sentences, unlike *okor*, it appears that there seems no contrast in meaning between the sentence with a dative object and the one with an accusative object.

- (18) Ookuno fan-ga Hanshin-no yuushoo-o/-ni yorokon-da  
many fan-Nom -Gen win.championship-Acc/Dat pleased-past  
'Many fan got pleased at Hanshin's winning the championship'
- (19) Ookuno fan-ga sono kashu-no shi-o/-ni kanashi-m-da  
many fan-Nom singer-Gen death-Acc/Dat sad-get-past  
'Many fan got sad at the death of the singer'

However, a contrast emerges in the following sentences:

- (20) Ookuno fan-ga [Dootonbori-gawa-ni tobikomu-koto-de] Hanshin-no  
many fan-Nom -river-to jump-thing-by -Gen  
yuushoo-o/\*?-ni yorokon-da  
win.championship-Acc/Dat pleased-past  
'Many fan showed their pleasure with Hanshin's winning the championship by jumping into Dootonbori River'
- (21) Ookuno fan-ga [nai-te] sono kashu-no shi-o/\*?-ni kanashi-m-da  
many fan-Nom cry-by the singer-Gen death-Acc/Dat sad-get-past  
'Many fan showed their sorrow for the singer's death by crying'

In these sentences, DE phrases are added. Recall that *de/te* roughly means 'by,' and the implicit subject of the DE phrase is controlled by the subject of the main clause it

modifies. Therefore, when a DE phrase expresses some activity, it forces the subject of the main verb to hold some agency or volitionality. (20) and (21) show that the accusative object is acceptable with DE phrases, but the dative object is not. Thus, the contrasts between the dative SE and the accusative SE in (20) and (21) support our claim that the subject of accusative SE sentences is interpreted as the agent in addition to the experiencer.

How about the Type B verbs? Since these verbs take only an accusative object, we cannot produce the same contrast as in (20) and (21). However, among the three Type B verbs, we can run a similar test for the verbs which have a *-gar* suffix since these verbs have corresponding SE adjectives.<sup>7</sup>

- (22) a. Gakusei-ga [nai-te] shiai-no haiboku-o kuyashi-gar-tta  
 student-Nom cry-by game-Gen loss-Acc chagrined-GAR-past  
 ‘Students showed their chagrin at the loss of the game by crying’
- b. \* Gakusei-ga [nai-te] shiai-no haiboku-ga kuyashi-katta  
 student-Nom cry-by game-Gen loss-Acc chagrined-were  
 ‘Students were chagrined at the loss of the game by crying’
- (23) a. Hanako-ga [moofu-ni kuruma-tte] kaminari-o kowa-gar-tta  
 -Top blanket-Dat bundled-by thunder-Acc scared-GAR-past  
 ‘Hanako showed her fear of thunder by pulling the blanket over her’

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<sup>7</sup> According to Miyagawa (1989: 157-159), *-gar* forms a verb by suffixing an adjective. Following Sugioka’s (1984) claim that the verb formed from an adjective and *-gar* is a simple transitive verb, Miyagawa argues that *-gar* provides a case assigning property to the predicate.

b. \* Hanako-ga [moofu-ni kuruma-tte] kaminari-ga kowa-katta

-Top blanket-Dat bundled-by thunder-Acc scared-was

‘Hanako was scared at thunder by pulling the blanket over her’

(22)a and (23)a are the SE verbs, and (22)b and (23)b are their adjective counterparts respectively. The former are perfect with DE phrases, but the latter are totally unacceptable. Given these contrasts, we can conclude that the subject of the SE verbs formed with *-gar* can be interpreted as an agent.<sup>8</sup>

We are left with one more accusative SE verb *shimpais* ‘be concerned,’ repeated in (24).

(24) Sensei-ga gakusei-no gakuryoku teika-o shimpaishi-ta  
teacher-Nom student-Gen academic.ability decline-Acc concerned-past

‘The teacher is concerned about decline in students’ academic ability’

The subject of this verb does not seem to show any of the proto-agent properties given (25).

(25) ??Sensei-ga gakusei-no gakuryoku teika-o [nai-te] shimpaishi-ta  
teacher-Nom student-Gen academic.ability decline-Acc cry-by concerned-past

‘The teacher is concerned about decline in students’ academic ability by crying’

It is not clear why this verb takes an accusative object. One thing to note is that *shimpais* has another meaning, ‘take care (of someone/ something).’ Taking care of someone/something can be interpreted as involving some agency. It might be that the proto-agent property and the accusative object originate in the structure for this meaning. The accusative object has been retained for some reason in the sentence with

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<sup>8</sup> According to Sugamoto (1982: 435), *-gar* is a non-stative verbal auxiliary of manifestation.

another meaning of *shimpais*, which is ‘be concerned.’ In any case, I have to leave this verb simply as exception.

In summary, I have proposed that a dative SE verb is composed of a bare VP which selects the experiencer and theme roles whereas an accusative SE verb projects a vP which selects the agent role. The subject of the former is the experiencer and that of the latter is interpreted as both the experiencer and the agent at the same time. The agency/volitionality of the subject in the latter is detected by the agent inducing DE phrases.

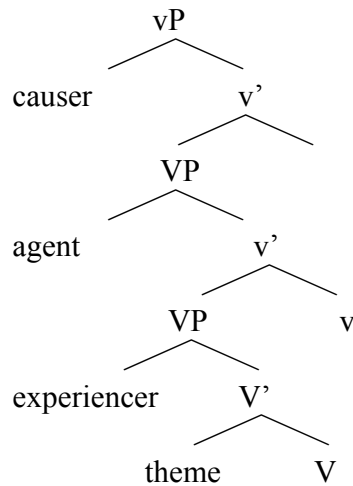
#### 5.1.3 Dative SE construction is the base of an OE verb

In section 5.1.1, two types of derivations for SE verb constructions were introduced: one for a dative SE and the other for an accusative SE. The former does not project a vP with an external argument in its specifier. The latter does project a vP with an external argument; therefore, the structure of the latter is similar to the structure of a regular transitive verb.

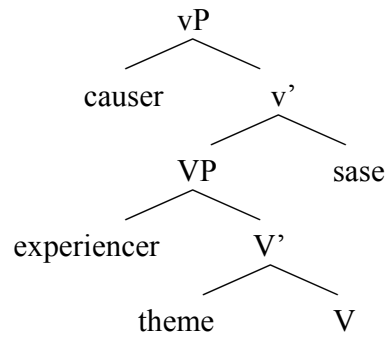
It was proposed in Chapter 4 that OE verbs are composed of a causative *-sase* and an SE verb. In this proposal, it was crucial that the SE verb does not have the external argument. This means that the SE verb that is part of an OE verb must have the structure of the dative SE construction rather than that of the accusative SE construction. If the SE base of an OE verb had the structure of the accusative SE, it would generate a bi-clausal causative because the accusative SE has a vP layer as shown in (26)a. On the other hand, if the SE base has the structure of the dative SE, it

generates a mono-clausal causative as in (26)b. Our conclusion that OE verbs are mono-clausal causatives leads us to conclude that the correct structure is (26)b.

(26) a.



b.



Given the claim that OE verbs are composed of a dative SE verb and a *-sase*, one might ask why the Type B verbs which only allow the accusative SE construction can project OE verbs as shown below.

- (27) Shiai-ni maketa-koto-ga Mariko-o kuyashi-gar-ase-past  
 game-Dat lost-fact-Nom -Acc chagrine-GAR-caus-past  
 ‘The fact that she lost the game chagrined Mariko’

- (28) Kaminari-no oto-ga Kyoko-o kowa-gar-ase-ta  
 thunder-Gen sound-Nom -Acc scared-GAR-caus-past  
 ‘The sound of thunders scared Kyoko’

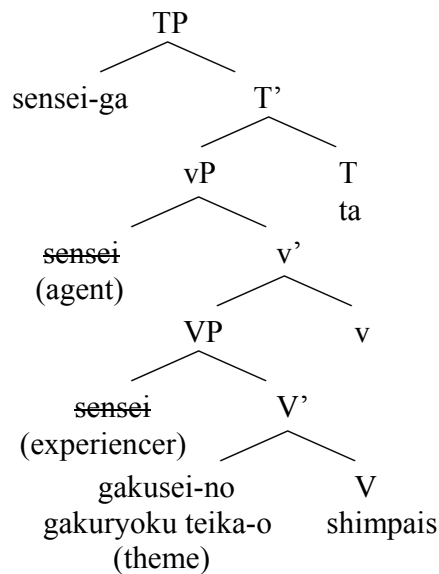
- (29) Gakusei-no gakuryoku teika-ga sensei-o shimpais-ase-ta  
 Student-Gen academic.ability decline -Nom teacher-Acc concerned-caus-past  
 ‘Decline in students’ academic ability concerned the teacher’



Theta-driven movement allows us to account for this fact. If a DP can receive more than one theta-role, (27)-(29) can be generated as mono-clausal causatives even though their SE verb constructions project a vP with the agent role in its specifier. Let us illustrate this point in more detail. Consider (31), which is the derivation for (10), repeated in (30).

- (30) Sensei-ga gakusei-no gakuryoku teika-o shimpaishi-ta  
 teacher-Nom student-Gen academic.ability decline-Acc concerned-past  
 ‘The teacher is concerned about decline in students’ academic ability’

(31)

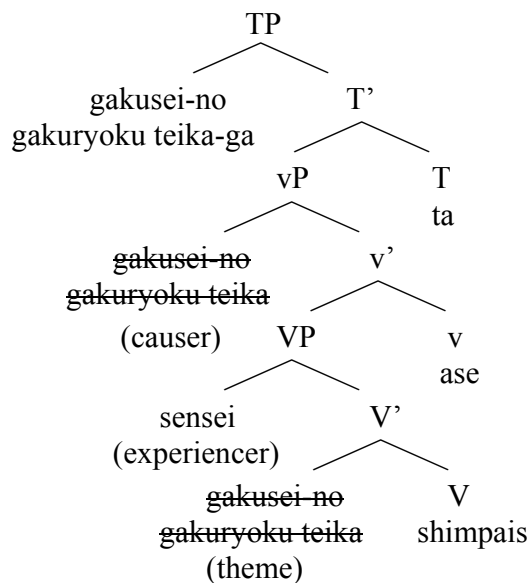


The subject is base-generated in specifier of VP taking the experiencer role. Then it moves to spec vP getting the agent role as well. One may wonder why the experiencer argument, not the theme argument, moves to the agent position. Presumably, it is because when the light v is non-causative, it selects an agent argument rather than a causer argument. Therefore, the type of a DP that can appear as the theme of the SE

verb is not compatible with the type of a DP that can appear as the agent. On the other hand, the experiencer and the agent are compatible; hence, moving from the experiencer position to the agent position does not create any selectional restriction violation.

The derivation of the corresponding OE construction in (29) is illustrated below.

(32)



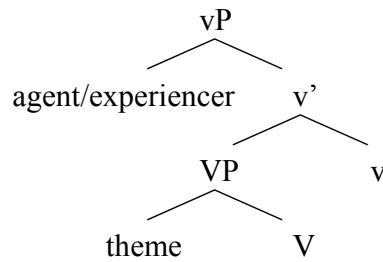
Note that the OE verb is composed of a *-sase* and part of the SE verb that is the VP rather than the whole vP. Since the experiencer and the theme are both internal to the VP, by combining only the VP part with *-sase*, we can obtain the OE verb with three theta-roles.

If theta-driven movement is not allowed, the contrast between a dative SE and an accusative SE cannot be accounted for. Recall that *okor* ‘get mad/scold’ shows a clear contrast in meaning. Let us see why this is so. Suppose we do not allow

theta-driven movement. We postulate the structure in (33) for the accusative SE verb.

The experiencer argument would be base-generated in spec vP as a proto-agent.

(33)



In the proto-role approach, the experiencer role is base-generated in spec vP. This is the line that Arad (1999), Baker (1997), and Katada (1997) basically assume. However, as discussed in section 4.3.2, the OE verb composed of a *-sase* and the SE verb of the structure in (33) would result in a bi-clausal causative. This is in conflict with our conclusion in section 4.2 that OE verbs are mono-clausal causatives.

Another question still remains. Unlike the Type C verbs, the Type B verbs do not have dative SE constructions. That is the Type B verbs always generate a vP with an agent role. It is not clear why it must be the case, however. At this point, I do not have any argument to offer but present several facts. First of all, two out of the three verbs in Type B have a suffix *-gar*. As shown above, *-gar* adds agentivity to the subject. In fact, *-gar* can even be suffixed to a root of the Type C verb *kanashi-m* ‘get sad’ as in *kanashi-gar* ‘show one’s sorrow.’ Thus, I believe that these verbs are exceptional in allowing the SE-OE pattern that we are concerned with in this thesis. The third verb *simpais* ‘be concerned’ does not have the *-gar* suffix, but I have already treated it as an exception. Thus, the whole class of the Type B verbs might be rather exceptional.

Treating some verbs as exceptions is not convincing, but it seems true that this type of verbs is not very common. That is to say most SE verbs that show the SE-OE patterns are either Type A or Type C. Many verbs that take the experiencer subject and the accusative object do not show such pattern. For example, *suk* ‘like’ *kiraw* ‘dislike’ *nikum* ‘hate’ and *aisur* ‘love’ are such verbs. As stated at the end of 4.1.1, these verbs are psych verbs that do not concern us here. I treat the Type B verbs as the psych verbs that we are concerned with in this thesis, but they are very close to the verbs that are outside. Thus, there may be some Japanese speakers who do not allow OE versions of Type B. In other words, the Type B verbs exceptionally allow the OE constructions.

#### 5.1.4 Meaning differences between the dative SE and the accusative SE

Sugioka (1992) suggests that the dative object of SE verbs expresses a cause of emotion whereas the accusative object indicates a target of emotion. However, there seems to be no distinction in meaning between the dative object of the Type A sentences in (2)-(7) and the accusative object of the Type B verbs in (8)-(10). The objects in all of these cases seem to be interpreted as a target and a cause at the same time. Recall our discussion of Thematic Diversity in section 4.8. I showed that the SE sentence in (34)a implies its relevant OE sentence in (34)b.

- (34) a. Taroo-ga kaisha-no keiei-ni kurushi-n-da  
           -Nom company-Gen management-Dat distressed-get-past  
           ‘Taroo got distressed with management of the company’
- b. Kaisha-no keiei-ga Taroo-o kurushi-m-ase-ta  
           company-Gen management-Nom -Acc distressed-get-caus-past

‘Management of the company distressed Taroo’

Given this fact, it was concluded that the SE object in (34)a is interpreted as the causer at some level.

However, the distinction should be detected in the Type C verbs. In fact, such a distinction can be observed in some cases of the Type C verbs such as *yorokob* ‘get pleased’ and *kanashim* ‘get sad.’ First of all, (12) and (13), repeated below, do not show any distinction in the meaning of the object whether it is dative marked or accusative marked.

- (35) Ookuno fan-ga Hanshin-no yuushoo-o/-ni yorokon-da  
many fan-Nom -Gen win.championship-Acc/Dat pleased-past  
‘Many fan got pleased at Hanshin’s winning the championship’

- (36) Ookuno fan-ga sono kashu-no shi-o/-ni kanashi-m-da  
many fan-Nom singer-Gen death-Acc/Dat sad-get-past  
‘Many fan got sad at the death of the singer’

The objects in these cases take either the dative marker or the accusative marker. Thus the objects in these cases are also interpreted as the target and the causer just like the cases of the Type A verbs and the Type B verbs. However, there are cases where the two case markers make a difference as shown below.

- (37) a. Hanako-ga konsyuu-no hoshiuranai-ni/\*?-o yorokon-da  
-Nom this.week-Gen horoscope-Dat/Acc pleased-past  
‘Hanako got pleased at this week’s horoscope’  
b. Konsyuu-no hoshiuranai-ga Hanako-o yorokob-ase-ta  
this.week-Gen horoscope-Nom -Acc pleased-caus-past

(38) a. Hanako-ga Toodai-ni                  gougakushita-yume-ni/\*?-o  
-Nom Univ.of.Tokyo-Dat be.accepted-dream-Dat/Acc  
yorokon-da  
pleased-past  
'Hanako got pleased at the dream that she was accepted from U. of Tokyo'

b. Toodai-ni                  gougakushita-yume-ga Hanako-o yorokob-ase-ta  
Univ.of.Tokyo-Dat be.accepted-dream-Nom      -Acc pleased-caus-past  
'The dream that she was accepted from U. of Tokyo pleased Hanako'

(39) a. Kyojin-fan-no Taroo-ga Hanshin-ga yuushooshita yume-ni/\*?-o  
-fan-Gen      -Nom      -Nom won.championship dream-Dat/Acc  
kanashi-n-da  
sad-get-past  
'Taroo, who is a Kyojin fan, got sad at the dream that Hanshin won the championship'

b. Hanshin-ga yuushooshita yume-ga                  Kyojin-fan-no Taroo-o  
-Nom won.championship dream-Nom                  -fan-Gen      -Acc  
kanashi-m-ase-ta  
sad-get-caus-past  
'The dream that Hanshin won the championship saddened Taroo, who is a Kyojin fan'

- (40) a. Hanako-ga machibito-kitarazu-no omikujini/\*?-o kanashi-n-da  
 -Nom waited.person-not.come-Gen fortune.slip-Dat sad-get-past  
 ‘Hanako got sad at the fortune slip that said the waited person would not come’
- b. Machibito-kitarazu-no omikujiga kanashi-m-ase-da  
 waited.person-not.come-Gen fortune.slip-Nom sad-get-caus-past  
 ‘The fortune slip that said the waited person would not come saddened Hanako’

The objects in the (a) examples of (37)-(40) are *hoshiuranai* ‘horoscope,’ *yume* ‘dream,’ and *omikujini* ‘fortune slip.’ These objects can be the causer, but it is hard to obtain the interpretation where the objects are the target of emotion. Thus, these objects with an accusative marker are less acceptable, but these objects with a dative marker are acceptable. The OE verb counterparts are all acceptable as the (b) examples of (37)-(40) show.

The (a) examples of (37)-(40) show that there are some expressions that do not match with the accusative marker but do match with the dative marker. Such expressions are interpreted as the causer but not the target. On the other hand, if the accusative object is possible with a certain expression, the dative object is possible with that expression as well.<sup>9</sup>

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<sup>9</sup> These examples suggest that thematic distinction is encoded in case particles in Japanese. I argued in Motomura (2003a) that a particle *-to* in Japanese expresses a theta-role, Content, which Pietroski (2000a) proposed for a sentential argument of verbs such as *explain*. However, this suggestion is in conflict with the Mechanical Case Parameter I adopted for the case realization of Japanese in section 4.9. Thus, it seems necessary to find a way to connect the assignment of thematic roles and the case realization mechanism.

In the following section, it will be shown that passivization is possible only if an SE verb allows the accusative object. Although the Type C verbs can form passivization, the source of the passives is the accusative SE construction rather than the dative SE construction. Therefore, when some expressions do not go along with the accusative marker, such expressions cannot appear as the subject of passive constructions.

## 5.2 Passivization of SE verbs

As mentioned at the beginning of this chapter, SE verbs in Japanese should resist passivization if they do not project an external argument in the way unaccusative verbs do. It has been analyzed in the literature (Kuroda 1979 and Miyagawa 1989, among others) that direct passives in Japanese involve an obligatory movement of the underlying object to the surface subject position along the line of English passives proposed by Chomsky (1981) and Marantz (1984).<sup>10</sup> According to this type of analysis, a passive morpheme, *-rare*, attached to a transitive verb, absorbs an external theta-role and an accusative case assigning properties of a transitive verb. As a consequence, the caseless object moves to the subject position. Following the minimalist framework of

<sup>10</sup> It has been argued in the literature that there are three types of passives in Japanese: (i) *ni* direct passives, (ii) *ni-yotte* (direct) passives, and (iii) indirect passives (Kuroda 1979).

- |       |  |                          |
|-------|--|--------------------------|
| (i)   | Sensei-ga    gakusei- <i>ni</i> hihans-are-ta<br>teacher-Nom student-by criticized-pass-past<br>'The teacher <sub>i</sub> was affected by his student's criticizing him <sub>i</sub> ' | <i>ni</i> direct passive |
| (ii)  | Sensei-ga    gakusei- <i>niyotte</i> hihans-are-ta<br>teacher-Nom student-by        criticized-pass-past<br>'The teacher was criticized by his student'                                | <i>niyotte</i> passive   |
| (iii) | Sensei-ga    gakusei-ni kurasu-de nak-are-ta<br>teacher-Nom student-by class-in   cry-pass-past<br>'The teacher <sub>i</sub> was affected by his student's crying in the classroom'    | indirect passive         |

Based on the classification above, the Japanese equivalent of the passive that is used as a test for unaccusativity should be the *niyotte* passives. See Hoshi (1999) for an overview of passives in Japanese.



Chomsky (1995: chapter 4), I take the following assumptions: first, the external theta role and the accusative Case feature of a transitive verb are encoded in a light *v* as mentioned in section 4.3.2; second, the passive morpheme is affixed to the light *v*, absorbing the external theta-role and the accusative Case feature.<sup>11</sup> The latter assumption can account for the fact that unaccusative verbs do not allow passivization given the structure of unaccusative verbs is a bare VP as Chomsky (1995: 316) assumes.

In section 5.1.1, I claimed that a dative SE construction does not project a vP. Then it can be predicted that the dative SE construction cannot be passivized in the same way as unaccusative verbs cannot. More specifically, SE verbs of Type A do not allow passivization since this type of verbs does not project a vP. SE verbs of Type B and Type C both allow passivization since these types of verbs can project a vP. Let us see if our prediction is born out.

First, the active and passive sentences of the Type A verbs are given in (41)-(46).

#### Type A

- (41) a.      Soko-no yakuin-zenin-ga    kaisha-no      keiei-ni              nayan-da  
                  the-Gen      executive-all-Nom      company-Gen      management-Dat  
                  worry.about-past  
                  ‘All the executives worried about management of the company’

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<sup>11</sup> The second assumption is simply stipulated. I have to find evidence for this assumption, which I leave it for future research.

- b. \* Kaisha-no keiei-ga soko-no yakuin-zenin-niyotte nayam-are-ta  
 company-Gen conduct-Nom the-Gen executive-all-by  
 worry.about-pass-past  
 ‘Management of the company was worried about by all the executives’
- (42) a. Kodomo-tachi-minnna-ga sono hanabi-no oto-ni odoroi-ta  
 child-pl.-all-Nom the firework-Gen sound-Dat surprised-past  
 ‘All the children were surprised at sound of the firework’
- b. ?? Sono hanabi-no oto-ga kodomo-tachi-minna-niyotte  
 the firework-Gen sound-Nom child-pl.-all-by  
 odorok-are-ta  
 surprised-pass-past  
 ‘Sound of the firework was been surprised by all the children’
- (43) a. Taroo-to sono kazoku-ga shiken-no kekka-ni shitsubooshi-ta  
 -and the family-Nom exam-Gen result-Dat disappointed-past  
 ‘Taroo and his family got disappointed at the result of the exam’
- b. \* Shiken-no kekka-ga Taroo-to sono kazokuk-niyotte shituboo-sare-ta  
 exam-Gen result-Nom -and the family-by disappointed-pass-past  
 ‘The result of the exam got disappointed by Taroo and his family’
- (44) a. Taroo-to sono kazoku-ga shiken-no kekka-ni gakkarishi-ta  
 -and the family-Nom exam-Gen result-Dat disappointed-past  
 ‘Taroo and his family got disappointed at the test result’

- b. \* Shiken-no kekka-ga Taroo-to sono kazokuk-niyotte  
 exam-Gen result-Nom -and the family-by  
 gakkarishis-are-ta  
 disappointed-pass-past  
 ‘The result of the exam was gotten disappointed by Taroo and his family’
- (45) a. Hanako-to sono kazoku-ga nakama-no ijime-ni kurushi-n-da  
 -and the family-Nom fellow-Gen bully-Dat distressed-get-past  
 ‘Hanako and her family got distressed with bully from her fellows’
- b. \* Nakama-no ijime-ga Hanako-to sono kazoku-niyotte  
 fellow-Gen bully-Nom -and the family-by  
 kurushi-m-are-ta  
 distressed-get-pass-past  
 ‘Bully from her fellows was gotten distressed by Hanako and her family’
- (46) a. Kodomo-tachi-minna-ga hanabi-no oto-ni obie-ta  
 child-pl.-all-Nom fireworks-Gen sound-Dat frightened-past  
 ‘All the children were frightened at the sound of fireworks’
- b. \* Hanabi-no oto-ga kodomo-tachi-minna-niyotte obie-rare-ta  
 fireworks-Gen sound-Nom child-pl.-all-by scared-pass-past  
 ‘The sound of fireworks was gotten scared by all the children’

The passive sentences are not acceptable as shown above. This is what we expect given that the Type A verbs lack a vP projection that discharges the external theta-role and checks the accusative Case feature.

Second, the active and passive sentences of the Type B verbs are given in (47)-(49).

#### Type B

- (47) a. Ooku-no fan-ga shiai-ni maketa-koto-o kuyashi-gar-tta  
 many-Gen fan-Nom game-Dat lost-fact-Acc chagrin-GAR-past  
 ‘Many fans show their chagrin with the lost game’
- b. Shiai-ni maketa-koto-ga ooku-no fan-niyotte kuyashi-gar-are-ta  
 game-Dat lost-fact-Nom player-Gen fan-by chagrin-GAR-pass-past  
 ‘The lost the game was being chagrined by many fans’
- (48) a. Ooku-no kodomo-tachi-ga kaminari-no oto-o kowa-gar-tta  
 many-Gen child-pl.-Nom thunder-Gen sound-Acc scared-GAR-past  
 ‘Many children showed their fear at the sound of thunders’
- b. Kaminari-no oto-ga ooku-no kodomo-tachi-niyotte  
 thunder-Gen sound-Nom many-Gen child-pl.-by  
 kowa-gar-are-ta  
 scared-GAR-pass-past  
 ‘The sound of thunders was gotten scared by many children’

- (49) a. Ooku-no sensei-ga gakusei-no gakuryoku-no  
 many-Gen teacher-Nom student-Gen academic.ability-Gen  
 teika-o shimpaishi-ta  
 decline-Acc concerned-past  
 ‘Many teachers were concerned about decline of students’ academic ability’
- b. Gakusei-no gakuryoku-no teika-ga ookuno sensei-niyotte  
 student-Gen academic.ability-Gen decline-Nom many teacher-by  
 shimpais-are-ta  
 concerned-past  
 ‘Decline of students’ academic ability was been concerned by many teachers’

The passive sentences are more or less acceptable. This is also predicted in the analysis presented here since the Type B verbs can project the light v.

Finally, the Type C verbs allow both a dative SE sentence and an accusative SE sentence. Our analysis predicts that the sentences with a dative object cannot be passivized, but the sentences with an accusative object do allow passivization. The result is what we expect as shown below.

#### Type C

- (50) a. Ookuno seijika-ga sono kiji-ni okot-ta  
 many politician-Nom the article-Dat get.mad-past  
 ‘Many politicians got mad at the article’

- b. \* Sono kiji-ga ookuno seijika-niyotte okor-are-ta  
the article-Nom many politician-by get.mad-pass-past  
‘The article was gotten mad by many politicians’
- (51) a. Mariko-ga Taroo-o oko-tta  
-Nom -Acc scold-past  
‘Mariko scolded Taroo’
- b. Taroo-ga Mariko-niyotte okor-are-ta  
-Nom -by scold-pass-past  
‘Taroo was scold by Mariko’
- (52) a. Ookuno fan-ga Hanshin-no yuushoo-o/-ni yorokon-da  
many fan-Nom -Gen win.championship-Acc/Dat pleased-past  
‘Many fan got pleased at Hanshin’s winning the championship’
- b. Hanshin-no yuushoo-ga ookuno fan-niyotte yorokob-are-ta  
-Gen win.championship-Nom many fan-by pleased-pass-past  
‘Hanshin’s winning the championship was gotten pleased by many fans’
- (53) a. Ookuno fan-ga sono kashu-no shi-o/-ni kanashi-m-da  
many fan-Nom the singer-Gen death-Acc/Dat sad-get-past  
‘Many fan got sad at the death of the singer’
- b. Sono kashu-no shi-ga ookuno fan-niyotte kanashi-m-are-ta  
the singer-Gen death-Nom many fan-by sad-get-pass-past  
‘The death of the singer was gotten sad by many fans’

As shown in (50)b, the passive version of the dative SE sentence for *okor*, which is interpreted as ‘get mad,’ is not acceptable. On the other hand, as in (51)b, the passive of the accusative SE sentence, where the same verb *okor* is interpreted as ‘scold,’ is perfect. For other SE verbs, *yorokob* ‘be pleased’ and *kanashim* ‘grieve,’ when the dative or the accusative object are interchangeable, passivization is possible as shown in (52) and (53) because the passive sentences can be generated from the accusative SE constructions.

Recall our observation at the end of the preceding section that when the object cannot be interpreted as a target such *hoshiuranai* ‘horoscope,’ *yume* ‘dream,’ or *omikuji* ‘fortune slip, such object cannot take the accusative marker. This suggests that these objects cannot appear as the theme (target) of the accusative SE constructions. Then we can predict that these expressions cannot appear as the subject of the passive SE sentences as shown below.

- (54) a. Hanako-to sono nakama-ga konsyuu-no hoshiuranai-ni/\*?-o  
           -and the friends-Nom this.week-Gen horoscope-Dat/Acc  
           yorokon-da  
           pleased-past  
           ‘Hanako and her friends got pleased at this week’s horoscope’
- b. \* Konsyuu-no hoshiuranai-ga Hanako-to sono nakama-niyotte  
       this.week-Gen horoscope-Nom -and the friend-by  
       yorokob-are-ta  
       pleased-pass-past  
       ‘This week’s horoscope was gotten pleased by Hanako and her friends’

- (55) a. Hanako-to sono kazoku-ga Toodai-ni  
 -and the family-Nom U.of.Tokyo-Dat  
 gougakushita-yume-ni/\*?-o yorokon-da  
 be.accepted-dream-Dat/Acc pleased-past  
 ‘Hanako and her family got pleased at the dream that she was accepted  
 from Univ. of Tokyo’
- b. \* Toodai-ni gougakushita-yume-ga Hanako-to sono  
 U.of.Tokyo-Dat be.accepted-dream-Nom -and the  
 kazoku-niyotte yorokob-are-ta  
 family-by pleased-pass-past  
 ‘The dream that she was accepted from Univ. of Tokyo was gotten  
 pleased by Hanako and her family’
- (56) a. Kyojin-fan-no Taroo-to sono nakama-ga Hanshin-ga yuushooshita  
 -fan-Gen -and the friend-Nom -Nom won.championship  
 yume-ni/\*?-o kanashi-n-da  
 dream-Dat/Acc sad-get-past  
 ‘Taroo and his friends, who are Kyojin fans, got sad at the dream that  
 Hanshin won the championship’
- b. \* Hanshin-ga yuushooshita yume-ga Kyojin-fan-no Taroo-to  
 -Nom won.championship dream-Nom -fan-Gen -and  
 sono nakama-niyotte kanashi-m-are-ta  
 the friend-by sad-get-pass-past



‘The dream that Hanshin won the championship was gotten sad by  
Taroo and his friends, who are Kyojin fans’

- (57) a. Hanako-to sono kazoku-ga machibito-kitarazu-no  
-and the family-Nom waited.person-not.come-Gen  
omikuji-ni/\*?-o kanashi-n-da  
fortune.slip-Dat sad-get-past  
‘Hanako and the family got sad at the fortune slip that said the waited  
person would not come’
- b. \* Machibito-kitarazu-no omikuji-ga Hanako-to sono  
waited.person-not.come-Gen fortune.slip-Nom -and the  
ryooshin-niyotte kanashi-m-are-ta  
parents-by sad-get-pass-past  
‘The fortune slip that said the waited person would not come was gotten  
sad by Hanako and her family’

The unavailability of passives in the (b) sentences of (54)-(57) supports our claim that passivization is possible only from the accusative SE sentences.

In summary, passivization is possible when an SE verb allows an accusative object, but it is not when an SE verb takes only a dative object. Our analysis can account for these facts straightforwardly. Since the dative SE constructions do not project a vP which is responsible for the accusative Case and the external argument, passivization cannot be applied to the dative SE constructions. On the other hand, the SE verbs with an accusative object project the vP; therefore, passivization is possible.

## Chapter 6: Previous analyses of Japanese psych verbs

In this chapter, two analyses of Japanese psych verbs will be reviewed. It will be shown that both analyses have some problems that our analysis does not raise or can solve.

### 6.1 Katada (1997)

Katada claims that an OE verb is derived from an SE verb which is optionally intransitive. Assuming that OE verbs are mono-clausal causatives, she compares OE verbs with regular mono-clausal causative verbs. She notes that the regular mono-clausal causative verbs add one argument to their inchoative counterparts as shown in (1) and (2).

- (1) a. Keikaku-ga susum-u  
project-Nom advance-prs  
'The project advances'
- b. Daitooryoo-meirei-ga keikaku-o susum-e-ru  
president-order-Nom project-Acc advance-LC<sup>1</sup>-prs  
'President's order advanced the project'
- (2) a. Kodomo-ga huku-o ki-ru  
child-Nom clothes-Acc wear-prsnt

---

<sup>1</sup> LC indicates a mono-clausal causative morpheme.

‘The child puts the clothes on’

- b. Hahaoya-ga kodomo-ni huku-o ki-se-ru

mother-Nom child-Dat clothes-Acc wear-LC-prs

‘The mother puts the clothes on the child’

(Katada 1997: (15) and (16) with minor modification)

The causative sentences in (1)b and (2)b have three arguments whereas the relevant inchoative sentences in (1)a and (2)a have two arguments. On the other hand, causativization of an SE verb reverses the subject and the object, but it does not increase the number of arguments, unlike the regular mono-clausal causatives. Consider the following:

- (3) a. Chichioya-ga zibun-no ochido-o/ni kurushi-m-da

father-Nom self-Gen fault-Acc/Dat distressed-past

‘The father got distressed at/about his fault’

- b. Zibun-no ochido-ga chichioya-o kurushi-m-e-ta

self-Gen fault-Nom father-Acc distressed-LC-past

‘His fault distressed the father’

- c. \* Kodomo-no kega-ga chichioya-ni zibun-no ochido-o kurusim-e-ta

child-Gen injury-Nom father-Dat self-Gen fault-Acc  
distressed-LC-past

‘\*The child’s injury distressed the father at his fault’

(Katada 1997: (17), (18), and (19) with minor modification)

(3)a is an SE verb sentence, and (3)b is its related OE verb sentence. Both sentences have two arguments. When the OE verb takes the three arguments as in (3)c parallel to the regular causatives, the sentence is not acceptable.

Given these facts, Katada claims that SE verbs are weakly transitives that can undergo an optional rule of intransitivation in the lexicon. The intransitivized SE verb, then, undergoes a lexical causativization process, generating an OE verb.

Let us briefly explain the notion of ‘weakly transitive.’ It was first proposed by Kuroda (1965). In English, there is a set of transitive verbs that optionally allow their object to be unrealized. For instance, a verb *eat* can be used without the object as *John ate*. Such verbs are called ‘pseudo-intransitives’ (Lees 1960). Whether Japanese also has such verbs is not clear given the fact that Japanese allows the object to drop regardless of the verb that selects it. The dropped object can be understood through the context. Kuroda calls this argument dropping transformation as Implicit Understanding. Nonetheless, Kuroda argues that there are verbs that correspond to the English pseudo-intransitive verbs in Japanese. He shows that such verbs can be detected only in the environment of causative constructions. He calls such verbs ‘weakly transitive’ in order to distinguish them from the pseudo-intransitives in English that can appear freely.

Let us show the environment for the weakly transitives. As mentioned in footnote 25 of section 4.3.2, there are two types of bi-clausal causatives in Japanese. When an embedded verb of a bi-clausal causative sentence is intransitive, the subject of the embedded verb can be marked with either an accusative or a dative marker as

shown in (4)a below. On the other hand, when the embedded verb is transitive, the subject of the embedded verb must be marked with a dative case as shown in (4)b.<sup>2</sup>

- (4) a. Taroo-ga Hanako-o/-ni hashir-ase-ta  
-Nom -Acc/-Dat run-caus-past  
'Taroo made/let Hanako run'
- b. Taroo-ga Hanako-ni/\*-o hon-o yom-ase-ta  
-Nom -Dat/-Acc book-Acc read-caus-past  
'Taroo made Hanako read a book'

When the object of the transitive embedded verb is dropped by the Implicit Understanding as in (5), the embedded subject must be dative marked.

- (5) Taroo-ga Hanako-ni/\*-o *pro* yom-ase-ta  
-Nom -Dat/-Acc read-caus-past  
'Taroo made Hanako read (something)'

On the other hand, when a weakly transitive verb is embedded in the causative construction with its object dropped, the subject of the embedded verb can be marked either accusative or dative as shown in (6).

- (6) a. Taroo-ga ushi-o tabe-sase-ta  
-Nom cow-Acc eat-caus-past  
'Taroo made the cow eat'
- b. Taroo-ga ushi-ni tabe-sase-ta  
-Nom cow-Dat eat-caus-past

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<sup>2</sup> See Miyagawa (1999) for an overview of Japanese causative constructions.

Furthermore, (6)a is ambiguous between the intransitive interpretation and the transitive interpretation with an implicit embedded subject, which are represented as (7)a and (7)b respectively.

- (7) a. Taroo-ga [ushi-o tabe]-sase-ta  
       ‘Taroo made the cow eat’  
       b. Taroo-ga [*pro* ushi-o tabe]-sase-ta  
       ‘Taroo made (someone) eat the cow’

In (7)a, the embedded verb is intransitive, and the embedded subject is accusative marked. In (7)b, on the other hand, the embedded verb is transitive. The embedded subject is dropped by the Implicit Understanding, and *ushi* ‘cow’ is understood as the object of the embedded verb. Thus, Kuroda concludes that weakly transitive verbs optionally undergo the Intransitivization transformation in the environment of causative constructions.

One problem in Katada’s analysis is that it cannot account for the backward binding facts and the scope interpretation facts we observed in section 4.1. Recall that OE verbs allow binding of an anaphor from non c-commanding position. Given that the causer subject of OE verbs is base generated above the theme object in her analysis, there is no configuration in which the antecedent c-commands the anaphor. Furthermore, OE verb constructions show the scope ambiguity unlike other transitive verbs. Since no movement is involved in her analysis, there is no way to account for the scope ambiguity.

In our analysis, backward binding and scope ambiguity can be accounted for as consequences of movement. By allowing movement into a theta-position, the fact that OE verbs do not show the increase in valence can be explained as well.

## 6.2 Matsuoka (2001)

Matsuoka proposes that the OE verb sentence in (8) is three-way ambiguous, and each interpretation is related to the derivation illustrated in (9).

- (8) [Tyaimu-no oto]-ga John-o yorokob-ase-ta  
 chime-Gen sound-Nom -Acc pleased-caus-past  
 ‘The sound of the chime pleased John’

- (9) a. NP<sub>i</sub>-Nom (T/SM) [[<sub>PP</sub> NP-Acc] (Exp) t<sub>i</sub> V-Caus  
 b. NP<sub>i</sub>-Nom (Causer) [NP-Acc (Exp) pro<sub>i</sub> (T/SM) V]-Caus  
 c. NP<sub>i</sub>-Nom (Causer) [NP-Acc (Exp) V]-Caus

(Matsuoka 2002: 110 (17))

First, in (9)a, the subject is base-generated in the theme position which is lower than the experiencer position. It then moves to subject position. In this derivation, the subject is interpreted as a theme (Target/Subject Matter in Matsuoka’s term) but not as a causer. According to Matsuoka, (8) means that ‘John found the sound itself pleasing in some respect.’ Let us call this type of OE construction ‘OE<sub>T/SM</sub>’ following Matsuoka.

Second, in (9)c, the subject is base-generated in the causer position. In this derivation, the subject is interpreted as a causer but not as a theme. In (8), the sound of the chime is only causally related to John’s emotion; therefore, John is not pleased with

the sound itself. For instance, Matsuoka gives the following situation: ‘John is waiting for his mother to come home, and the front door of their house has a chime whose sound John hates.’ He explains that ‘in this circumstance, the sound of the chime can tell John that his mom has come back, which pleases him, even though he is not pleased with the sound itself.’ Let us call this type of OE construction ‘OE<sub>Causer</sub>.’

Finally, in (9)b, the subject is base-generated in the causer position, and it is co-indexed with the empty pronoun in the theme position. Thus, the subject is interpreted as both a theme and a causer at the same time. Matsuoka did not offer any situation that this derivation is supposed to describe. Let us call this type of OE construction ‘OE<sub>Mix</sub>.’

Matsuoka argues that the OE<sub>T/SM</sub> and the OE<sub>Causer</sub> are parallel to two types of passive constructions in Japanese, direct passive and indirect passive, respectively. The causative morpheme *-sase* in the OE<sub>T/SM</sub> is affixed to a V head and deprives the head of its theta-role and case assigning properties as in (10)a. Therefore, the experiencer is realized as a PP. This is parallel to the direct passive morpheme *-rare*, which is analyzed to be affixed to a V head and to deprive the V head of the external theta-role and case assigning properties as in (10)a.



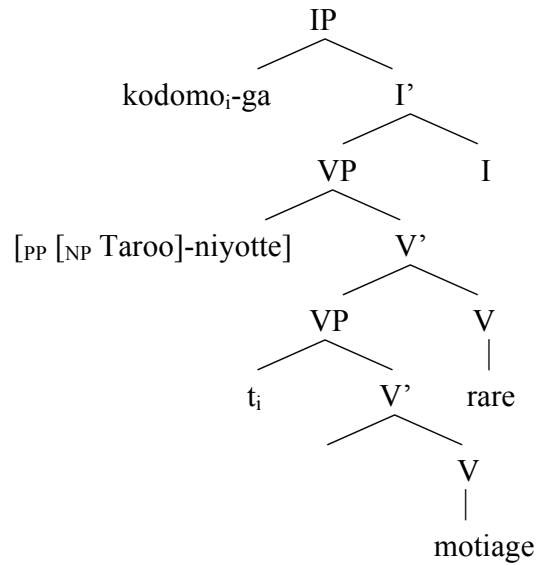
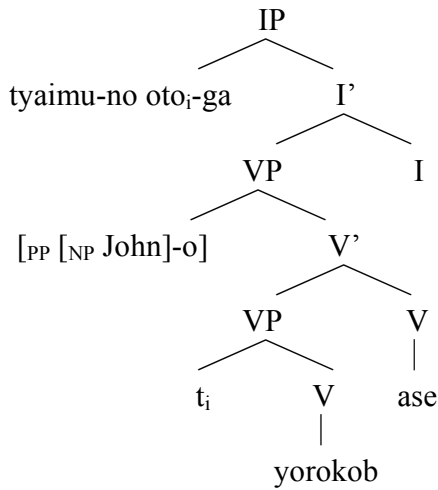
(10) a. OE <sub>T/SM</sub>

b. Direct passive

Kodomo-ga Taroo-niyotte motiage-rare-ta

child-Nom -by lift-pass-past

‘A child was lifted by Taroo’



(Matsuoka 2001: 141-142 (57a) & (58a))

On the other hand, the causative morpheme *-sase* in the OE<sub>Causer</sub> construction projects its own head, assigning a theta role and checking an accusative Case as shown in (11)a. Therefore, the experiencer has the accusative Case checked by the matrix verb, *-sase*. This is parallel to the indirect passive morpheme *-rare*, which is analyzed to project its own head, assigning a theta role and checking a Case as in (11)b.

(11) a. OE<sub>Causer</sub>

b. Indirect passive

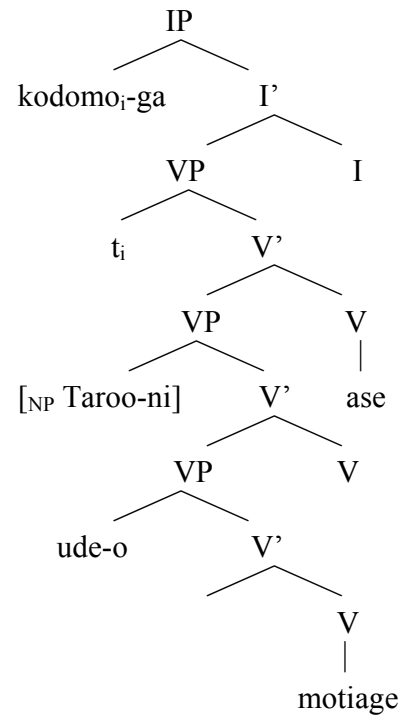
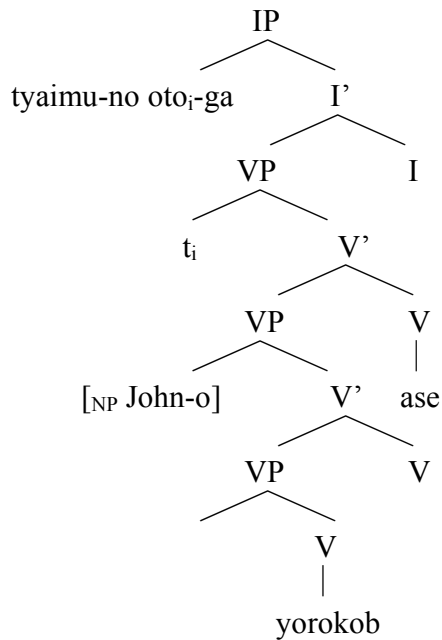
Kodomo-ga Taroo-ni ude-o

child-Nom -Dat arm-Acc

motiage-rare-ta

lift-pass-past

‘A child was affected by Taroo’s lifting  
the arm’



(Matsuoka 2001: 141-142 (57b) & (58b))

Matsuoka supports the two derivations in (10)a and (11)a based on quantifier scope interpretations and weak crossover phenomena. I will introduce his argument based on the quantifier scope interpretations. Consider the following:

- (12) Hutatsu-no beru-no oto-ga sannin-no kodomo-o yorokob-ase-ta  
 two-Gen bell-Gen sound-Nom three-Gen child-Acc pleased-caus-past  
 ‘Two sounds of a bell pleased three children’

OE<sub>T/SM</sub>: 2>3 (2 sounds 6 children reading)

? 3>2 (3 children 6 sounds reading)

OE<sub>Causer</sub>: 2>3

\* 3>2

According to Matsuoka, the scope relation of the subject Q(uantifier)NP and the object QNP in (12) is ambiguous when the subject is interpreted as a theme. The ambiguity is predicted when the sentence is generated as the OE<sub>T/SM</sub> in (10)a. As we saw in section 4.1.3, Japanese is a scope rigid language. However, when movement alters the word order of the subject and the object, the scope relation becomes ambiguous. Since (10)a involves movement which alters the word order of the theme and the experiencer, the scope ambiguity obtains.<sup>3</sup> On the other hand, when the subject is interpreted as a causer; that is when the sentence is generated as the OE<sub>Causer</sub> as in (11)a, the subject QNP must take a wide scope over the object QNP. This is also expected because the subject is base-generated above the object, and no movement alters the word order. Therefore, the scope relation reflects the surface word order.

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<sup>3</sup> Based on the scope fact in (i), Matsuoka concluded that the experiencer is base-generated higher than the theme.

(i) Hutari-no kodomo-ga mittsu-no purezento-o yorokon-da  
 two-Gen child-Nom three-Gen present-Acc pleased-past  
 ‘Two children were pleased with three presents’  
     2>3: 2 children 6 presents reading  
     \* 3>2: 3 presents 6 children reading

Matsuoka's analysis of OE verbs raises a couple of problems. First of all, it is not clear at all if we can get a clear meaning distinction between the alleged two readings, one based on the OE<sub>T/SM</sub> and the other on the OE<sub>Causer</sub>. Especially difficult is the reading of the OE<sub>T/SM</sub>. In the OE<sub>T/SM</sub> construction, the subject of the OE verb is interpreted as theme but not as the causer. However, as I showed in section 4.8.1, the SE sentence in (13)a implies its relevant OE sentence in (13)b, but not vice versa.

- (13) a. Taroo-ga kaisha-no keiei-ni kurushi-n-da  
 -Nom company-Gen management-Dat distressed-get-past  
 'Taroo got distressed with management of the company'
- b. Kaisha-no keiei-ga Taroo-o kurushi-m-e-ta  
 company-Gen management-Nom -Acc distressed-get-caus-past  
 'Management of the company distressed Taroo'

Based on this fact, I concluded that the theme object of the SE verb is also interpreted as a causer at some level. If this observation is correct, it is not clear if we can get such an interpretation that the subject of the OE verb is exclusively the theme without being the causer. Therefore, the OE<sub>T/SM</sub> construction is dubious as long as its interpretation is concerned.

If the subject of the OE verb is interpreted as a causer whenever it is interpreted as a theme, this is what our analysis predict. No problem arises for Matsuoka either, however, since the third construction, the OE<sub>Mix</sub>, can account for such an interpretation. The subject of the OE<sub>Mix</sub> construction is base-generated in the causer position, and it is co-indexed with an empty pronoun in the theme position. Therefore, the subject can be interpreted as both the causer and the theme.

Let us repeat the three constructions (9) that Matsuoka proposed below:

- (14) a. NP<sub>i</sub>-Nom (T/SM)    [[<sub>PP</sub> NP-Acc] (Exp)    t<sub>i</sub>    V-Caus]  
       b. NP<sub>i</sub>-Nom (Causer)    [NP-Acc (Exp)    pro<sub>i</sub> (T/SM)    V]-Caus  
       c. NP<sub>i</sub>-Nom (Causer)    [NP-Acc (Exp)    V]-Caus

As discussed above, the OE<sub>T/SM</sub> construction in (14)a is dubious with respect to the interpretation. It is hard to get the reading where the subject of OE construction is interpreted as the theme but not the causer. Rather, the subject seems to be interpreted as the causer whenever it is interpreted as the theme, which can be accounted for by the OE<sub>Mix</sub> construction in (14)b. Interestingly, Matsuoka (2001: 110, footnote 7) notes that he did not find a way to distinguish (14)a and (14)b by truth conditions. This increases our suspicion against the OE<sub>T/SM</sub> construction. Matsuoka needs this construction, however, in order to account for the scope interpretation facts because the empty pronoun does not induce a reconstruction effect. If we allow thematically driven movement, however, we can account for these facts without postulating the dubious OE<sub>T/SM</sub> construction. As proposed in Chapter 4, the subject of OE verb constructions is base-generated in the theme position, and moves to the causer position over the experiencer. The scope facts are the consequence of this movement which alters the word order of the subject and the object. Thus, we can replace Matsuoka's OE<sub>T/SM</sub> and OE<sub>Causer</sub> constructions with a single derivation.

The second problem is in the parallel treatment of the OE<sub>Causer</sub> to the indirect passive construction illustrated in (11)b. While the indirect passives in Japanese have been assumed to have a complex clause (Hoshi 1999, Kuno 1973, Kuroda 1979), it was concluded in section 4.2 that OE verbs are mono-clausal causatives. In other words, the

OE verbs have simple clauses. Although the parallel treatment of the OE verb constructions to the passive constructions seems attractive, such a treatment thus results in paradox.

To conclude, by allowing theta-driven movement, we can account for the relevant facts with two types of derivations instead of the three.<sup>4</sup> This is more in the spirit of minimalism.

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<sup>4</sup> Recall that our analysis also needs the OE<sub>Causer</sub> constructions in order to account for the OE verbs with a human subject.

## Chapter 7: Conclusion

Psych verb constructions have presented puzzles to those who assume the thematic hierarchy or UTAH. There are mainly two puzzles: (i) the inverse linking patterns of SE and OE verb constructions; (ii) the backward binding of anaphors in the OE verb constructions. This thesis has proposed a new analysis of psych verbs in Japanese based on theta-driven movement.

In Chapter 2, theoretical arguments against theta-driven movement and empirical arguments for theta-driven movement were discussed. The theoretical arguments against theta-driven movement were based on the Chain Condition or the preference to separate the thematic information from the non-thematic information such as scope and discourse information. Given the lack of strong motivations for prohibiting such a movement, however, those arguments were not strong enough to prevent further attempts. Moreover, it was shown that theta-driven movement has received empirical supports in various areas such as control, Romance restructuring verbs, and PRO-gate phenomena among others. These arguments seem to be convincing and difficult to refute with the theories without theta-driven movement.

Chapter 3 introduced four approaches to psych verbs: B&R (1988), Pesetsky (1995), Dowty (1991), and Baker (1997). Dowty suggested that the backward binding facts should be accounted for in terms of pragmatics/discourse. However, the bound

variable readings of anaphors and the scope interpretation facts suggest that they must be accounted for syntactically. B&R's movement approach could account for the backward binding facts straightforwardly in syntax, but their analysis was based on the implausible assumption that OE verbs are unaccusatives. Pesetsky proposed a new analysis for the first puzzle. He argued that the theta-role of the subject of an OE verb is a causer and that of the object of SE verb is a theme; therefore, no problem arises in accounting for the linking patterns of psych verbs. However, he maintained the movement approach of B&R in order to account for the second puzzle. Pesetsky had to complicate the derivation of an OE construction with stipulations. Baker also accounted for the first puzzle following Pesetsky's claim that the subject of the OE verb is a causer. Furthermore, he also tried to account for the backward binding facts by movement just like B&R and Pesetsky. However, his derivation was also complicated and stipulative. Many of their problems could be solved if theta-driven movement was allowed.

In Chapter 4, first, I showed that OE verbs in Japanese are mono-clausal causatives based on three tests. Second, I proposed that an OE verb construction involves theta-driven movement. Specifically, I claimed that the surface subject of an OE verb is base-generated in complement of VP where it receives a theme role and moves over experiencer position to spec vP where it receives a causer role. The subject of the OE verb takes both the theme and the causer roles. By allowing theta-driven movement, we could combine the movement approach of B&R with Pesetsky's idea that the subject of an OE verb is a causer whereas the object of SE verb is a theme. Thus, I could account for the two puzzles straightforwardly without complicating the



derivation. Furthermore, the analysis of *zibun* based on theta-driven movement could account for the backward binding facts of *zibun* as well as the scope ambiguities in the OE verb constructions without facing the problem of subject orientation.

In the analysis of OE verb constructions, I made the assumption that the experiencer is base-generated in specifier of VP that is the SE verb base. That is, the experiencer is a kind of proto-goal rather than a proto-agent, departing from Baker (1997).

In Chapter 5, SE verb constructions were discussed. I showed that there are three types of SE verbs in terms of the case markers on the object. I proposed that a dative SE verb has the structure of a bare VP, and an accusative SE verb has the structure of a vP which assigns an external theta-role to its specifier. It was shown that the dative SE verb provides the base for an OE verb. The two derivations proposed here were supported by passivizability of the SE verbs. Passivization was possible only if the SE verb could take an accusative object.

Chapter 6 reviewed two analyses of psych verbs in Japanese: Katada (1997) and Matsuoka (2001). Both analyses faced some problems that our analysis does not face. Their problems did not arise if theta-driven movement was allowed.

Throughout this thesis, I have shown that it is really movement that derives the puzzles in psych verbs. Attributing these puzzles to movement is a step forward since movement is something whose existence we cannot deny in the minimalist framework. Thus, the new analysis of psych verbs in Japanese presented in this thesis added another empirical support for thematically driven movement.

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