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‘Taroo was pleased with Hanako’s success.’

→ yorokob ‘be pleased’ / kanasim ‘grieve’ / odorok ‘be surprised’ nayam ‘be annoyed’

Sugioka (1992) refers to the type of the sentence in (1a) as Accusative Construction, and (1b) as Dative Construction.² Following Pesetsky (1995)³, she makes a distinction between the Accusative DP and the Dative DP in (1) in terms of theta-roles. The Accusative DP is regarded as the Target of emotion, and the Dative DP as the Causer in (1). With this in mind, let us see how a psych-predicate behaves in causative and passive sentences.

2. Causatives and Passives with Psych-Predicates

Consider the following examples in (2).

- (2) a. Taroo-ga Hanako-no hanasi-o kowagat-ta.
 Taroo-NOM Hanako’s story-ACC fear/scare-PAST
 ‘Taroo was scared of Hanako’s story.’ or ‘Taroo feared Hanako’s story.’
- b. Taroo-ga warui uwasa-ni kurusin-da.
 Taroo-NOM bad rumor-DAT suffer-PAST
 ‘Taroo suffered from bad rumors.’
- c. Taroo-ga Hanako-no si-o kanasin-da.
 Taroo-NOM Hanako’s death-ACC grieve-PAST
 ‘Taroo grieved over Hanako’s death.’
- d. Taroo-ga sono sirase-ni kanasin-da.
 Taroo-NOM the news-DAT grieve-PAST
 ‘Taroo grieved at the news.’

From the examples in (2), we can derive the passive sentences in (3).

- (3) a. Hanako-no hanasi-ga Taroo-ni kowagar-are-ta.
 Hanako’s story-NOM Taroo-by fear-PASS-PAST PASS=PassiveMorpheme
 ‘Hanako’s story was feared by Taroo.’

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- b. *warui uwasa-ga Taroo-ni kurusim-are-ta.
 bad rumor-NOM Taroo-by suffer-PASS-PAST
 'Bad rumors was suffered by Taroo.'
- c. Hanako-no si-ga Taroo-ni kanasim-are-ta.
 Hanako's death-NOM Taroo-by grieve-PASS-PAST
 'Hanako's death was grieved by Taroo.'
- d. ?sono sirase-ga Taroo-ni kanasim-are-ta.
 the news-NOM Taroo-by grieve-PASS-PAST
 'The news was grieved by Taroo.'

As Sugioka (1992) points out, sentences with an Accusative, but not with a Dative DP, can be passivised. Thus, (3b) is ruled out. (3d) will be good if the news itself is the Target of grief, but will be marginal if the news is the Causer of grief.

Next let us consider some causative sentences with psych-predicates.⁴ Consider the following non-agentive causative sentences.

- (4) a. Hanako-no hanasi-ga Taroo-o kowagar-ase-ta.
 story -NOM -ACC fear-cause
 'Hanako's story caused Taroo to fear it.'
- b. warui uwasa-ga Taroo-o kurusim-ase-ta.
 -NOM -ACC suffered-cause
 'Bad rumors caused Taroo to suffer from them.'
- c. Hanakono-si-ga Taroo-o kanasim-ase-ta.
 -NOM -ACC grieve-cause
 'Hanako's death caused Taroo to grieve over it'
- d. sono sirase-ga Taroo-o kanasim-ase-ta.
 -NOM -ACC
 'The news caused Taroo to grieve at it.'

These examples in (4) have some important properties. First, the subject corresponds to the object (complement) of psych-predicates in (3). Second, the object of psych-predicates is missing. Third, although the object is missing, we still understand that

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Compared with (4), the examples in (5, 6) are different in that they contain an overt object of the embedded psych-predicates distinct from the matrix subject. The crucial point is that the type of causatives in (4) exhibits some different properties from the ones in (5, 6). In what follows, the properties will be accounted for by movement into a theta-position. Some evidence for the movement analysis will be shown in section 3.

3. Evidence for Movement into a Theta-Position

In this section, we will argue that the causative sentences in (4) but not in (5, 6) involve movement, as is often assumed for passives. There is, however, one important difference between the causative sentences in (4) and the passive sentences in (3). While a DP is moved to a non-theta position in passives, it is moved to a theta-position in (4). Two pieces of evidence will be shown for movement analysis of causative sentences like (4). One piece of evidence is based on backward binding in this construction, and the other the interpretation of objects of psych-predicates.

3. 1. Backward Binding

We will see two cases concerned with backward binding which suggest that movement is involved. First, as Akatsuka(1976) shows, backward binding phenomenon is observed when a psych-predicate occurs with the causative predicate *-(s)ase*.⁷ Consider the following examples.

- (7) a. Zibun _i-no syasin-ga Taroo _i-o simpai-s-ase-ta.
 self's picture-NOM Taroo-ACC worry-do-cause-PAST
 'Picture of himself worried Taroo.'
- b. Zibun _i-no hahaoya-no sonzai-ga Taroo _i-o kowagar-ase-ta.
 self's mother's existence-NOM Taroo-ACC frighten (fear-cause)-PAST
 'His mother's existence frightened Taroo.'
- (8) a. * Zibun _i-no hahaoya-ga Taroo _i-o simpai-si-ta.
 self's mother-NOM Taroo-ACC worry about-Past
 'His mother worried about Taroo.'

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- b. * Zibun_i-no hahaoya-ga Taroo-o kowagat-ta.
 self's mother-NOM Taroo-ACC fear-PAST
 'His mother feared Taroo.'

The contrast between (7) and (8) suggests that in (7), the DP with anaphor *zibun* occupies the position, at D-structure, where the anaphor is c-commanded by *Taroo*. The position is the Complement of the psych-predicate. Thus, the DP is moved from that position to a position which will be argued to be a theta-position.

Next, there is a difference in the interpretation of *zibun* between *Taroo-o* and *Taroo-ni*, as in (9).

- (9) a. Zibun_i-no hahaoya-no si-ga Taroo_i-o kanasim-sase-ta
 -ACC
 'His mother's death caused Taroo to grieve over it.'
- b. Zibuno_{i/j}-no hahaoya-no hanasi-ga Taroo_i-ni obake-o kowagar-ase-ta.
 -DAT ghost -ACC
 'His mother's story caused Taroo to fear ghosts.'

When the embedded predicate has an object, the embedded subject realizes with *-ni* (Dative), as in (9b). In (9a), *zibun* takes *Taroo* as its antecedent while *zibun* in (9b) can not take *Taroo* as its antecedent. This means that the subject, *zibun-no hahaoya-no hanasi-ga* is not moved to that position in (9b). Thus, we can say that while movement is involved in (9a), there is no movement involved in (9b).

3. 2. Interpretation

There are two cases concerned with the interpretation of a complement of psych-predicates which suggest that psych predicates with *-(s)ase* involve movement. First, consider the following examples.

- (10) a. Taroo-ga Hanako-no seikoo-o yorokon-da.
 Taroo-NOM Hanako's success-ACC please-PAST
 'Taroo was pleased with Hanako's success.'

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- b. Hanako-no seikoo-ga Taroo-o yorokob-ase-ta.
 Hanako's success-NOM Taroo-ACC please-cause-PAST.
 'Hanako's success pleased Taroo.'

The important point in (10b) is that the subject *Hanako-no seikoo-ga* is interpreted as the object of the predicate *yorokob* although the object does not have a phonetic content.

Kuroda (1965) captures this fact in (10) in terms of deletion which is restricted to the class of psych-predicates. (11) illustrates this. (The English gloss is modified).

- (11) a. ongaku-ga Taroo-o tanosim-sase-ta
 music-NOM Taroo-ACC enjoy (amused) -caused
 'The music caused Taroo to enjoy it.'
 b. [ongaku [Taroo ongaku tanosim] (s)ase]
 music music amused cause
 c. [ongaku [Taroo \emptyset tanosim] (s)ase] Kuroda (1965)

The DP (NP) *ongaku* in the embedded sentence is deleted by the matrix DP (NP) *ongaku*. Although we will take a different approach, it is clear that the DP (NP) *ongaku* in (11b) is both the logical object of *tanosim*, and the logical subject of *-(s)ase* though the object is not realized phonetically.⁸

More interesting is the fact that there is a difference among the following examples in interpretation of the logical object of *kowagar* which is not realized phonetically.

- (12) a. Sensei-no hanasi-ga Taroo-o kowagar-ase-ta.
 teacher's story-NOM Taroo-ACC fear-cause (frighten)-PAST
 'The teacher's story caused Taroo to fear it.'
 b. Sensei-no hanasi-ga $\text{ec } i / *j$ Taroo-o $\text{ec } i / *j$ kowagar-ase-ta.
 c. Sensei-no hanasi-ga Taroo-ni kowagar-ase-ta.
 teacher's story-NOM Taroo-DAT
 'The teacher's story caused Taroo to fear someone / something.'
 d. Sensei-no hanasi-ga $\text{ec } *i / j$ Taroo-ni $\text{ec } *i / j$ kowagar-ase-ta.

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In (12a), the logical object of *kowagar* is *sensei-no hanasi-ga*, as shown in (12b).⁹ In (12c), however, it is not *sensei-no hanasi-ga* but something else which is supplied in the context, as shown in (12d).

Suppose that the empty category in (12b, d) is a *pro*.¹⁰ Then, the Double -O Constraint, which applies to a *pro*, prohibits a *pro* from occurring in (12b), but allows it to occur in (12d). The crucial point in (12a) is that even though a *pro* is not allowed to occur in the complement position of the psych-predicate, the subject of (12a) can be interpreted as the complement of the psych-predicate. In other words, the subject behaves as if it were the complement. In (12c), however, the subject cannot be interpreted as the complement of the psych-predicate because there is a *pro* which cannot be coindexed with the subject, as shown in (12d).

To summarize, the backward binding and the interpretation of the logical object of the embedded predicate show that movement is involved in one type of the causative sentences. Thus, in this respect, the causative sentences in (4) are similar to the passive sentences in (3), though it will be shown below that their landing sites of movement are different.

3. 3. Landing Site of Movement in Causatives

At this point, there arises an important question: Where does the DP (NP) move to? Belletti and Rizzi (1988), analyzing Italian psych verbs, assume that the position is the Spec of TP (S), which is a non-theta position.¹¹ But is the Spec of the VP headed by -(s)*ase* a non-theta position? In other words, is the causative -(s)*ase* an unaccusative predicate which does not have an external argument?¹² The answer is no. Namely, the causative verb is not an unaccusative predicate, and its Spec is a theta-position. This is because a DP (NP) in the spec of -*sase* is assigned Causer role, and because the DP (NP) in the spec of the lower VP is assigned Accusative case, as shown in (13).

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4.1. Two Types of Movement in Causatives

There are two types of the movement depending on what theta-roles are involved. Let us consider the examples in (4), repeated here as (15), where theta-roles are added.

- (15) a. [Hanako-no hanasi-ga_i [Taroo-o t_i kowagar]-(s)ase]-ta.
 Causer ← Target
- b. [warui uwasa-ga_i [Taroo-o t_i kurusim]-(s)ase]-ta.
 Causer ← Causer
- c. [Hanako-no si-ga_i [Taroo-o t_i kanasim]-(s)ase]-ta.
 Causer ← Target (Causer)
- d. [sono sirase-ga_i [Taroo-o t_i kanasim]-(s)ase]-ta
 Causer ← Causer (Target)

These are the example in which movement is involved.¹⁴ Suppose that the theta-role of the subject in the Spec of *-(s)ase* is Causer. Then one type of movement is from Target to Causer as in (15a, c). The other is from Causer to Causer, as in (15b, d).¹⁵ (16) summarizes this.

(16) Movement into a theta-position in Psych-Predicate Constructions

- a. Movement from Target to Causer
- b. Movement from Causer to Causer

Thus, the subject in (15a) is interpreted as Causer and Target (the complement of the psych predicate). This is a clear case. In (15b), however, the movement is from Causer to Causer, which makes it unclear whether the subject is moved or not in this case. The situation is rather complex in (15c, d) since the predicate allows both Target and Causer as its complement. In other words, in (15c, d), the subject can be interpreted either as Causer only or as Causer and Target.

There is one important question to this analysis. What happens to the Case of psych-predicate under *-(s)ase*? Since there are many technical problems to be solved, we will just assume the following and leave this open here.

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- (17) The Case of psych-predicate under *-(s)ase* is absorbed by *-(s)ase* as in direct passives when the Causer (the Spec of *-(s)ase*) happens to be the same as the complement of psych-predicates.¹⁶

Notice that the causative *-(s)ase* absorbs the Case of psych-predicates like the passive head *-(r)are*. The difference, however, is the landing site, as mentioned above. The Spec of *-(s)ase* is a theta-position while the Spec of *-(r)are* in direct passives is not.

Going back to the properties in (4), we can easily explain them with the movement in (15). First, the subject is the same as the object of psych-predicates because the subject first starts in the object position and moves to the subject position. This, in turn, explains why the object is missing, and the fact that even though the object is missing, we can understand that the subject is the missing object.

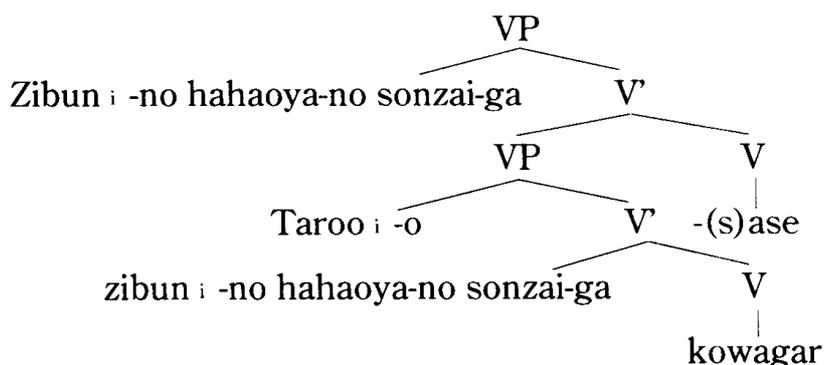
4.2 The Backward Binding and the Interpretation

Let us return to the cases which led to the movement analysis above. Although binding phenomena have been temporarily outside of the research domain in the Minimalist theory, we will try to account for our case of backward binding, assuming a copy theory of movement.

Suppose that we have the following structure.

- (18) a. *Zibun-no hahaoya-no sonzai-ga Taroo-o kowagar-ase-ta.* (= (7b))

b.



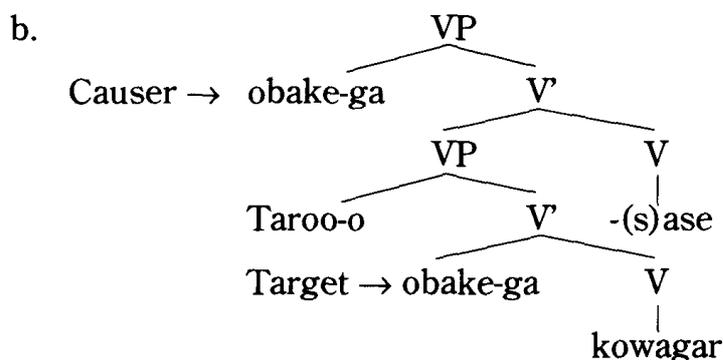
In (18b), the Target of emotion, *zibun-no hahaoya-no sonzai-ga*, moves to the Spec of the upper VP, leaving behind a copy of it. Then, the Experiencer *Taroo* c-commands the Target *zibun-no hahaoya-no sonzai-ga*. Thus, the backward binding is accounted

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for with the structure (18).

Next, as for the interpretation of objects of psych-predicates, it is accounted for easily if a copy of the moved DP stays in the object position of psych-predicates. For example, consider the example similar to (4) and (12a).

- (19) a. *obake-ga Taroo-o kowagar-ase-ta.*
 ghost-NOM Taroo-ACC fear (scare)-caused (= frightened)
 ‘Ghosts caused Taroo to fear them.’



The DP *obake-ga* moves from the Complement of the psych-predicate to the Spec of the causative head, leaving behind its copy. Thus, the subject *obake-ga* is construed as Causer and at the same time as Target of emotion, although the copy does not realize phonetically.

5. Concluding Remarks

We have shown some evidence for movement analysis of Japanese psych-predicates embedded under the causative *-(s)ase*, based on the observation of the backward binding and the interpretation of the complement of psych-predicates. Assuming that the Spec of *-(s)ase* is a theta-position for Causer in the sense of Pesetsky, we have argued that the movement is the one into a theta-position, unlike Italian counterparts, and accounted for the properties which otherwise remain mysterious.

As mentioned above, there are some technical problems in assuming movement into a theta-position, that is, the relation between Case and movement into a theta-position. We just assumed (17). Another important thing we have to discuss is a motivation for the movement. And we leave these problems open for future research.¹⁷

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Notes

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- ¹ As for the case-marker, it may vary among speakers. In this paper, the arguments are dependent on this classification in (1). It is at least clear that there are three classes, and I will try to account for the data on the basis of the three classes.
- ² Sugioka (1992) explains the difference between the Accusative Construction and the Dative one by assuming different argument structures for each construction.
- ³ Pesetsky (1995) divides the so-called Theme of psych verbs into two roles. One is Causer, and the other is Target. This is crucial in our analysis.
- ⁴ We will consider only non-agentive causatives in this paper. So far we have not found the type of (4) in agentive causatives. Thus, we use the term Causer, but not Agent for the Spec of *-(s)ase*.
- ⁵ The following is the example of this kind pointed out by Yasuo Ishii (personal communication).
 Hanako-no hanasi-ga minna-o tiisana monooto-ni (mo) obie-sase-ta
 everyone-ACC little noise-DAT (even) scared-cause-PAST
 'Hanako's story caused everyone to be scared at even a little noise.'
- ⁶ See Harada (1973), Saito (1982) for the constraint. Here, the constraint is applied to a phonetic null element (*pro*) as Saito (1982) argues.
- ⁷ Akatsuka (1976) proposes a different analysis from ours. She argues that the emotional verbs are intransitive, and embedded under *-(s)ase*. But in Teramura (1982) it is regarded as a transitive verbs in a sense that it has a complement. We assume in this paper that psych-predicates are transitive.
- ⁸ Taking the backward binding into consideration, we cannot adopt Kuroda's analysis. However, Kuroda's intuition is carried on to our analysis.
- ⁹ Masatake Muraki (personal communication) pointed out that the predicate can be an intransitive verb, and thus it does not have to take its complement. Teramura (1982) assumes that they take their complement. It is important to note that the subject can be understood as the object of the predicate. In other words, the object can be understood as only its subject, but not as anything else.
- ¹⁰ There is another possibility for the empty category. Hasegawa (1985) argues that the empty category is a variable bound by a topic. As for (12c), it does not make any difference whether the empty category is a *pro* or a variable. As for (12a), however, it makes a different prediction. If the empty category is a variable bound by a topic, it cannot be the same as the subject, contrary to the fact. But it will be shown that the empty category is not a *pro* or a variable but

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- a trace (copy) of the subject. Thus, it is not important here whether it is a *pro* or a variable.
- ¹¹ In Belletti and Rizzi (1988), many properties of Italian psych verbs are discussed. One thing relevant here is that verbs of *preoccupare* (frighten) type involve a movement. This class corresponds to the Japanese case where psych-predicate *kowagar* (fear) is under the causative head *-(s)ase*. Thus, *preoccupare* and *kowagar-ase* are similar in that they involve a movement.
- ¹² Pesetsky (1995) points out the same problem for English psych verbs, and argues that the movement is into a theta-position.
- ¹³ Chomsky (1995) argues that movement into a theta-position is not allowed.
- ¹⁴ This movement may fall under Pesetsky's analysis of movement. But he presents only one type of movement based on English data. However, Japanese case presents another type of movement which cannot be captured by his analysis. For a discussion of movement into a theta-position, see Pesetsky (1995).
- ¹⁵ The other examples like (5), (6), (12c) do not involve movement into a theta position. In other words, the number of arguments and the number of theta roles are the same.
- ¹⁶ The Accusative Case feature of the psych-predicate is absorbed by *-(s)ase*, and the checking of Accusative Case feature of the embedded subject, for example *Taroo-o* in (15) is checked by the absorbed case feature in the domain of the causative *-(s)ase*. The same effect as (17) might be obtained by optionality of head-movement of the psych-predicate to the causative *-(s)ase*, but we will not pursue this possibility here.
- ¹⁷ These problems will be discussed in Fujimaki (in preparation).

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