

## E-4

### An adjunction approach to the PSP construction in Japanese

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#### 1 Background

There is a type of adjectives in English such as *tasty* and *fun* which is dubbed as ‘predicates of personal taste’ (Lasersohn 2005). Matsuoka (2016) views these adjectives in Japanese (e.g. *oishi* ‘tasty,’ *omoshiroi* ‘interesting,’ *utukusii* ‘beautiful’) as a novel type of secondary predication and call them personal-taste secondary predicates (thereafter, PSPs). When this kind of adjectives appears in a transitive construction, it shows a dual orientation toward the subject and the object. For example, a PSP such as *oishi-ku* ‘delicious-Aff’ in (1) describes an evaluation of the accusative-marked object *katuo* ‘bonito’ from the view of the subject referent *Taroo*.

- (1) *Taroo-ga katuo-o oishi-ku tabe-ta.* (koto)  
 Taro-Nom bonito-Acc delicious-Aff eat-Past fact  
 ‘(the fact that) Taro ate the bonito and found it delicious.’ (Matsuoka 2016: 4, (8a))

Matsuoka (2016) reports that the PSP can precede or follow the object and its associated numeral quantifiers (thereafter, NQs) as in (2a), but it cannot intervene between them, as given in (2b).

- (2) a. ?*Taroo-ga oishi-ku katuo-o san-kire tabe-ta.*  
 Taro-Nom delicious-Aff bonito-Acc 3-Cl eat-Past  
 b. \**Taroo-ga katuo-o oishi-ku san-kire tabe-ta.*  
 Taro-Nom bonito-Acc 3-Cl delicious-Aff eat-Past (Matsuoka 2016: 4, (8b) & (8b))

In order to explain this fact, Matsuoka claims that the PSP is merged to the complement of V assuming Ko’s (2011) Edge Generalization (thereafter, EG). In this study, I counter-argue this complementation approach to the PSP construction. Alternatively, I propose PSPs are adjuncts, merging externally to VP, further investigating the VP-constituency of PSPs. I also show that this alternative proposal is in harmony with the EG as well.

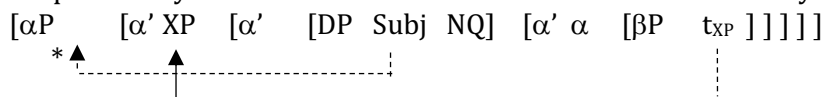
#### 2 Matsuoka (2016) and its problems

Matsuoka claims the structure in (3) for the PSP construction.

- (3) [<sub>VP</sub> *Taroo* [<sub>V'</sub> [<sub>VP</sub> *sakana* [<sub>V'</sub> [<sub>AP</sub> [<sub>PSP</sub> *oishi-ku*] [<sub>AP</sub> EATEN ] ] V-BE]] v-CAUSE]]

In (3), the VP is a predication structure in which the PSP and EATEN constitute a complex predicate and take the DP *sakana* ‘fish’ as its subject. The definition of the EG is given in (4).

- (4) EG in the predication domain Ko (2011: 733, (15))  
 If X and Y are dominated by a specifier  $\gamma P$  of a predication domain  $\alpha P$ , X and Y cannot be separated by an  $\alpha P$  internal element Z that is not dominated by  $\gamma P$ .



Say X and Y are Subj and NQ in (4), respectively. Both are dominated by DP that is within a predication domain  $\alpha P$ . Hence, they cannot be separated by XP. The EG predicts that edge elements *sakana* and *san-kire* ‘3-Cl’ in (2) are in special ordering restriction with respect to the PSP. As the PSP is the complement of VP, it can be probed by V and moved to the edge of VP, which results in a licit spell-out as in (2a). But the order of (2b) is illicit. This is because the object and its NQ are on the Spec of VP and they cannot be probed by V and moved within VP.

Although this account sounds theoretically elegant, I argue that Matsuoka's proposal is not conclusive. First, according to my informants (11 native speakers of Japanese), the word order (2b) is not totally unacceptable. Secondly, the PSP does not identify some properties of the complement. The Result State Predicates (thereafter, RSPs) such as *kiiro-ku* 'yellow-Aff' can compose a *te-aru* aspectual sentence with the verb as in (5a) (Martin 1975, Miyagawa 1989, Koizumi 1994).

- (5) a. (Hanako-no) Tume-ga kiiro-ku nut-te aru. (RSP construction)  
 Hanako-Gen nail-Nom yellow-Aff have.painted Be  
 '(Hanako's) Finger nails are being painted yellow.'
- b. Teeburu-ga kirei-ni fui-te aru.  
 Table-Nom clean-Aff have.wiped Be  
 'The table is being wiped clean.'

Koizumi (1994) argue that this is because they are base-generated in the complement of the verb. If the PSP was merged to the complement of the verb, it should have appeared in the same construction. However, as in (6), the PSP cannot compose this type of sentence, which indicates that the PSP may not be the complement of the verb.

- (6) a. \*Sono robun-ga omosiro-ku yon-de aru. (PSP construction)  
 the paper-Nom interesting-Aff have.read Be  
 'The paper have been read and (people) found it interesting.'
- b. \*Sono sakana-ga oisi-ku tabe-te aru.  
 the fish-Nom delicious-Aff have.eaten Be  
 'The fish is being eaten and (people) found it tasty.'

Furthermore, since Rothstein (1983), it is widely assumed that the contrast between the RSP and the O(bject) S(econdary) D(epictive) can be observed in the *wh*-extraction in English (Kishimoto 2008), although they share the same property with respect to the proposing, *tough*-movement and quasi-cleft (Roberts 1988). Both secondary predicates in (7) intend to ask the degree of the result state of an object as a result of the action of the main predicate. In (7a), *how raw* asks the degree of 'rawness' of the meat as a result of eating and this sentence is ill-formed, while in (7b) *how flat* asks the degree of 'flatness' of the metal as a result of pounding, which produces a licit sentence.

- (7) a. \*How raw did John eat the meat? (OSD)  
 b. How flat did John pound the metal? (RSP)

Rothstein (1983) attributes this contrast to their structural position. She argues that the RSP is the complement but the OSD is a VP-adjunct.

Although Japanese has no obligatory *wh*-extraction, the data in (8) shows that an RSP can be *wh*-questioned, whereas an OSD cannot. An RSP *donogurai aka-ku* 'how.red' may describe the degree of 'redness' of the car as a result of the painting event. On the other hand, an OSD *donogurai nama-de* 'how.raw' cannot ask the degree of 'rawness' of the fish as a result of the eating event.

- (8) a. \*Taro-wa donogurai nama-de sono sakana-o tabe-ta no. (OSD)  
 Taro-Top how raw-OSD the fish-Acc eat-Past Q  
 '\*How raw did Taro eat the fish?'
- b. Taro-wa donogurai aka-ku sono kuruma-o nut-ta no. (RSP)  
 Taro-Top how red-Aff the car-Acc paint-Past Q  
 'How red did Taro paint the car?'

Following Rothstein (1983), I argue that the complementation-adjunction contrast gives rise to the difference in (8). Provided with this, if the PSP is the complement of the verb, it should pattern alike with the RSP. However, the data in (9), although the judgement may vary, shows that it is quite difficult

to argue that PSPs may be the complement of the verb, since they cannot simply describe a result state of an object. For instance, in (9a), it is hard to argue that the PSP *donogurai oisi-ku* ‘how tasty’ represents a (degree of) result state of the fish by the action of eating. Similarly, in (9b) the PSP *donogurai omosiro-ku* ‘how interesting’ cannot represent a result state of the paper as a result of reading event. Of course, both secondary predicate can describe the degree of satisfaction of the agent, as a result of the action.

- (9) a. ?/\*Taro-wa donogurai oisi-ku sono sakana-o tabe-ta no.  
 Taro-Top how tasty-Aff the fish-Acc eat-Past Q  
 ‘\*How tasty did Taro eat the fish?’  
 b. ?/\*Taro-wa donogurai omosiro-ku sono ronbun-o yon-da no.  
 Taro-Top how interesting-Aff the paper-Acc read-Past Q  
 ‘\*How interesting did Taro read the paper?’

To sum up, if the PSP was the complement, it should have been compatible with the *te-aru* aspectual sentence and it should have been compatible with the *wh*-extraction. So far, we have identified neither properties; the PSP is not the complement of the verb.

### 3. Proposals

The facts in (6) and (9) point out that the PSP must not be the complement of the primary predicate; and the new fact that the PSP can intervene between the object and its NQ leads us to search an alternative proposal. We have at least two possibilities: the PSP is merged outside of the whole VP (somewhere in vP) and the PSP is still inside of the VP. Before testing these two possibilities, we will see the internal structure of the PSP.

#### 3.1 The internal structure of the PSP

Following the major previous literature about the secondary predication (Kishimoto 2008, Matsuoka 2013), I assume that the PSP constitutes a small clause (Bowers 1993). I adopt Bowers’ Predication Projection (thereafter, PredP) without further discussion. In the PredP, the PSP constitutes a head together with the morpheme *-ku*. The fact that the accusative-marked DP of this construction can launch the NQ as in (10b) also supports the hypothesis that the PredP containing the PSP has the external position.

- (10) a. John hammered the metal rods all flat. (RSP in E)  
 b. Taro-ga ronbun-o san-bon omosiro-ku yon-da. (PSP in J)  
 Taro-Nom paper-Acc 3-Cl interesting-Aff read-Past  
 ‘Taro read the three papers and found them interesting.’

Then the question is whether the direct object is within this PredP or not. I argue for the view that it is not the subject of PredP but an object of the main verb, following Matsuoka (2016). The essential evidence for this argument comes from the fact that the direct object can be modified by the adverbial quantifier *ippai* ‘a.lot.’ (Kishimoto 2005).

- (11) [<sub>PredP</sub> omosiro-ku ] [<sub>VP</sub> DP V ]]

Intuitively, the PSP predicatively describes the direct object, thus we want to connect them structurally. But the structure (11) cannot embody this semantics. Then I propose that the subject position of the PredP is occupied by an empty pronoun PRO or *pro* that is bound by the object of the clause as shown in (12).

- (12) [<sub>PredP</sub> PRO<sub>i</sub>/ omosiro-ku ] [<sub>VP</sub> DP<sub>i</sub> V ]]

### 3.2 Testing the two hypotheses

The next question is where exactly the PredP exists in the structure. Is it external or internal to the whole VP? In this subsection, I will test two hypotheses and defend the latter position.

If the PredP including the PSP is located externally to VP, we have a structure like (13).

(13) [<sub>VP</sub> Taro [<sub>v'</sub> [<sub>PredP</sub> PRO<sub>i</sub> oisi-ku] [<sub>VP</sub> sakana<sub>i</sub> [<sub>AP</sub> EATEN ] V-BE ] v-CAUSE]]

The structure (13) explains the fact that the PSP can interrupt between the direct object and its NQ, since it allows an ordering Obj>PSP>NQ when the object is scrambled over the vP-edge. This is in harmony with the EG in (4).

However, (13) cannot account for the fact that the so-called Null Adjunct Reading (thereafter, NAR) by Funakoshi (2016). Funakoshi's observation is that an NAR is obtainable when an adjunct and its domain-mate object is elided together in the transitive construction. In other words, adjuncts cannot be null with its clause-mate object overtly available. In each example of (14), the adjunct is elided together with the direct object in the successive discourse. The fact is that we understand the adjunct meaning is also missing in the elided discourse.

- (14) a. Bill-ga teineini kuruma-o arawa-nakat-ta. John mo  $\varnothing$  arawa-nakat-ta.  
 Bill-Nom carefully car-Acc wash-Neg-Past John also wash-Neg-Past  
 'Bill didn't wash the car carefully. John also didn't wash.'  
 b. Bill-wa teineini kuruma-o arat-ta kedo John-wa  $\varnothing$  arawa-nakat-ta.  
 Bill-Top carefully car-Acc wash-Past but John-Top wash-Neg-Past  
 'Bill washed the car carefully but John didn't.'

An NAR is not obtainable when an adjunct alone is elided. In the elided discourse of (15), it is hard to recover the manner reading of how John washed the car.

- (15) Bill-ga teineini kuruma o arawa-nakat-ta. John mo  $\varnothing$  kuruma-o arawa-nakat-ta.  
 Bill-Nom carefully car-Acc wash-Neg-Past John also car-Acc wash-Neg-Past  
 'Bill didn't wash the car carefully. John also didn't wash the car.'

Hence in order to obtain an NAR, it is necessary for an adjunct to be a clause mate with the direct object. By the hypothesis (13), if the PSP were merged outside of VP (i.e., the edge of vP, for instance), an NAR should have been unavailable, since the PSP and the object cannot be elided together, contrary to the fact in (16).

- (16) a. Taro-ga sakana-o oisi-ku tabe-nakat-ta. Jiro mo  $\varnothing$  tabe-nakat-ta.  
 Taro-Nom fish-Acc tasty-Aff eat-Neg-Past Jiro also eat-Neg-Past  
 'Taro ate the fish and found it awful. Jiro also found so.'  
 b. Taro-wa sakana-o oisi-ku tabe-ta kedo Jiro-wa  $\varnothing$  tabe-nakat-ta.  
 Taro-Top fish-Acc tasty-Aff eat-Past but Jiro-Top eat-Neg-Past  
 'Taro ate the fish and found it tasty but Jiro did not found it so.'

The fact in (16) leads us to the other hypothesis that the PSP should be merged within VP. As we have seen in the previous section, the PSP cannot be the complement of the verb. Then the question is where it is located within VP. I argue that it is the edge of VP, outside of the most-inner part of the VP but lower than the VP-adjuncts (e.g., manner-adverbs or instrumental PPs), assuming that the VP-adjuncts are inside of VP (Kishimoto 2016). The PSP is lower than these adjuncts, as the order PSP > MA/INSTR PP is not obtainable immediately as in (17b).

- (17) a. Taro-ga {yukkuri/naifu de} oisi-ku sakana-o san-kire tabe-ta.  
 Taro-Nom slowly/knife with tasty-AFF fish-Acc three-CL eat-Past

- b. ?/\*Taro-ga oisi-ku {yukkuri/naifu-de} sakana-o san-kire tabe-ta.  
 Taro-Nom tasty-AFF slowly knife with fish-Acc three-CL eat-Past  
 ‘Taro ate the three slices of fish {slowly/with a knife} and found them tasty.’

### 3.3 The position of the PSP within VP

If the PSP is located at the edge of VP, we can propose a structure like (18).

- (18) [<sub>VP</sub> Taro [<sub>v</sub> [<sub>VP</sub> [MAS] [<sub>VP</sub> PredP PRO<sub>i</sub> oisi-ku] [<sub>VP</sub> sakana<sub>i</sub> [<sub>AP</sub> EATEN] V-BE] v-CAUSE]]

The structure (18) explains the fact that the PSP can interrupt between the direct object and its NQ. Under the EG in (4), when the object alone is probed by *v*, leaving its NQ in the original position, it can be higher than the PSP and the derivation in which the PSP interrupt the object and its NQ is produced. This structure also accounts for the availability of the NAR with the PSP.

Furthermore, it is widely assumed that the pro-form *soo-su* ‘do.so’ takes the VP as its antecedent (Shibatani 1972; 1990, Koizumi 1994). The given pro-form *soo* in the in (19) refers to the VP *Chomsky-no hon-o kau* in the previous discourse. Thus, an interpretation in which Jiro also bought a book copy by Chomsky is induced in (19).

- (19) Taro-wa [Chomsky-no hon-o] kat-ta. Jiro mo soo si-ta.  
 Taro-Top Chomsky-Gen book-Acc buy-Past Jiro also so do-Past  
 ‘Taro bought a book copy by Chomsky. Jiro did so too.’

Assume that *su* ‘do’ is attached on *v* (Kishimoto 2001). If the PSP is inside of VP, we expect that *soo-su* can take a set of the PSP and the direct object together as an antecedent. On the contrary, if it is outside of the same VP, the pro-form can take only the direct object as its antecedent. The data in (20) prefer the former premise. To conclude, the PSP must be merged within VP.

- (20) a. Taro-wa [ronbun-o omosiro-ku] yon-da. Jiro mo soo si-ta.  
 Taro-Top paper-Acc interesting-Aff read-Past Jiro also so do-Past  
 ‘Taro read the paper (and found it) interesting. Jiro also did so too.’  
 b. Taro-wa [ronbun-o omosiro-ku] yon-da. \*Jiro mo omosiro-ku soo si-ta.  
 Taro-Top paper-Acc interesting-Aff read-Past Jiro also interesting-Aff so do-Past  
 ‘Taro read the paper (and found it) interesting. \*Jiro also did so interesting.’

## 4 The semantics of the PSP construction

PSPs have been paid much attention in the literature of semantics (Lasersohn 2005, Stephenson 2008, Kennedy 2013, among others). The PSPs *tasty*, *disgusting*, *fun* and *interesting* in English are known as ‘subjective,’ compared to more objective adjectives such as *vegetarian* or *mechanical*. What is peculiar about this type of adjectives is that they show the ‘faultless disagreement’. Beatrice’s utterance in (21) seems to contradict Anna’s utterance thereby expressing a kind of disagreement. But we have a clear sense that what both Anna and Beatrice said are right, and so the disagreement is ‘faultless.’ When the predicate is replaced with the more objective adjective as in (22), this semantic effect disappears.

- (21) Anna: ‘Trippa alla romana’ is tasty.  
 Beatrice: ‘Trippa alla romana’ is not tasty.

- (22) Anna: ‘Trippa alla romana’ is vegetarian.  
 Beatrice: ‘Trippa alla romana’ is not vegetarian.

Kennedy (2013) claims that a complement of the verb *find* should contain a subjective predicate.

- (23) a. Anna {consider/finds} *trippa alla romana* tasty.  
 b. Anna {considers/??finds} *trippa alla romana* vegetarian.

Adjective-Epistemic Verbs (thereafter, AEVs) in Japanese in (24) may show the similar property. According to Matsuoka (2009), epistemic verbs *omow* ‘think’ or *kanjiru* ‘feel’ take a complement clause with a non-finite adjective of *ku-* or *ni-*ending. This is predicated of an accusative DP in the given clause.

- (24) a. Taro-ga Hanako-o itoosi-ku omot-ta.  
 Taro-Nom Hanako-Acc fond-Aff think-Past  
 ‘Taro felt affection for Hanako.’ (Matsuoka 2009: 64, (3a))

EAV constructions allow the PSP adjectives but disallow predicative nominals such as *sinkaijyo* ‘deep-sea.fish’ as their complement. When the predicative nominals are selected, they must appear with the complementizer *to* or *da to* ‘DEC COMP’ as in (25c). I tentatively conclude that the PSP are subjective in nature.

- (25) a. Taro-ga sono sinkaijyo-o oisi-ku {omot-ta / kanji-ta}.  
 Taro-Nom the deep-sea.fish-Acc tasty-Aff think-Past/feel-past  
 ‘Taro though/felt that the deep-sea fish was tasty.’  
 b. \*Taro-ga sono sakana-o sinkaijyo-ni {omot-ta / kanji-ta}.  
 Taro-Nom the fish-Acc deep-see.fish-Aff think-Past/feel-Past  
 ‘Taro though/felt that the fish was a type of deep-sea fish.’  
 c. Taro-ga sono sakana-o sinkaijyo da to {omot-ta / kanji-ta}.  
 Taro-Nom the fish-Acc deep-see.fish DEC COMP think-Past/feel-Past  
 ‘Taro though/felt that the fish was a type of deep-sea fish.’

## 5 Conclusion

Based on Matsuoka’s (2016) findings of the PSP construction in Japanese, I have developed an alternative account for the construction in which the PSP is merged external to VP. Matsuoka (2016) argues that the PSP is merged within the most inner VP as the complement of the verb. In this study, I have counter-argued this complementation view. Alternatively, I propose PSPs are VP adjuncts by investigating the VP-constituency of PSPs.

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