On the Syntax of the Adjective-based Adverbs

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1 Introduction

Studies of small clause constructions in Japanese have revealed that certain expressions that describes speaker's psychological state, such as *oisiku* 'tastily' (the psychological predicate) can be associated with either the epistemic verb (EV) or non-epistemic verb (NEV), as instantiated in (1).

(1) a. John-wa   sono sasimi-o   oisi-ku   omotta.
    John-TOP   that raw.fish-ACC   delicious   thought
    'John thought that the raw fish was delicious.'
   b. John-wa   sono sasimi-o   oisi-ku   tabeta.
    John-TOP   that raw.fish-ACC   delicious   ate
    'John ate the raw fish and found them delicious.'

Superficially, these expressions are appearing in the same position in these two examples. However, detailed investigations on the distribution of these expressions, we can find some remarkable differences. Most remarkably, *oisi-ku* in an epistemic verb construction (EVC) like (1a), cannot appear before the accusative object as in (2a) (Koizumi 2002), while the one appearing in a non-epistemic verb construction (Non-EVC) like (1b) can as in (2b).

(2) a. * John-wa   oisi-ku   sono sasimi-o   omotta.
       John-TOP   delicious   that raw.fish-ACC   thought
       'John thought that the raw fish was delicious.'
    b.   John-wa   oisi-ku   sono sasimi-o   tabeta.
       John-TOP   delicious   that raw.fish-ACC   ate
       'John ate the raw fish and found them delicious.'

This study attempts to provide an explanation for this constraint on the distribution of the psychological predicates. Specifically, I argue for the position that the predicate in (1a) is embedded in a small clause that is sister to the verb, while the one in (1b) is adjoined to VP. Specifically, in (1a) the object and the psychological predicate constitute a predicational phrase, while in (1b) they do not.

2   Background

The psychological predicate in Japanese, as (1) and (2) show, cannot precede the object in the EVC, whereas it can in the Non-EVC. Korean psychological predicates show exactly the same distributional pattern (see Miura 2021 for more details).

(3) a. * Talo-nun   masiss-key   ku   mwulkoki-lul sayngkakhayssta.
       Talo-TOP   delicious   that   fish-ACC   thought
       'Talo thought that the fish was delicious.'
    b. Talo-nun   masiss-key   ku   mwulkoki-lul   mekessta.
       Talo-TOP   delicious   that   fish-ACC   ate
       'Talo ate the fish and found it delicious.'

In the EVC with *sayngkakhayss* 'think' the psychological predicate *masiss-key* 'delicious' cannot precede both the object and the subject. On the other hand, in the Non-EVC with *meke* 'eat' it can precede both of them.

It is widely assumed that in both Korean and Japanese the subject and the object distribute differently with respect to the floating of numeral quantifiers (NQ) (Kuno 1973, Miyagawa 1989).

(4) a. biiru-o   John-wa   san-bon   non-da.
         beer-ACC   John-NOM   3-CL   drink-PST
         'John drank three bottles of beer.'

    b. * gakusei-tati-ga   biiru-o   san-nin   non-da.
         student-PL-NOM   beer-ACC   3-CL   drink-PST
         'Three students drank beer.'

In (4a), the subject *John* can intervene between the subject *biiru* 'beer' and its NP *san-bon* 'three bottles'. On the other hand, the object cannot split the subject and its NP as (4b) shows.

The same pattern is found in Korean. As in (5a), the subject *John* can appear between the object *maykcwu* 'beer' and its NQ *sey-pyeng* 'three bottles', while the object cannot appear between the subject *haksayng-tul* 'students' and its NQ *sey-myeng* 'three persons' as in (5b).

(5) a.   Maykcwu-lul   John-i   sey-pyeng   masi-ess-ta.
         beer-ACC   John-NOM   3-CL$_{bottle}$ drink-PST-DEC
         'John drank three bottles of beer.'
    b. * Haksayng-tul-i   maykcwu-lul   sey-myeng   masi-ess-ta.
         student-PL-NOM   beer-ACC   3-CL$_{person}$ drink-PST-DEC
         'Three students drank beer.'   (Ko 2011: 734, (17))

The psychological predicate cannot precede the floated quantifiers in the EVC, but it can in the Non-EVC, both in Japanese and in Korean, suggesting that psychological predicates assume a tighter relation with the EV than with Non-EV.

(6) a. Taroo-wa   ronbun-o   (*omosiro-ku)   ni-hon   omotta.
        Taro-TOP   paper-ACC   interesting   2-CL   thought
        'Taro thought/felt two papers were interesting.'
    b. Taroo-wa   ronbun-o   (omosiro-ku)   ni-hon   yonda.
        Taro-TOP   paper-ACC   interesting   2-CL   read
        'Taro read two papers and found them interesting.'

(7) a. * Talo-nun   ku   mwulkoki-lul   masiss-key   sey-mali
         Talo-TOP   that   fish-ACC   delicious-key 3-CL
         sayngkakhayssta.
         thought
   'Talo thought that the three fish were delicious.'

b. ? Talo-nun ku   mwulkoki-lul   masiss-key   sey-mali mekessta.
   Talo-TOP that fish-ACC   delicious-key 3-CL   ate
   'Talo ate three fish and found them delicious.'

To wrap up, both in Japanese and Korean, the psychological predicate in the EV clause identifies the order freezing phenomena with respect to the object, while the psychological predicate in the Non-EV clause does not identify such a phenomena.

3   Edge Generalization and Small Clauses

Ko (2014) proposes the Edge Generalization (EG). In (8) γP elements appearing in the specifier of a predication domain like (8b) cannot be separated by their domain-internal elements Z at any stage of derivations so-called

(8)   a.   Edge Generalization (EG)
           If X and Y are dominated by a specifier γP of a Spell-out
           domain αP, X and Y cannot be separated by an αP-internal
           element Z that is not dominated by γP.
      b.   αP

                                                *[X…Z…Y]
                                                    (Ko 2014: 24)
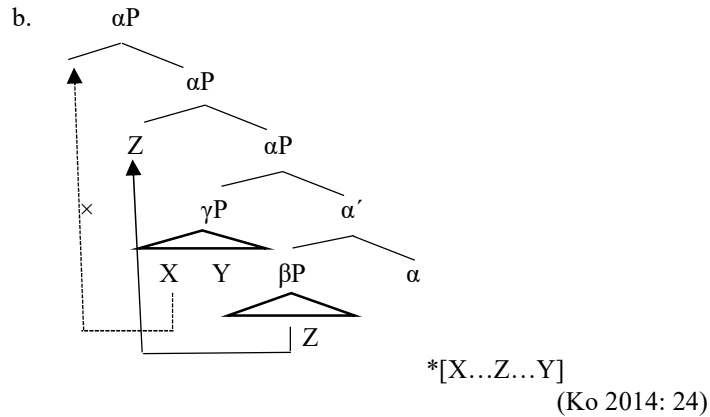
The element Z in βP can move over γP since it is c-commanded by α. Thus, it is possible to derive the order Z-X-Y from the structure (8b). However, the element X in γP cannot be remerged to the specifier of αP because X is not contained in the c-command domain of the head α. Hence, the order X-Z-Y cannot be derived from the structure (8b).

   Ko argues that the EG can account for the asymmetry of the subject and object concerning the floating of their NQs as in (4) and (5). Because the object is contained in the c-command domain of v, it can be probed by v and remerged over the subject position at the specifier of vP, leaving its NQ

within VP. The subject, however, cannot be probed by v within vP since it is not contained in the c-command domain of v. Thus, the subject cannot move over the remerged position of the object. This is why the order *Subj-Obj-Subj$_{NQ}$ is never derived.

Korean has two types of small clause constructions. In the *consider*-type small clause (e.g., *samas*) such as (9a) the small clause predicate *ceyca-lo* 'student-as' cannot intervene the object *cencik taythonglyeng-ul* 'former president-ACC' and its NQ *sey-myeng* 'three-persons', whereas in the *hire*-type verb sentence (e.g., *ppopas*) as in (9b) the small clause predicate *kyoswu-lo* 'professor-as' can intervene the object *cencik taythonglyeng-ul* 'former president-ACC' and its NQ *sey-myeng* 'three-persons'.

(9) a. * Kim   kyoswu-nun   cencik taythonglyeng-ul   ceyca-lo
　　　 Kim   professor-TOP   former president-ACC   　　 student-as
　　　 sey-myeng   samassta.
　　　 3-CL   　　 considered   　　　　　 (Ko 2014: 136, (11))
　　　 'Prof. Kim considered three former presidents as (his) students.'
　 b. ⁰⁄₀ SNU-nun cencik taythonglyeng-ul   kyoswu-lo   　 sey-myeng
　　　 SNU-TOP   former president-ACC   　 professor-as   3-CL
　　　 ppopassta.
　　　 hired   　　　　　　　　　　　 (Ko 2014: 139, (17))
　　　 'Snu hired three former presidents as (his) professors.'

Ko explains how the EG accounts for the contrast in (9). She argues that a small clause structure such as (10) being mediated by Relator (den Dikken 2007) is involved in (9a) but not in (9b). This is why the former has the order preservation effect while the latter does not.


(Ko 2011: 73)
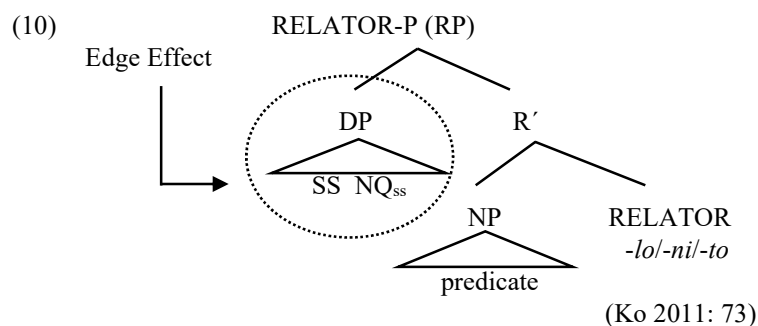
The order preservation effect is explained as follows: The matrix object in (10) (SS in (10)) and its NQ are contained in the specifier of RP. The small clause predicate, being as a complement of R can be remerged over the object

but the object itself must be frozen at the base position and never be fronted over the remerged position of the predicate within RP. This is why the order *Obj-Predicate-NQ$_{obj}$ is never derived.[1]

4 Proposals

In Section 3 we observed psychological predicates distribute differently depending on with which verb clause they may be combined. When they are combined in the EVC, their distribution against the object is restricted, whereas when they are combined in the Non-EVC, that is not the case. This fact strongly corelates with the object-predicate relation in the *consider*-type small clause in Korean and Japanese.

I propose that Japanese (and also Korean) psychological predicates (Adj-*ku* in (11)) in EVC includes the predicational structure RP such as (11a). On the other hand, the same predicate in Non-EVC does not contain RP as (11b) illustrates.

(11)   a.

   b.
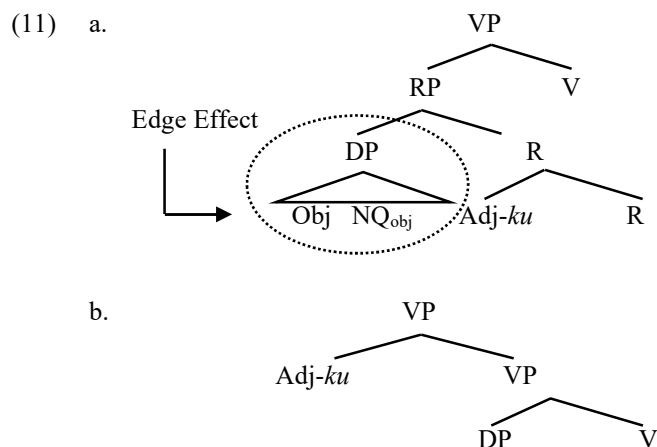
In (11a) the psychological predicate directly merges with R. The object and its NQ (when available) constitute a phrase at the edge of RP. The psychological predicate cannot move to the specifier of the same R head due to the violation of Anti-locality principle. Hence, it cannot move over the object or intervene between the object and its NQ.

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[1] One issue here is that the small clause predicate is the complement of R, and there is nothing wrong for R to probe the small clause predicate over the matrix object. If so, it should have been placed before the object. But this is not the case. Ko (2014) argues this remerge is blocked by Anti-locality principle, that is, the complement cannot move into the specifier of the same head (Abels 2003).

I argue the morpheme *ku-* is the adjective inflection but not a realization of the head R. According to Kishimoto (2021), *ku*-marked elements are an adjective-based adverbial and they do not project the subject position. Crucially, the *ku*-marked element cannot be associated with the copulative form *de-aru* 'be' as in **oisii-de-aru* 'tasty-COP', which is in sharp contrast with a depictive secondary predicate such as *nama-de-aru* 'raw-COP'.

However, there is a piece of evidence to indicate the element in (11a) forms a subject-predicate-like relation with the matrix object. The subject honorification in Japanese takes the local subject as its target of deference (Kishimoto 2021). For instance, the target of the deference of the adjective *oyasasii* 'kind' is the nominative-marked *Tanaka-sensei* but not the dative-marked *gakusei* 'student' as in (12a). When they alternate with each other, the honorific meaning disappears as in (12b).

(12) a. Tanaka-sensei-ga   gakusei-ni   o-yasasii.
          Tanaka-teacher-NOM   student-DAT   HON-kind
           'Teacher Tanaka is kind to his/her students.'
     b. * Gakusei-ga   Tanaka-sensei-ni   o-yasasii.
          student-NOM   Tanaka-teacher-DAT   HON-kind
          'The students are kind to Tanaka teacher.'

We can observe that the same relation is hold between the matrix object and the psychological phrase of the EVC, as in (13a).

(13) a. Gakusei-ga   Tanaka-sensei-o   o-ukusiku   omotta.
          student-NOM   Tanaka-teacher-ACC   HON-beautiful   considered
          'Students considered Tanaka teacher beautiful.'
     b. * Tanaka-sensei-ga   gakusei-o   o-utukusiku   omotta.
          Tanaka-teacher-NOM   student-ACC   HON-beautiful   considered
          'Tanaka teacher considered a student beautiful.'

In (13a) the accusative-marked NP *Tanaka-sensei* is the target of the deference of *o-utukusiku* 'HON-beautiful' and this is the local subject of the adjective with the honorific morpheme *o-*. When the accusative NP is *gakusei*, the sentence is non-sensical as in (13b). Although it is the local subject of the adjective, it cannot be the target of the deference.

The psychological phrase in the Non-EVC differs from the one in the EVC in terms of the subject honorification. The matrix object cannot be the target of the honorification as in (14) (see Kishimoto 2021 for more details).

(14) * Gakusei-ga   Tanaka-sensei-o   go-insyoobukaku syookaisita.
      student-NOM   Tanaka-teacher-ACC HON-beautiful   introduced
      'Students introduced Tanaka teacher impressively.'

In (14) the matrix object *Tanaka-sensei* is the perfect target of deference of the subject honorification. However, the honorific reading is not hold between the object and the psychological phrase, which suggests that the *ku*-element is not predicated of the matrix object.

5   Conclusions and Implications

This paper discusses the syntax of adjective-based psychological predicates. When they are combined with the clause of EV, it constitutes a small clause with the matrix object, and therefore their order is fixed. When it is combined with the clause of Non-EV, it does not consist of a small clause, which results in a free order against the object.

I suggest the present analysis has an implication to resultative clauses, following Ko (2014). Ko proposes *ni*-resultatives in Japanese (e.g. *makka-ni* 'deep.red-RES') show the order preservation effect with respect to the object, and therefore they constitute an RP. My suggestion is that *ku*-resultatives (e.g. *aka-ku* 'red-RES') do not involve an RP, which explains why there is no order preservation effect between the *ku*-resultative predicate and the matrix object.

Acknowledgments

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