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A SYNTACTIC APPROACH TO THE RESULTATIVES IN JAPANESE REVISITED *

1 INTRODUCTION

This paper explores the syntax of the resultative construction in Japanese. Shown below in (1) is an example of the construction.

(1) Taroo-ga **kabe-o** *akaku* nut-ta.[1]
Taroo-NOM wall-NOM red paint-PAST
`Taro painted the wall red.'

The example in (1) is interpreted as follows: The subject *Taro* caused the object *the wall* to be in the state designated by the adjective *red* by *painting*. The construction in Japanese has been analyzed in various ways, but in the syntactic field, it is considered to have the same structure as the English resultative construction. That is, resultative predicates are arguments of the verb. In this paper, however, I argue that Japanese resultative predicates are adjuncts, and the construction in Japanese does have the different structure from that in English. I propose that resultative predicates are headed by a functional projection which takes predicative APs with uninterpretable φ-features as its complement. Moreover, I argue that the uninterpretable φ-feature on the AP is valued by PRO in the specifier of the functional projection via Agree. For the Agreement operation, I assume Reverse Agree (Zeijlstra 2012). If my proposal is correct, it may serve as one argument in favor of Reverse Agree.

This paper is organized as follows. Section 2 reviews the previous studies, and point out their problems. Section 3 presents my proposal, and section 4 concludes the paper.

* This paper is the revised version of my presentation in the 148th meeting of the Linguistic Society of Japan, and Yamaguchi (2015). I would like to thank all the audience at the meeting. All the deficiencies are of course mine.

[1] In this paper, I use bold-type and italics to indicate the semantic subject of the resultative predicate and the resultative predicate, respectively.

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2 ARGUMENTS OR ADJUNCTS

In this section, we focus on the issue about whether or not the resultative predicates in Japanese are arguments. Fist, we review English previous analyses, Carrier and Randall (1992) and Hasegawa (1991), which argue that resultative predicates in English should be treated as arguments. In section 2.2, I will provide evidence which shows that Japanese resultative predicates are adjuncts so that the previous analyses of English resultative construction cannot be applied to Japanese.

2.1 The Argumenthood of the Resultative Predicates in English

It has been claimed in literature that English resultative predicate serves as an argument of the verb; Carrier and Randall (1992) present one piece of evidence for its argumenthood. The extraction of resultative predicates from a *WH*-island renders the sentence marginal and not totally ungrammatical as in the case of the extraction of arguments. See (2) and (3).

(2) a. ?[Which boys]$_i$ do you wonder whether to punish t_i ?
b. *[How]$_i$ do you wonder whether to punish these boys t_i ?
(Carrier and Randall 1992: 185)

(3) a. ?[How shiny]$_i$ do you wonder which gems to polish t_i ?
b. ?[How hoarse]$_i$ do you wonder whether they sang themselves t_i ?
(ibid.)

When we extract an argument from a *WH*-island the sentence becomes marginal, as (2a) shows. On the other hand, in the case of the extraction of an adjunct, the sentence is ungrammatical, as shown in (2b). The examples in (3) illustrate the case of the resultative predicates. As these examples demonstrate, the extraction of resultative predicates makes the sentence marginal, which is the same grammaticality that extractions of argument exhibit. Therefore, Carrier and Randall conclude that resultative predicates in English should be considered as arguments of the verbs.

Another piece of evidence for this claim is provided by Hasegawa (1991), who shows that the resultative predicates in English cannot be stacked in one clause. Observe (4).

(4) a. John washed **the clothes** *clean*.
b. John washed **the clothes** *white*.
c. *John washed **the clothes** *clean white*. (Hasegawa 1991: 2)

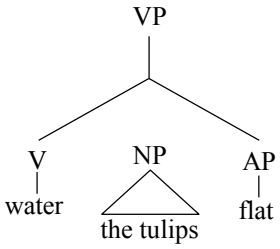
The examples in (4a) and (4b) show that both the adjectives *clean* and *white* can serve as resultative predicates, but when the two resultative predicates are stacked, the

sentence becomes ungrammatical as shown in (4c). If the resultative predicates serve as adjuncts, however, it should be possible for them to be used more than once in one clause If we regard the resultative predicates as arguments, we will be able to explain the possibility of "stacked" predicates.

To capture this property, Carrier and Randall (1992) and Hasegawa (1991) propose the same structure:

(5) a. John watered **the tulips** *flat*.

b.



(Carrier and Randall 1992: 223)

In this structure, the predication relationship between the resultative predicates *flat* and its subject *the tulips* is established via mutual c-command.

2.2 Showing That Resultatives Predicates in Japanese Are Adjuncts

In the previous section, we have observed from Carrier and Randall (1992) and Hasegawa (1991) that resultative predicates in English exhibit the same behavior as arguments. Some previous studies treat the Japanese resultative construction as English resultative construction (Hasegawa 1999), which implies that both of the constructions possess the same properties. Other previous studies claim that only some types of resultative predicates in Japanese are adjuncts (Takamine 2007), but I claim that all Japanese resultative predicates are adjuncts.

First, although there are some semantic restrictions, more than one resultative predicate can be stacked in one clause; that is, multiple resultative predicates can be used in Japanese.

(6) a. Taroo-ga **pankizi-o** *usuku* *tairani* nobasi-ta
Taro-NOM pancake-ACC thin flat spread-PAST
'Taro spread the pancake thin flat.'

b. Hanako-ga **tetu-o** *kireini* *pikapikani* migai-ta
Hanako-NOM iron-ACC clean shiny polish-PAST
'Hanako polished the iron clean shiny.'

In (6a), two resultative predicates *usuku* 'thin' and *tairani* 'flat' are used in the same clause, and in (6b), *kireini* 'clean' and *pikapikani* 'shiny' are also in the same clause. If the resultative predicates in Japanese were arguments of the verbs, we would not be able to use more than one predicate in one clause. The examples in (7) below show that the same type of arguments cannot be stacked.

(7) a. Taroo-ga yakyuu-o si-ta
Taro-NOM baseball-ACC do-PAST
'Taro played baseball.'
b. Taroo-ga sakkaa-o si-ta
Taro-NOM soccer-ACC do-PAST
'Taro played soccer.'
c. *Taroo-ga yakyuu-o sakkaa-o si-ta
Taro-NOM baseball-ACC soccer-ACC do-PAST
'Taro played baseball soccer.'

As (7c) shows, the sentence becomes ungrammatical when the objects of the same types are multiplied in the same clause. Thus, unlike in English, resultative predicates in Japanese do not have this restriction.

Another piece of evidence for the claim that resultative predicates are adjuncts comes from the fact that resultative predicates as well as adjuncts cannot be scrambled from the negative islands, while arguments can[2]. Take (8) and (9) for example.

(8) a. John-ga [kessite yuka-o subayaku migaka-nakat-ta]
John-NOM never floor-ACC quickly polish-NEG-PAST
'John never polished the floor quickly.'
b. ??John-ga subayaku$_i$ [kessite yuka-o t_i migaka-nakat-ta]
c. ??Subayaku$_i$ John-ga [kessite yuka-o t_i migaka-nakat-ta]
(Tanaka 2014)

(9) a. John-ga [kessite hon-o yoma-nakat-ta]
John-NOM never book-ACC read-NEG-PAST
'John never read books.'
b. John-ga hon-o$_i$ [kessite t_i yoma-nakat-ta]
c. Hon-o$_i$ John-ga [kessite t_i yoma-nakat-ta]
(ibid.)

As illustrated in (8b) and (8c), the extraction of adverb *subayaku* 'quickly' from the negative island renders the sentence ill-formed. On the other hand, as in (9b) and (9c) even if we extract arguments from the negative island, the grammaticality of the sentence does not change. Then, let us see the behavior of the resultative predicates in (10).

[2] See Tanaka (2014) for the details.

(10) a. John-ga [kessite **painkizi-o** *tairani* nobasa-nakat-ta]
John-NOM never wall-ACC flat spread-NEG-PAST
'John never spread the pancake flat.'
b. ?? John-ga *tairani*$_i$ [kessite **pankizi-o** t$_i$ nobasa-nakat-ta]
c. ?? *Tairani*$_i$ John-ga [kessite **pankizi-o** t$_i$ nobasa-nakat-ta]

(11) a. John-ga [kessite **tetu-o** *pikapikani* migaka-nakat-ta]
John-NOM never iron-ACC shiny polish-NEG-PAST
'John never polished the iron shiny.'
b. ??John-ga *pikapikani*$_i$ [kessite **tetu-o** t$_i$ migaka-nakat-ta]
c. ??*Pikapika-ni* John-ga [kessite **tetu-o** t$_i$ migaka-nakat-ta]

As in the case of adjuncts, the extraction of the resultative predicates from the negative island makes the sentence ill-formed. Hence, from these data I presented above, it is reasonable to suppose that resultative predicates in Japanese are adjuncts. Therefore, another analysis needs to be proposed.

In the following section, I present my proposal to overcome the problems pointed out in this section.

3 PROPOSAL

In this section, I present a new analysis of the resultative construction in Japanese. First, I provide assumptions to be employed in my analysis, and turn to the main proposal.

3.1 Assumptions

The first assumption I employ in this paper is about the way of Agreement operation. In my analysis, I assume Reverse Agree (Zeijlstra 2012) as an Agreement operation. The definition is shown below.

(12) *Reverse Agree*
α can Agree β iff;
a) α carries at least one uninterpretable feature and β carries a matching interpretable feature,
b) β c-commands α, and
c) B is the closest goal to α.

(Zeijlstra 2012: 17)

(13) a. Chomsky-type Agreemen b. Reverse Agree

As schematized in (13), Reverse Agree is different from Chomsky's (2000) version of Agreement. In Chomsky's version of Agreement, an element with an interpretable feature, a goal, needs to be in the sister domain of an element with an uninterpretable feature, a probe. On the other hand, Reverse Agree requires a probe to be in the sister domain of a goal.

The second assumption is that the resultative predicates in Japanese carry uninterpretable φ-features, which needs to be valued via Agreement. Evidence for the Agreement relation is provided by Italian as shown in (14).

(14) Ho dippinto **l'armadio** troppo *scuro*
have-1.SG paint-PP the-closet-M.SG too dark-M.SG
'I painted the closet too dark.'
(Napoli 1992: 85)

The resultative predicate *scuro* 'dark' has to be inflected into the masculine, singular form, the same feature as the matrix object *l'armadio* 'the closet.' I argue that this phenomenon applies cross-linguistically, and is, of course, applicable to Japanese.

3.2 The Position of the Resultative Predicates

Before moving on to the presentation of the configuration that I propose, we will observe where the resultative predicates are located. In literature, it has been assumed that Japanese resultative predicates are located in VP, as in their English counterpart, without any independent evidence from Japanese. Therefore, based on several pieces of evidence, I would like to claim that resultative predicates are indeed located inside VP.

First, a *v*P-fronting test shows that the resultative predicates are located at least in *v*P. Take (15) for example.

(15) a. Taroo-ga **kabe-o** *akaku* nut-ta
Taro-NOM wall-ACC red paint-PAST
'Taro painted the wall red.'

b. [$_{vP}$ **Kabe-o** *akaku* nuri sae] Taroo-ga si-ta
wall-ACC red paint even Taro-NOM do-PAST
'Even paint the wall, Taro did.'
c. *[$_{vP}$ **Kabe-o** nuri sae] Taroo-ga *akaku* si-ta
wall-ACC paint even Taro-NOM red do-PAST
'Even painted the wall, Taro did red.'

As shown in (15b) and (15c), the resultative predicate *akaku* 'red' needs to be pied-piped with *v*P; otherwise, the example becomes ungrammatical. Therefore, it is rational to assume that resultative predicates in Japanese are positioned at least inside *v*P.

The next question is in which projection the resultative predicates are located, *v*P or VP. To check it, let us consider (16).

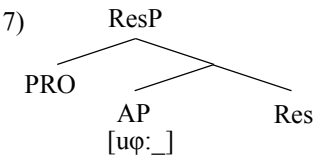
(16) a. Taroo-ga [$_{vP}$ [$_{VP}$ **kabe-o** *akaku*] [$_{v}$ nut-ta]]
Taro-NOM wall-ACC red paint-PAST
'Taro painted the wall red.'
b. *Taroo-ga [$_{vP}$ [$_{VP}$ **kabe-o**] [$_{v}$ nut-ta] *akaku*]

As shown in (16), the resultative predicate *akaku* 'red' cannot structurally precede the verb *nuru* 'paint.' Assuming that verbs in Japanese are in *v* (Fukui and Sakai 2003), the resultative predicate must be in a lower position than *v*, namely VP. From the examples in (15) and (16), I conclude that the resultative predicates are located inside VP.

3.3 The Structure

I propose that the resultative predicates are headed by a functional category Res by taking an AP as its complement, and a PRO in its specifier. The structure is schematized in (17).

(17)



The functional category is responsible for the result interpretation of the resultative construction. Following Ramchand (2008), I propose the following semantic

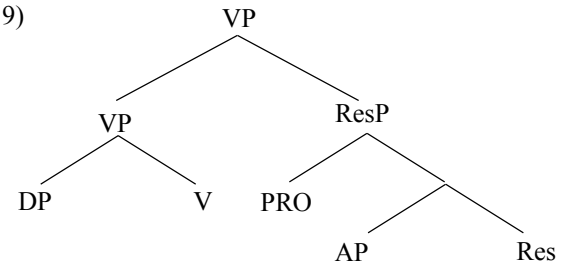
denotation[3].

(18) [[Res]] = λPλxλe [P(e) ∧ Result (e) ∧ Theme(x,e)]

The interpretation of the semantics above is as follows: The predicate which should be saturated by [[AP]] is an event e, and e is a result event, and the Theme of e is an argument x.

Recall that the resultative predicates are situated inside VP as adjuncts. The structure presented below in (19) reflects this point.

(19)



In addition, note that resultative constructions generally have telicity, as shown in (20).

(20) a. John-ga 1 jikann-de **kabe-o** *akaku* nut-ta
John-NOM one hour-in wall-ACC red paint-PAST
'John painted the wall red in an hour.'

b. *John-ga 1 jikann **kabe-o** *akaku* nut-ta
John-NOM one hour wall-ACC red paint-PAST
'John painted the wall red for an hour.'

I argue that resultative constructions have an aspectual phrase (henceforth, AspP) between *v*P and VP (cf. Travis 2010). Following Travis, I assume that this aspectual head takes charge of telicity. In this mechanism, an internal argument plays an important role. An internal argument moves to Spec, AspP, and if the argument is quantized, the sentence is interpreted as telic. If it is cumulative, the sentence is atelic. The definition of quantization and cumulativity is shown below.

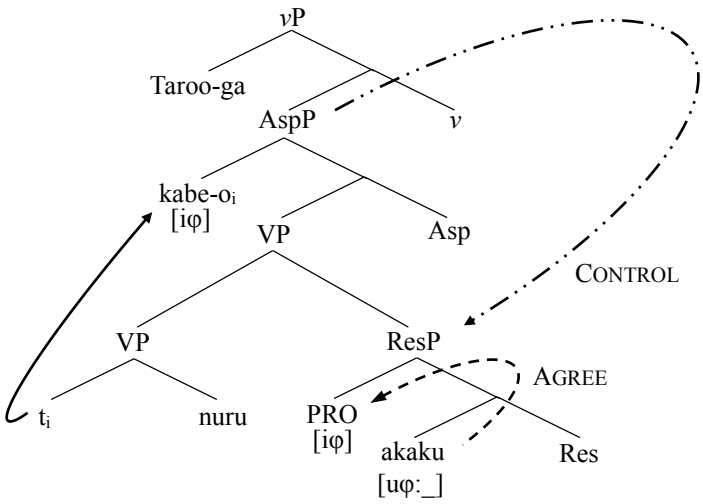
(21) a. QUA(P) ⇔ ∀x,y[(P)(x) ∧ P(y) → ¬y⊆x]
b. CUM(P) ⇔ ∀x,y[P(x) ∧ P(y) → P(y∪x)]
(cf. Krifka 1989, 1992)

[3] As for the application of the structure in (17) and the semantics in (18) to English, see Yamaguchi (forthcoming).

3.4 The Structure of the Resultative Construction

I propose that resultative constructions in Japanese have the following structure.

(22) a. Taroo-ga **kabe-o** *akaku* nut-ta. (= 1)
b.



In the structure in (22b), the DP *kabe-o* 'the wall' is base-generated as a complement of the verb *nuru* 'paint,' and the resultative predicate is adjoined to VP as a ResP. The DP *kabe-o* moves to Spec, AspP due to the necessity of some feature in Asp head. For the mechanism of control, I assume that the anti-symmetric c-command relation is necessary. In addition, following Landau (2000), I assume that the features of the controller are inherited to PRO. That is, the PRO in Spec, ResP has the φ-feature that the controller *kabe-o* has. Now that the PRO has the full set of φ-feature, the AP *akaku* 'red' is valued via Reverse Agree.

3.5 The implication of the Proposal: Predication with oblique DPs

It has been argued in the literature that resultative predicates cannot be predicated of with oblique DPs. Take (23) as an example.

(23) a. Taroo-ga penki-de **kabe-o** *akaku* nut-ta.
Taro-NOM paint-with wall-ACC red paint-PAST
'Taro painted the wall red with paint.'

b. *Taroo-ga penki-o [$_{PP}$ **kabe-ni**] *akaku* nut-ta.
Taro-NOM paint-ACC wall-on red paint-PAST
'Taro painted the wall with red paint.'

The example in (23b) cannot have the result interpretation of the wall being red.

What needs to be confirmed is whether *kabe-ni* in (23b) is a PP. The first test I would like to employ is Miyagawa's (1988) test of quantifier floating. He argues that oblique DPs cannot be predicated of by numeral quantifiers, as shown in (24) and (25).

(24) a. Taroo-ga huta-tu-no kooen-de hasit-ta.
Taro-NOM two-CL-GEN park-in run-PAST
'Taro ran in two parks.'
b. *Taroo-ga kooen-de huta-tu hasit-ta.
Taro-NOM park-in two-CL run-PAST
'Taro ran in two parks.'

(25) a. Taroo-ga huta-ri-no syoonen-ni at-ta.
Taroo-NOM two-CL-GEN boy-to meet-PAST
'Taro met two boys.'
b. Taroo-ga syoonen-ni huta-ri at-ta
Taro-NOM boy-to two-CL meet-PAST
'Taro met two boys.'

The examples in (24) show that the numeral quantifier *huta-tu* 'two' cannot modify the oblique in DP in the floated position, while in the case of arguments, there is not such a restriction, as illustrated in (25). Another examination to check whether a certain phrase is a PP is a clefting (Sadakane and Koizumi 1995). It is known that PPs may occur in the focus position of the cleft construction, while NPs with a case marker may not.

(26) a. *[Kinoo piza-o tabe-ta] no-wa [$_{NP}$ Mary-ga] da
yesterday pizza-ACC eat-PAST NL-TOP Mary-NOM COP
'It's Mary that ate pizza yesterday.'
b. ??[Kinoo Mary-ga tabe-ta] no-wa [$_{NP}$ piza-o] da
yesterday Mary-NOM eat-PAST NL-TOP pizza-ACC COP
'It's pizza that Mary ate yesterday.'
(Sadakane and Koizumi 2000: 9)

(27) a. John-ga tegami-o morat-ta no-wa [$_{PP}$ Mary kara] da
John-NOM letter-ACC receive-PAST NL-TOP Mary from COP
'It's from Mary that John received a letter.'
b. John-ga keeki-o kit-ta no-wa [$_{PP}$ kono naihu de] da
John-NOM cake-ACC cut-PAST NL-TOP this knife with COP
'It's with this knife that John cut the cake.' (ibid.)

As shown in (26) and (27), the case-marked NPs cannot appear in the focus position, while PPs can. Let us return to the example in (23b). As illustrated in the examples presented below, *kabe-ni* cannot be associated with numeral quantifies in the floated positions, but it appears in the focus position of the cleft construction.

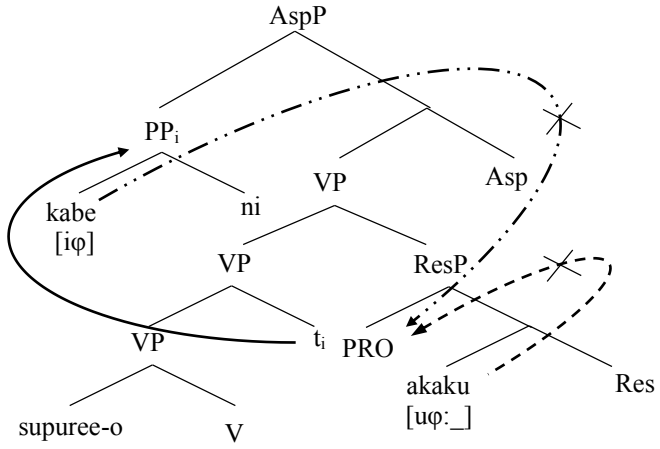
(28) a. Taroo-ga ni-mai-no kabe-ni penki-o nut-ta
Taro-NOM two-CL-GEN wall-on paint-ACC paint-PAST
'Taro painted the two walls.'
b. *Taroo-ga kabe-ni ni-mai penki-o nut-ta
Taro-NOM wall-on two-CL penki-ACC paint-PAST
'Taro painted the two walls.'

(29) a. ??[Taroo-ga penki-de nut-ta] no-wa [$_{DP}$ kabe-o] da
Taro-NOM paint-with paint-PAST NL-TOP wall-ACC COP
'It's the wall that Taro pained.'
b. [Taroo-ga penki-o nut-ta] no-wa [$_{PP}$ kabe-ni] da
Taro-NOM penki-ACC paint-PAST NL-TOP wall-on TOP
'It's on the wall that Taro painted.'

Thus, I conclude that *kabe-ni* in (23b) is a PP.

Turning back to the example in (23b), the partial structure would be as follows in the case that the PP has moved to Spec, AspP.

(30)



As the structure in (30) shows, the DP *kabe* 'the wall' cannot c-command PRO. Hence, the φ-features are not inherited to PRO, which causes the Agreement between PRO and the AP *akaku* 'red' to be blocked. Therefore, the uninterpretable φ-feature of *akaku* is not valued, which violates the Principle of Full Interpretation.

(31) *The Principle of Full Interpretation*
Every constituent must be legible at interfaces. (Chomsky 1981)

One might argue that the DP itself moves from the PP to Spec, AspP, and the control phenomenon and agreement phenomenon can be captured. However, the DP is not an internal argument of the verb, therefore, it does not have the ability to move to Spec, AspP. Or, even if it does, the word order cannot be accounted for.

4 Conclusion

In this paper, I have proposed the syntactic structure of Japanese resultative constructions, and have argued that their syntax is distinct from that of English resultative construction, demonstrating that resultative predicates in Japanese are adjuncts.

The Agreement operation that I have employed in my proposal is Reverse Agree. The Chomskyan Agreement cannot capture the phenomenon that I have dealt with in my analysis. This is because the Chomskyan-Agreement requires an element with an uninterpretable feature to c-command an element with a matching interpretable feature. With this Agreement, the uninterpretable φ-feature of the AP under ResP in my proposal would remain unvalued because the element with the uninterpretable feature c-commands only the head Res, which leads to a violation of the Principle of Full Interpretation. However, Reverse Agree requires the opposite; under Reverse Agree, an element with an uninterpretable feature needs to be lower than an element with a matching interpretable feature. The uninterpretable φ-feature of the AP in ResP can be valued with this Agreement because PRO, which inherites a matching interpretable feature, is in Spec, ResP, where it can c-command the AP. If my proposal is correct, it will serve as one argument in favor of Reverse Agree.

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