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# On the Unified Approach of Syntax to Resultatives

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Key words: Syntax / Semantics / Resultative Constructions

## Introduction

This paper<sup>1)</sup> focuses on the syntax of the resultative construction. In Washio (1997), it is argued that the resultative construction can be divided into two types, namely *strong resultatives* and *weak resultatives*. What is crucial for this division is whether or not the resultative predicates are parts of the meanings of the verbs in the constructions. Consider (1):<sup>2)</sup>

- |        |   |                               |
|--------|---|-------------------------------|
| (1) a. | John painted <b>the wall</b> <i>red</i> .     | ( <i>Weak Resultative</i> )   |
| b.     | John ran <b>the shoes</b> <i>threadbare</i> . | ( <i>Strong Resultative</i> ) |

According to *Longman Dictionary of Contemporary English*, the meanings of the verbs *paint* and *run* in (1) are shown in (2).

- |        |   |
|--------|---|
| (2) a. | <i>paint</i><br>to put a liquid on a surface, using a brush to make the surface a particular colour |
| b.     | <i>run</i><br>to move quickly, by moving your legs more quickly than when you walk                  |

In (2a), the verb *paint* has the result state *a particular colour* in its meaning. On the other hand, the verb *run* does not. This fact differentiates the strong resultatives from the weak resultatives. If the result state is expressed in the verb's meaning in the resultative construction, the sentence is classified as belonging to the weak resultatives. If not, the sentence is classified as the strong resultatives.

English has both types of resultatives as shown in (1), but Japanese has only the weak resultatives, as illustrated in (3).

- (3) a. Taroo-ga kabe-o *akaku* nut-ta.  
       Taro-nom wall-acc red paint-past  
       ‘Taro painted the wall red.’  
   b. \*Taroo-ga **kutu-o** *boroboroni* hasi-tta.  
       Taro-nom shoes-acc threadbare run-past  
       ‘Taro ran the shoes threadbare.’

The example in (3a), the Japanese counterpart of (1a), is grammatical, but the example in (3b), that of (1b), is not. In the literature (Suzuki 2012, Son and Svenonius 2008), it has been argued that there is a correlation between strong resultatives and some path-related constructions. The examples in (4) have intransitive manner-of-motion verbs and path PPs. Germanic languages such as English have this usage, but Romance languages do not, as discussed by Talmy (1985). What is crucial here is that the example in (4a) is ambiguous between a locative and a directional reading, and that this ambiguity is missing in the Japanese counterpart in (4b). That is, only a locative reading is available for (4b).

- (4) a. The balloon floated under the bridge.  
       b. \*Fuusen-ga hasi-no sitade ui-ta.  
       balloon-nom bridge-gen under float-past  
       ‘The balloon floated under the bridge.’

The examples in (5) have transitive directed motion verbs and path PPs. Such combinations are allowed in Germanic but not in Japanese and Romance. As (5d) shows, the Romance language does not have strong resultatives. The examples below are cited from Suzuki (2012: 110).

- (5) a. Peter hit the ball to the pitch.  
       b. \*Piitaa-ga booru-o pitti-no hantaigawa-ni ut-ta.  
       Peter-nom ball-acc pitch-gen opposite-side-to hit-past  
       ‘Peter hit the ball to the other side of the pitch.’ (Japanese)

- c. \*Pierre a tape le ballon a l'autre bout du terrain.  
 Pierre has hit the balloon to the-other end of pitch  
 'Peter hit the ball to the other end of the pitch.' (French)
- d. \*Charles a martele le clou dans le mur.  
 Charles has hammered the nail into the wall  
 'Charles hammered the nail in to the wall.' (French)
- (Suzuki 2012: 110)

Because the distributions of motion verbs constructions and strong resultatives are the same, Suzuki (2012) argues that the two constructions have an identical structure. However, I argue that they do not have the same structure because of their different properties, and that strong resultatives instead have a structure similar to that of weak resultatives. I propose that resultative predicates are headed by a functional head, and that the head takes a predicative XP as its complement and a resultee DP in its specifier. Furthermore, the semantics of the functional head *Res* establishes the resultative predication between the DP and the resultative predicate. I also argue that the XP carries an uninterpretable  $\phi$ -feature that has to be valued by Agreement. As for the Agreement operation, I assume Reverse Agree (Zeijlstra 2012). If my proposal is correct, it serves as one argument in favor of Reverse Agree.

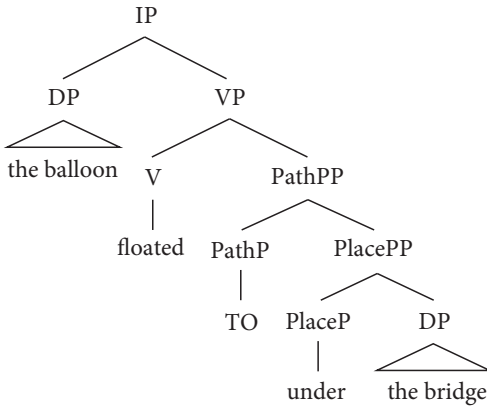
This paper is organized as follows. In section 2, we review a previous literature, and consider its problems. In section 3, I present my proposal and analysis, and finally section 4 concludes the paper.

## 2 A Previous Analysis

### 2.1 Suzuki (2012)

In the literature, Suzuki (2012) argues that the strong resultative construction shares its syntactic structure with the motion verb construction, and proposes the following structure.

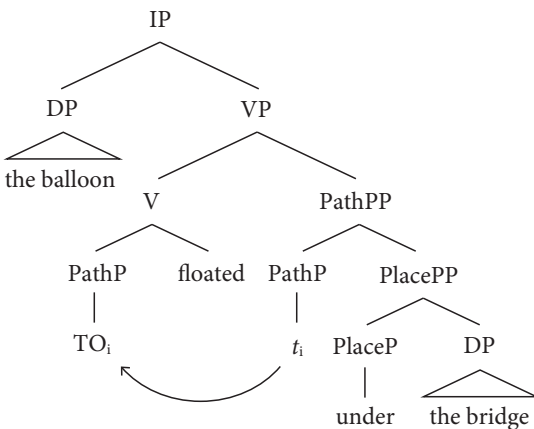
(6)



(Suzuki 2012: 111)

The structure above includes path phrase projection (henceforth, Path PP), which is proposed in Koopman (2010). She argues that path phrases and particles syntactically contain a covert prepositional head *TO*. The type of path relevant here is a bounded path. It selects a place phrase projection (henceforth, a place PP) for a complement. Suzuki argues that the structure in (6) can capture the ambiguity between the locative and directional readings in (4a). To generate the directional interpretation, he argues that PathP *TO* incorporates to V, as shown in (7).

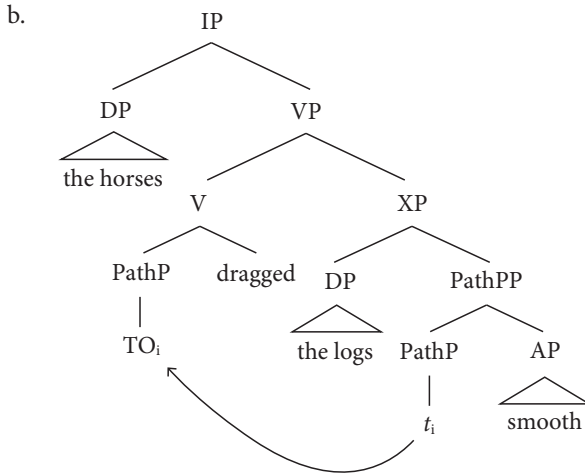
(7)



(Suzuki 2012: 111)

Suzuki further proposes that strong resultatives also contain a bounded pathP head which selects an AP as its complement. The structure is illustrated in (8).

- (8) a. The horses dragged **the logs** *smooth*.



(Suzuki 2012: 112)

The PathP *TO* is base-generated in XP, and the PathP selects the resultative AP as its complement. The PathP *TO* raises to V. Suzuki argues that this movement provides the meaning of the change of result.<sup>3)</sup>

He notes that with this proposal, we may be able to capture some of the behavior of these constructions. First, in the motion-verb construction, if the PP is preposed to sentence initial position, the directional reading disappears, and only the locative meaning can be obtained. In the directional reading, the balloon floated, and moved under the bridge by floating. In the locative reading, the balloon floated, and did not change its position. See (9).

- (9) a. The balloon floated [<sub>PP</sub> under the bridge].

- b. [<sub>PP</sub> Under the bridge ] the balloon floated.

(Suzuki 2012: 113)

The example in (9a) has both the directional and the locative reading, but the example in (9b) has a locative reading only. Suzuki claims that this follows from

the lack of the licensing of the empty Path P in the preposed position. In (10a), the movement of the PathP-to-V from the preposed position down to V would be improper. Even if PathP movement precedes the fronting of PP, the trace of the fronted PathP would not be bound, as in (10b).

- (10) a. \* $[_{\text{PathP}} [_{\text{PathP}} e] \text{ In the goal}]_i \text{ John kicked the ball } t_i$ .  
 b. \* $[_{\text{PathPP}} t_i \text{ In the goal}]_j \text{ John } [_V [_{\text{PathP}} e]]_i \text{ kicked} ] \text{ the ball } t_j$ .  
 (Suzuki 2012: 113)

This behavior parallels that of the strong resultatives. The resultative predicates of the strong resultatives cannot be preposed, as shown in (11).

- (11) a. \**Smooth*<sub>i</sub> the horses dragged **the logs** *t<sub>i</sub>*.  
 b. \**Threadbare*<sub>i</sub> John ran **the shoes** *t<sub>i</sub>*.  
 (Suzuki 2012: 113)

In his proposal, the strong resultatives have the same structure as that of the directional reading of the motion verb construction. Since the resultative predicates are headed by PathP, they cannot be licensed when the PathP is fronted.

Second, the strong resultative construction has telicity, much the same as the directional reading of the motion verb construction.

- (12) a. John ran the shoes threadbare in ten minutes / \*for ten minutes.  
 b. The balloon floated under the bridge in ten minutes / for ten minutes.  
 Directive reading: in ten minutes  
 Locative reading: for ten minutes

The telic property is observed in the compatibility of result AP with *in*-adverbial as in (12a). Suzuki assumes that the event described by the sentence is interpreted as telic if the PP complement is theta-marked as a goal or a final state, and delimits the event. In this way, the events described by the strong resultatives are not compatible with the *for* adverbials.

Third, the resultative predicates in strong resultatives are limited to bounded ones, as illustrated in (13).

- (13) a. John hammered **the metal** *flat / smooth / \*beautiful / \*safe*  
 (Wechsler 2005: 256)

What is crucial here is the delimitation of an event. Suzuki argues that this property is implied in the semantics of the empty bounded pathP, which selects a place or a property which can provide a goal or a final state. The APs like *flat* and *smooth* are called closed-scale predicates. On the other hand, those like *beautiful* and *safe* are classified as open-scale predicates. The closed-scale predicates can be modified by *completely*, which induces an endpoint, but the open-scale predicates cannot, as shown in (14).

- (14) a. *Closed-scale predicates*  
 completely flat / smooth
- b. *Open-scale predicates*  
 \*completely beautiful / safe

Only the closed-scale predicates imply an endpoint of an event. Therefore, it is compatible with strong resultatives. As for weak resultatives, the resultative predicates used in weak resultatives lack endpoints, as shown in (15).

- (15) a. John painted **the wall** *red*.  
 b. ?? completely red.

The examples above show that the resultative predicate in the weak resultative in (15a) does not have an endpoint, as in (15b), which shows that weak resultatives does not contain an underlying bounded PathP. This give rise to the different properties from strong resultatives.

## 2.2 Problems

Suzuki's proposal seems to be able to capture the behavior of the two constructions. However, Suzuki himself notes that his analysis cannot explain the examples in (16) below.



- (16) a. The balloon floated [<sub>PP</sub> into the village].  
 b. [<sub>PP</sub> Into the village] the balloon floated. (Suzuki 2012: 116)

In his analysis, he argues that the preposed PP in the motion verb construction loses a directional reading because the PathP cannot be licensed in the sentence initial position. If his analysis is correct, any PPs used in this construction cannot have a directional reading. Therefore, when a PP has only a directional reading, the sentence has to be ungrammatical, contrary to the fact. In (16), the PP *into the village* has only a directional reading, but in Suzuki's proposal, this sentence should be ungrammatical because of the inability to license PathP under the directional reading.

In addition, in his paper, the identity of the strong resultatives and the motion verb construction is crucial. This implies that the strong resultatives and weak resultatives have different properties and syntactic structures. However, they share the same properties. First, the resultative predicates in weak resultatives as well as in strong resultatives are not allowed to be fronted, as shown in (17).

- (17) a. John painted **the wall** *red*.  
 b. \**Red*<sub>i</sub> John painted **the wall** *t<sub>i</sub>*.

Second, weak resultatives are also interpreted as telic, that is, the events described by the constructions are time-bounded as in the case of the strong resultatives. Observe (18).

- (18) a. John wiped the table clean in ten minutes / \*for ten minutes.  
 b. Mary painted the wall red in ten minutes / \*for ten minutes.

Third, as argued in Wechsler (2005), the resultative predicates in weak resultatives are also limited to bounded ones.

- (19) a. John wiped **the table** *clean / dry / \*dirty / \*wet*.  
 b. **The puddle** froze *solid / \*slippery / \*dangerous*. (cf. Wechsler 2005: 256)

- c. Taro-ga **tukue-o** *kireini* hui-ta.  
 Taro-nom tukue-acc clean wipe-past  
 'Taro wiped the table clean.'
- d. Ike-ga *katikatini* koot-ta.  
 puddle-nom solid freeze-past  
 'The puddle froze solid.'

The Japanese corresponding examples of (19a,b) namely (19c,d), are grammatical. Because only the weak resultatives are allowed in Japanese, it is natural to conclude that (19a,b) are weak resultatives, and their resultative predicates are closed-scale predicates, as shown in (20).

(20) completely *clean / dry / solid*

As (20) shows, the boundedness of the resultative predicates is not limited to the resultative APs in the strong resultatives, but those in weak resultatives in (19) do have such a property.<sup>4)</sup>

One might argue that all of the three constructions share the identical syntactic structure because weak resultatives do have the same properties as strong resultatives. However, the resultative construction and the motion verb constructions should be treated separately. The resultative predicates show argumenthood, while the prepositions in motion verb constructions do not. As shown in (21b), when the argument of a verb is extracted from a *WH*-island, the sentence becomes marginal. On the other hand, the extraction of an adjunct causes the sentence to be ungrammatical, as illustrated in (21c).

- (21) a. I wonder whether they punished these boys strictly.  
 b. ? Who<sub>i</sub> do you wonder whether they punished *t<sub>i</sub>*?  
 c. \* How<sub>i</sub> do you wonder whether they punished these boys *t<sub>i</sub>*?  
 (Carrier and Randall 1992: 185)

For resultative predicates, if we extract the resultative predicates from *WH*-islands, the sentences are judged as marginal. Therefore, they should be treated as arguments at least in this respect. On the other hand, in the case of the preposi-

tions in the motion verb constructions, the grammaticality of the example in (22c) are the same as that of (21b), so they should be adjuncts from this testing ground.

- (22) a. ? How clean<sub>i</sub> do you wonder whether John wiped the table  $t_i$ ?  
 b. ? How threadbare<sub>i</sub> do you wonder whether John ran his shoes  $t_i$ ?  
 (Carrier and Randall 1992: 185)  
 c. \* Where<sub>i</sub> do you think whether the balloon float  $t_i$ ?

Moreover, multiple resultative predicates make the sentences ungrammatical, while more than one preposition does not. See (23).

- (23) a. \*John wiped **the table** *clean dry*.  
 b. \*John ran **the shoes** *threadbare broken*.  
 c. The balloon floated *out of the village into another town*.

If the resultative predicates are adjuncts, the examples in (23) cannot be accounted for because more than one adjunct can be used in one clause, but two or more arguments of the same type are not allowed in one clause, as illustrated in (24).

- (24) a. John played soccer *around five o'clock*.  
 b. John played soccer *yesterday*.  
 c. John played soccer *around five o'clock yesterday*.  
 d. \*John played soccer *baseball*.

The example in (24c) shows that the temporal adjuncts *around five o'clock* and *yesterday* are allowed in the same clause, and the example in (24d), where the two theme arguments *soccer* and *baseball* are used in the same clause, illustrates that the number of arguments of the same kind is limited to one, as in the case of resultative predicates in (23). One might argue that the multiple prepositional phrases in (23c) are interpreted as one path and that it is one prepositional phrase. If this account is correct, the multiple resultative predicates should be treated as one predicate, especially the ones in strong resultatives, because they

have the same structure in Suzuki's account. However, the fact that more than one resultative predicate is not allowed in a single clause cannot be explained under his proposal. Therefore, strong resultatives and the motion verb constructions should be treated differently.

For Suzuki's proposal, the similarities between the motion verb constructions and strong resultatives, and the differences between the two types of resultatives are crucial, but the examples above show that the strong resultative construction shares properties with the weak resultative construction rather than with the motion verb construction. In the following section, we will observe where the resultative predicates are located, and move on to my proposal. Note that in this paper, I focus on the analysis of resultative constructions, and I will not provide an analysis of motion verb constructions.

### 3 Proposal

#### 3.1 The Position of the Resultative Predicates

Before I present my proposal, we need to see where the resultative predicates are positioned in a clause. A *vP*-fronting is one of the convenient ways to check their positions. When the *vP* is preposed, the resultative predicates cannot be stranded. Observe (25) and (26).

- (25) a. John painted **the wall** [<sub>AP</sub> *red*].  
       b. [<sub>vP</sub> Paint **the wall** [<sub>AP</sub> *red*]] John did.  
       c. \* [<sub>vP</sub> Paint **the wall** ] John did [<sub>AP</sub> *red*]. (Suzuki 2012: 116)
- (26) a. John ran **the shoes** [<sub>AP</sub> *threadbare*].  
       b. [<sub>vP</sub> Run **the shoes** [<sub>AP</sub> *threadbare*]] John did.  
       c. \* [<sub>vP</sub> Run **the shoes** ] John did [<sub>AP</sub> *threadbare*]. (Suzuki 2012: 116)

In the examples in (25c) and (26c), the stranded resultative predicates make the sentences ungrammatical. From the examples above, it is considered that the resultative predicates are located at least in *vP*. The next question I would like to tackle is in what maximal projection the resultative predicates are. To put it more strictly, are they in *vP* or in *VP*? To check this, consider the following examples.

- (27) a. We hammered **the metal**<sub>i/j</sub> *flat*<sub>i</sub> hot<sub>j</sub>.  
 b. \*We hammered **the metal**<sub>i/j</sub> hot<sub>j</sub> *flat*<sub>i</sub>. (Hasegawa 1991: 3)
- (28) a. **We**<sub>j</sub> hammered **the metal**<sub>i</sub> *flat*<sub>i</sub> naked<sub>j</sub>.  
 b. \***We**<sub>j</sub> hammered **the metal**<sub>i</sub> naked<sub>j</sub> *flat*<sub>i</sub>.

The examples in (27) indicate that the resultative predicates have to precede object-oriented depictive predicates (henceforth, ODPs) when both of them are used in the same clause. And, the examples in (29) show that the same thing is observed in the case of subject-oriented depictive predicates (henceforth, SDPs). The examples in (28) show the positions of the depictive predicates.

- (29) a. John said that he would eat **the meat** *raw*, and [<sub>vP</sub> eat **the meat** *raw*] he did.  
 b. \*John said that he would eat **the meat** *raw*, and [<sub>vP</sub> eat **the meat**] he did *raw*.  
 c. John said that **he** would eat the meat *naked*, and [<sub>vP</sub> eat the meat *naked*] **he** did.  
 d. John said that **he** would eat the meat *naked*, and [<sub>vP</sub> eat the meat] **he** did *naked*.

As shown in (29), the ODPs are located in *vP*, but the SDPs are located in *vP* or in a higher projection, namely TP. Finally, the examples in (30) indicate that the SDPs cannot precede the ODPs, which illustrates that the ODPs are located lower than the SDPs.

- (30) a. John<sub>i</sub> ate the meat<sub>j</sub> *raw*<sub>j</sub> naked<sub>i</sub>.  
 b. \*John<sub>i</sub> ate the meat<sub>j</sub> naked<sub>i</sub> *raw*<sub>j</sub>.

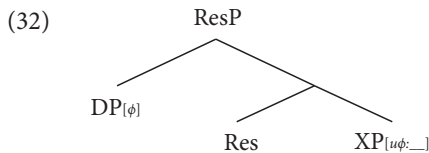
To account for the data in (30), it is appropriate to assume that when the SDPs are adjoined to *vP*, the ODPs are adjoined to VP. From the examples above, I assume the following structure for the positions of the secondary predicates.

- (31) a. [<sub>vP</sub> [<sub>VP</sub> [ resultative ] ODP ] SDP ]

I argue that the resultative predicates are most embedded within a clause. In the following section, I propose that a functional head constitutes a resultative predicate, and see what properties the projection has.

### 3.2 The Structure of the Resultative Predicate

In this section, I argue that the strong resultatives and weak resultatives have similar structures. First, I argue that resultative predicates are headed by a functional head *Res* which takes a predicative XPs as its complement, and that the subject of the resultative predicate originates in the specifier of ResP. One property of the XP is that it carries an uninterpretable  $\phi$ -feature which has to be valued via Agreement.



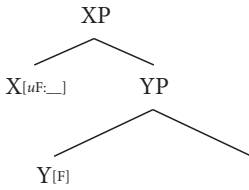
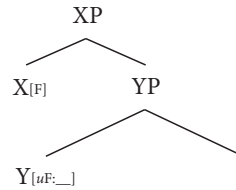
One evidence for the existence of the  $\phi$ -feature is that Romance languages have an overt Agreement of the secondary predicates with their semantic subjects, as shown in (33), and I assume that this Agreement phenomenon applies universally.

- (33) Ho dipinto l'armadio troppo scuro.  
 have paint.PP-1st-sg. the.closet-m-sg. too dark-m-sg.  
 'I painted the closet too dark.' (Napoli 1992: 85)

In the example in (33), the resultative predicate *scuro* 'dark' Agrees with the DP *l'armadio* 'the closet'. I argue that this inflection is due to the agreement of  $\phi$ -feature between the predicate and the DP.

As for Agreement operation, I assume Reverse Agree (or Upward Agree) (Zeijlstra 2012), which is defined in (34) and schematized in (35b) below.

- (34)  $\alpha$  Agrees  $\beta$  if and only if:
- $\alpha$  carries at least one uninterpretable feature and  $\beta$  carries a matching interpretable feature,
  - $\beta$  c-commands  $\alpha$ , and
  - $\beta$  is the closest goal to  $\alpha$ .
- (Zeijlstra 2012: 17)

(35) a. *The Chomskyan Agree*b. *Reverse Agree*

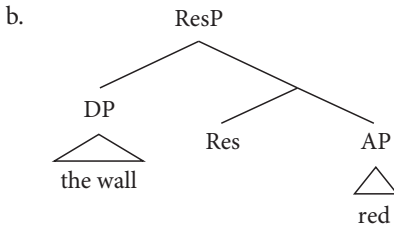
The difference between Reverse Agreement and the Chomskyan Agreement is the hierarchical position of a probe and a goal. For Chomskyan Agreement, which is schematized in (35a), the probe, which carries an uninterpretable feature, is located higher than the goal, which carries a matching interpretable feature. On the other hand, as shown in (35b), Reverse Agree requires the goal to be higher than the probe.

Moreover, following Ramchand (2008), I argue that the head *Res* has the following semantics.

(36) a.  $\llbracket \text{Res} \rrbracket = \lambda P \lambda x \lambda e [P(e) \wedge \text{Result}(e) \wedge \text{Theme}(x, e)]$ 

The interpretation of the semantics above is as follows: The predicate is an event  $e$ , and  $e$  is a result event, and the Theme of  $e$  is an argument  $x$ . To put it more concretely, consider the following case in (37).

(37) a. John painted the wall red.



The resultative AP *red* is a predicate  $P$ , and it is an event, and it is also a result event. The DP *the wall* is an argument  $x$ , and it is a Theme of the event. I assume that the predication relationship between the DP in Spec, ResP and the predicate in the complement of *Res* is established via the semantics of the head.

### 3.3 Telicity of the Resultative Construction

Recall that the resultative construction has telicity, as shown in (18), repeated here in (38).

- (38) a. John wiped **the table** *clean* in ten minutes / \*for ten minutes.  
 b. Mary painted **the wall** *red* in ten minutes / \*for ten minutes.

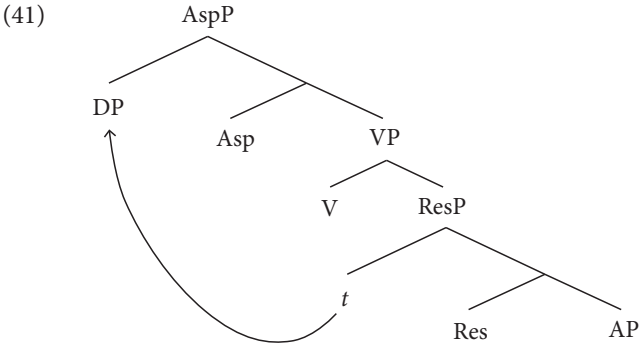
I argue that resultative constructions have an aspectual phrase (henceforth, AspP) between *v*P and VP (cf. Travis 2010). Following Travis, I assume that this head takes charge of telicity. In this mechanism, an internal argument plays an important role. If it is quantized, the sentence is interpreted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

- (39) a.  $QUA(P) \Leftrightarrow \forall x,y[P(x) \wedge P(y) \rightarrow \neg y \subseteq x]$   
 b.  $CUM(P) \Leftrightarrow \forall x,y[P(x) \wedge P(y) \rightarrow P(y \cup x)]$  (cf. Krifka 1989)

- (40) a. John painted **the wall** *red* in / \*for ten minutes.  
 b. John painted **walls** *red* \*in / for ten minutes.

In (40a), the internal argument *the wall* is quantized, and the sentence is interpreted as telic. On the other hand, the internal argument in (40b) *walls* is cumulative, and the sentence has atelicity. I further assume that the internal argument moves to Spec, AspP, and the argument is interpreted in that position.





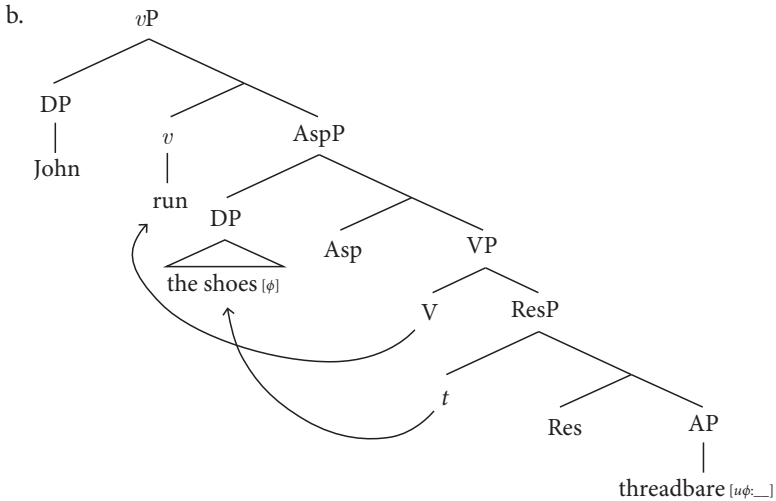
With this proposal, I present the structure of the resultative constructions below.

### 3.4 The Structure of the Two Resultative Constructions

#### 3.4.1 Strong Resultatives

The question I would like to solve in this section is what structure strong resultatives have. I argue that they have the structure shown in (42b).

(42) a. John ran the shoes threadbare.



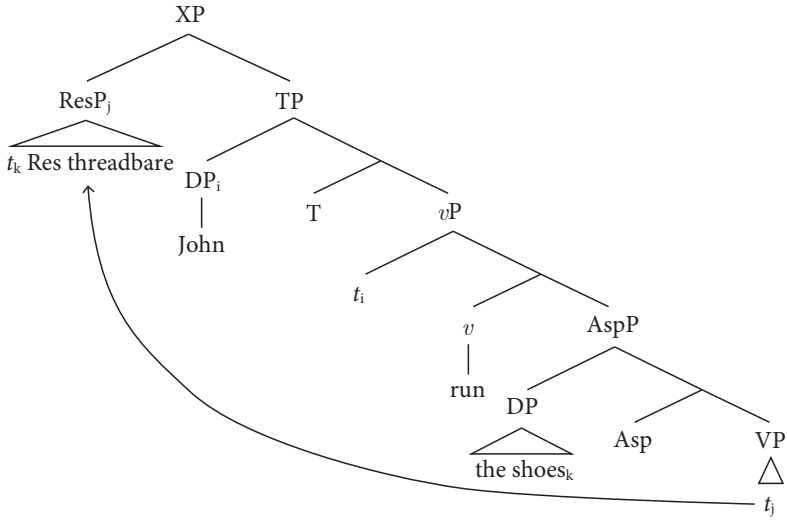
In the structure above, the DP *the shoes* is base-generated in Spec, ResP, and the resultative predicate *threadbare* originates in the complement of the head *Res*. The predication relationship between the DP and the resultative predicate is established through the semantics of *Res*. Furthermore, the uninterpretable  $\phi$ -feature of the AP is valued by the DP in the Spec, ResP via Reverse Agree. In addition, the DP in Spec, ResP moves to Spec, AspP. In that position, the cumulativity of the DP is interpreted, and if the DP is quantized, the sentence is telic. If it is cumulative, the sentence is atelic.

Recall that the resultative construction has the following properties in (43).

- (43) a. The resultative predicates are arguments of the verb.  
 b. The resultative construction has telicity.  
 c. The resultative predicates are located in VP.  
 d. The resultative predicates cannot be preposed.

With the structure above, we can capture the properties in (43). I assume that the adjective *threadbare* in the complement position of *Res* is not the resultative predicate by itself. Rather, ResP, which contains *Res* and AP, is the resultative predicate. The ResP is selected directly by the verb, and I argue that this selection licenses the argumenthood of the resultative predicate. As for (43b), AspP is in charge of this property. For (43c), I have argued in section 3.1 that the resultative predicates are positioned in VP, and the structure in (42b) captures this property. As for the (43d), I assume the following structure.

(44)



In the structure above, the trace of the DP *the shoes* in ResP is not c-commanded by the DP. This leads to the violation of the Proper Binding Condition, which has been discussed in the traditional generative grammar.

(45) *Proper Binding Condition*

Traces must be bound by its antecedent.

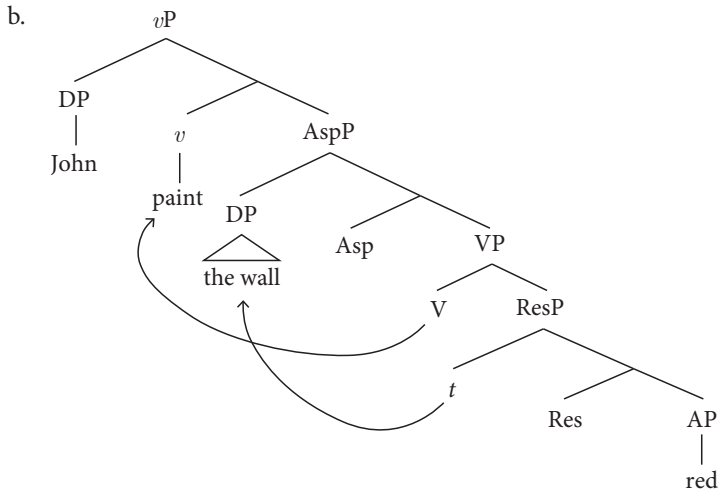
(Fiengo 1977:45)

As in (45), traces needs to be bounded, that is, c-commanded by its antecedent. If not, it leads to ungrammaticality, as in the property in (43c).

### 3.4.2 Weak Resultatives

In this paper, I have argued that strong resultatives and weak resultatives have the same structure, and I present the structure of weak resultatives in (46).

(46) a. John painted the wall red.



We have seen above that weak resultatives have the same properties as strong resultatives, and the same accounts as to strong resultatives can fully explain the properties that weak resultatives have.

#### 4 Conclusion

In this paper, I have argued that the strong resultatives have a syntactic structure identical to that of weak resultatives and that the resultative predicate is headed by a functional head *Res*. The result AP merges with the head *Res*, and a DP externally merges to Spec, ResP. The AP carries an uninterpretable  $\phi$ -feature, and the DP carries the matching interpretable feature. The predication relationship between the resultative predicate and its semantic subject is established via the semantics of the head *Res*. For the Agreement operation, Reverse Agree is necessary to capture the Agreement phenomenon of the resultative construction. One might argue that my proposal cannot explain the distribution of strong resultatives and weak resultatives in languages because I claim that the two types of resultative constructions have the same syntactic structure. However, I argue that the difference between these two resultatives does not lie at the syntactic level, but in some other level. I have to work out this issue for future research. Moreo-

ver, I have not been clear about the motivation for the movement of the DP from Spec, ResP to Spec, AspP. I tentatively assume that the head *Asp* carries an uninterpretable feature that needs to be valued by the DP. In this paper, I have assumed Reverse Agree for the Agreement operation. The Chomsky-type Agreement does not capture this agreement phenomenon because it requires an element with an uninterpretable feature to be in a higher position than an element with the matching interpretable feature. However, in my proposal, the probe is in a lower position than the goal, and Reverse Agree enables goals to move to a higher position than Probe. Therefore, the movement is not impossible with the assumption that the head *Asp* has some uninterpretable feature. In addition, we have not discussed the semantic denotation of the head *Asp*. These issues have to be solved in future research.

#### [Notes]

- 1) I would like to thank Bernadette Denston and Sanjay Powell for contributing to this study as informants. I also thank Masaharu Kato, Sadayuki Okada, and Yasuhito Kido for their helpful comments. All the deficiencies are of course mine.
- 2) In the paper, I use italics and bald-faced type to indicate the secondary predicate and its subject, respectively.
- 3) Suzuki just assumes that this movement derives the meaning of change of result. He does not explain why this movement is due to this result.
- 4) Then, why is the example in (15a), which has the resultative predicate which seem unbounded, ungrammatical? The behaviors of color adjectives have been mysteries, and discussed in the literature. Actually, as Kennedy and McNully (2010) notes, color adjectives are compatible with the adverb *completely*, which shows that they can be classified into closed-scale adjectives. Observe (i).

(i) These leaves are completely green. (Kennedy and McNully 2010: 10)

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## SUMMARY

## On the Unified Approach of Syntax to Resultatives

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Washio (1997) argues that the resultative predicates are classified into two types; *strong resultatives* and *weak resultatives*. It also has been argued in the literature that the the distribution of language with strong resultatives and that with motion verb constructions is the same, and these two constructions have an identical syntactic structure. However, from the empirical data, I argue that they do not have the same structure, but weak resultatives and strong resultatives share the same syntactic configuration. I propose that a functional head constitutes a resultative predicate, and it takes a predicative XP as its complement. Moreover, the resultee DP originates in the specifier of the functional head. The predication relationship between the DP and the XP is established via the semantics of the functional head. I further argue that the predicative XP carries an uninterpretable  $\phi$ -feature, which has to be valued by a matching interpretable feature of the resultee DP via Agreement. For the Agreement operation, I assume Reverse Agree (Zeijlstra 2012). If this analysis is correct, it will serve as one argument in favor of Reverse Agree.