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The Parametric Variation in Resultative Constructions

Nobuhiro Kaga

0. Introduction

This paper deals with the parametric variation of languages in resultative constructions. The sentences in (1)-(4) below provide English, German, French, and Japanese resultative constructions, respectively, that seem to have semantically and structurally parallel contents. The English examples in (1) and the German ones in (2) are all grammatical, whereas the French counterparts in (3b-c) and the Japanese ones in (4b-c) are not acceptable, only the examples in (3a) and (4a) being allowed as resultatives (cf. Kageyama 1996, Washio 1997, Hasegawa 1998, etc.).

- (1) a. John painted the wall blue.
b. John hammered the metal flat.
c. He walked his legs off.
- (2) a. Er hat die Mauer blau gestrichen.
he has the wall blue painted
b. Er hat das Metall platt gehämmert.
he has the metal flat hammered
c. Er lief sich die Beine ab.
he ran himself the legs off
- (3) a. Jean a peint le mur en bleu.
J. has painted the wall in blue
b. *Jean a martelé le metal plat.
J. has hammered the metal flat

- c. * Il a marché les jambes raides.
 he has walked the legs stiff
- (4) a. John-ga kabe-o aoku nut-ta.
 John-Nom wall-Acc blue paint-Past
- b. ?? John-ga kinzoku-o pechanko-ni tatai-ta.
 John-Nom metal-Acc flat hammer-Past
- c. ?? Kare-ga ashi-o boo-ni arui-ta.
 he-Nom leg-Acc stiff walk-Past

How is this difference between the English/German type and the French/Japanese type of resultatives to be accounted for? In this paper I will present a syntactic (more specifically, minimalist-theoretic) account based on the analysis of thematic roles proposed by Kaga (1997, 1998, to appear). Before that, however, it is necessary to look at Washio's (1997) proposal of a distinction between strong and weak resultatives.

1. Strong and Weak Resultatives

Washio (1997) proposes to distinguish resultative constructions into two types: strong and weak resultatives. He characterizes the former as the type of resultatives in which "it is impossible to predict from the semantics of the verb what kind of state the patient comes to be in as the result of the action named by the verb" (p.7). For example, (5a-b) are strong resultatives, because the lexical semantics of the adjective phrases *smooth* and *sweaty* is completely independent of the lexical semantics of the verbs *drag* and *race* in the sense that the concepts expressed by the AP's are simply not part of the basic sense of the verbs.

- (5) a. The horses dragged the logs smooth.
 b. The jockeys raced the horses sweaty.

(1b) is another example of strong resultative, since the verb *hammer* does not imply any state of the object-referent that might result from the ac-

tion it names.

Washio refers to resultatives that are not strong in the above sense as weak resultatives. The adjective phrase *pink* in (6a) is not completely independent of the verb *dye* in the sense that the verb contains the notion ‘color’ in its lexical semantics and the AP further specifies or modifies that notion. Similarly, the notion ‘hard’ or ‘solid’ is closely related to the lexical meaning of the verb *freeze* in (6b). Therefore, those sentences and, for that matter, (1a) with the verb *paint* as well, are weak resultatives.

- (6) a. Mary dyed the dress pink.
 b. I froze the ice cream hard/solid.

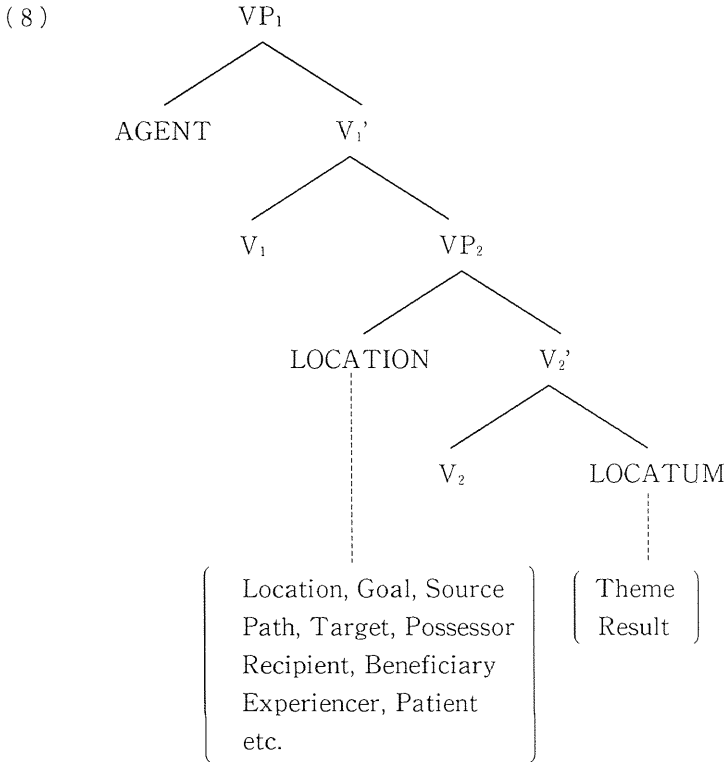
Given these characterizations of strong and weak resultatives, intransitive (or unergative) resultatives like (7a-b) and (1c) can only be strong resultatives. This is because “a verb like *run* or *fly*, being intransitive, cannot contain in its lexical semantics anything like the notion ‘thin’ denoted by the adjective that is predicated of the fake object” (Washio 1997: 8).

- (7) a. The joggers ran the pavement thin.
 b. The planes flew the ozone layer thin.

On the basis of the distinction between strong and weak resultatives, Washio makes an empirical generalization that strong resultatives are permitted in languages like English (and German), but not in languages like French and Japanese, while weak resultatives are potentially possible in both types of languages.¹ This generalization correctly accounts for the acceptability pattern observed in (1)-(4): in English and German, all types of resultatives are acceptable, whereas in French and Japanese, only transitive resultatives of some type (i.e. weak ones) are acceptable, the other type of transitive resultatives and all intransitive resultatives being unacceptable.

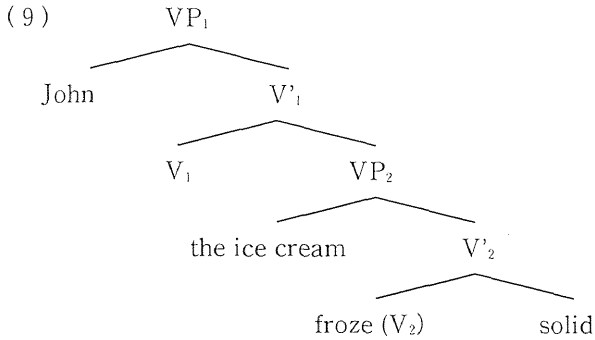
2. The Framework

Kaga (1997, 1998, to appear) proposes the following structural analysis of thematic roles:



This thematic structure based on the so-called Larsonian VP shell has two remarkable points with respect to the present discussion of resultatives. One is that argument thematic roles are classified into three 'macro-roles': AGENT, LOCATION and LOCATUM. The other is that the Patient 'micro-role' is assigned to LOCATION, and the Result 'micro-role' to LOCATUM (see Kaga 1998 for some motivations). Given this structure, a resultative construction like *John froze the ice cream solid*, for example, is

analyzed as in (9):

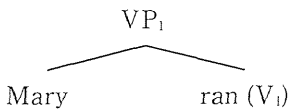


After the stage of derivation illustrated in (9), the lower verb *froze* raises (overtly) to adjoin to the higher verb and the surface word order is derived (see Kaga to appear for detailed discussion of resultative constructions).

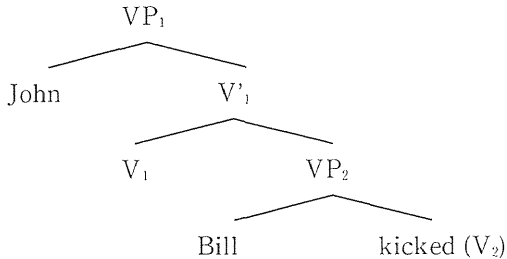
3 . An Account

In the context of the thematic structure presented above, Washio's (1997) proposal can be restated as follows: Resultatives are 'weak' when they contain a change of state verb like *freeze* that, as its lexical property, requires the full VP₂ structure with the LOCATUM complement position occupied by some (overt or covert) element,² while resultatives are 'strong' when they contain an unergative intransitive verb like *run* or *dance* that lexically selects the VP₁ structure alone, as shown in (10), or a transitive verb like *kick* or *hammer* that lexically selects the VP₂ structure with no LOCATUM argument involved, as in (11).

(10) Mary ran.

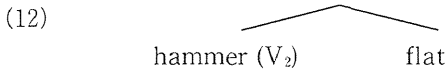


(11) John kicked Bill.

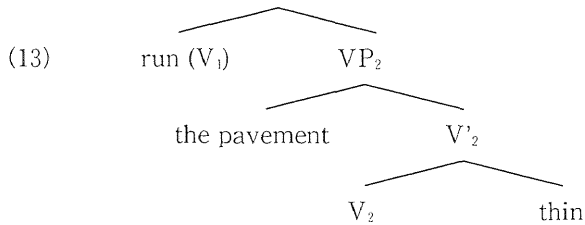


In our terms, then, the English/German type of language that permits strong as well as weak resultatives is characterized as a language that has an ability to add the LOCATUM element to the non-change-of-state verb that lexically lacks the argument position for that element to appear in. On the other hand, the French/Japanese type of language is taken as a language that has no such ability.

More specifically, within the minimalist framework, we assume that the syntax of the English/German type language makes it possible to merge a non-change-of-state verb like *hammer* with an adjective like *flat* as a LOCATUM argument, as in (12), in spite of the fact that the former does not lexically select the latter.

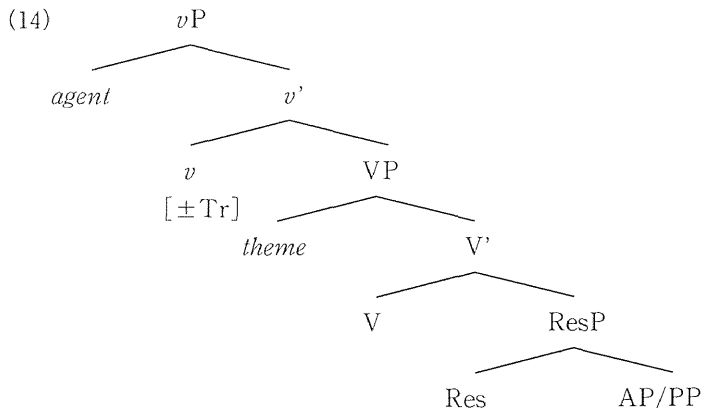


The structure in (12) develops into the strong resultative *John hammered the metal flat* through some relevant operations of merger and movement. Similarly, we assume that in the English/German type of language, an intransitive verb like *run* that subcategorizes no arguments by definition can merge with the VP₂ category that involves an empty V as the head, as in (13):



The structure in (13) leads to the intransitive resultative *The joggers ran the pavement thin* after some operations apply. On the other hand, we assume that a merger of these kinds is unavailable in the syntax of the French/Japanese type language, hence the impossibility of strong resultatives in such languages.

In fact, Hasegawa (1998) has already made a similar proposal. Working on the Larsonian VP shell structure of the Chomsky (1995) style, she says that “a result phrase cannot be licensed simply by being generated at the complement position of V” and “[t]here must be something that guarantees the connection of the result phrase with the V.” As a licenser of a result phrase, she proposes to introduce an independent result predicate shell with Res as the head. Under this proposal the resultative construction has the following structure:



The basic function of Res is to connect the eventuality that V expresses and the state that AP/PP represents. Hasegawa assumes that Res head-moves to the higher predicate V, and only when this Res-to-V operation takes place is the resultative construction properly licensed.

Given this system, the parametric variation in question is captured as follows: Change of state verbs include the head Res in their lexical structure and weak resultatives, containing those verbs, are (probably) universally possible. On the other hand, activity verbs, including transitives like *hammer* and intransitives like *run*, do not inherently involve Res. However, some languages have an abstract predicate Res, which can occur independently of change of state verbs. English and German are such languages. In those languages, an activity verb can take the abstract Res shell, and the head of the latter raises to the higher V where the former is generated. Hence strong resultatives are acceptable in those languages. In contrast, the French/Japanese type of language lacks Res as an independent abstract predicate. Thus, strong resultatives are impossible in those languages.³

We fundamentally follow Hasegawa's (1998) analysis except in two important respects. The first is that we regard the subject of a change of state (i.e. the postverbal DP in resultative constructions) as having a thematic role of LOCATION (Patient), not a theme, as Hasegawa assumes. The second is that we want to dispense with an extra head like Res that Hasegawa proposes to introduce. We have assumed that a result phrase is generated as a LOCATUM element in the complement position of V₂. Our claim underlying this assumption is that the result phrase has a parallel status as a LOCATUM argument to the Theme DP in a sentence like *John sent a letter to Mary* and the Result DP in a sentence like *John built a house in the field*. Introducing the head Res only into the resultative construction would break this parallelism. So we will not assume an extra head like Res, only adopting Hasegawa's insightful supposition that some kind of (head-) movement is involved in licensing (strong) resultative constructions.

Above we assumed that in the English/German type of language, a non

-change-of-state verb like *hammer* and *run* can merge with an element that is not lexically subcategorized by it. This kind of merger, being not lexically licensed, is supposed to have to be followed by some kind of syntactic operation. We assume that this syntactic operation is a movement (or an incorporation) of some abstract (implicit) feature from the non-subcategorized element to the verbal head, instead of the head-movement of Res that Hasegawa (1998) assumes. On this assumption the parametric variation in question can be accounted for by saying that the English/German type of language allows incorporation of the abstract feature into the head, whereas the French/Japanese type of language does not.

This line of approach has an interesting advantage of being able to accommodate not only the parametric variation in resultative constructions but also the parallel variation observed in other various constructions. Levin and Rapoport (1988) point out that English allows a cluster of syntactic constructions whose word-for-word translation into French results in unacceptable sentences. Besides strong resultative constructions like (15a), they include motion constructions like (15b), gesture-expression constructions like (15c), “a hole” constructions like (15d), and so on.

- (15) a. Denise hammered the metal flat.
 b. Sally waltzed into the hall.
 c. She smiled her thanks.
 d. Stephanie burned a hole in her coat.

Notice that German has acceptable constructions corresponding to these English sentences.

- (16) a. Peter hat das Metall platt gehämmert.
 P. has the metal flat hammered
 b. Er tanzte in den Saal.
 he danced into the hall
 c. Sie winkte ihren Dank.⁴
 she winked her thank

- d. Sie brannte ein Loch in den Mantel.
she burned a hole into the coat

On the other hand, in French and Japanese, the corresponding sentences with semantically and syntactically parallel contents are unacceptable, as shown below.

- (17) a. *Jean a martelé le métal plat
J. has hammered the metal flat
b. *Jean a valsé dans la salle. (*motion reading)
J. has waltzed into the hall
c. *Pauline a souri ses remerciements.
P. has smiled her thanks
d. *Il a brûlé un trou à son manteau.
he has burned a hole on his coat.
- (18) a. ?? John-ga kinzoku-o pechanko-ni tatai-ta.
John-Nom metal-Acc flat hammer-Past
b. ?*John-ga hooru-ni odot-ta.
John-Nom hall-in(to) dance-Past
c. *John-ga kansha-o warat-ta.
John-Nom thank-Acc smile-Past
d. *John-ga kotoo-ni ana-o kogashi-ta.
John-Nom coat-Loc hole-Acc burn-Past

All the constructions in (15)-(18) have the common property of containing a complement phrase that is not subcategorized by the main verb. That is, the result phrase in (a), the directional phrase in (b), the emotion-expressing phrase in (c), and the 'hole' phrase in (d) are not inherent arguments of the verb. In the proposed approach based on the mechanism of abstract feature incorporation, the right explanation is available: in the English/German type of language where incorporation of the abstract feature into the verbal head is possible, the addition of a non-subcategorized element to the verb is licensed, hence the acceptability of the cluster of

constructions in English (15) and German (16). On the other hand, in the French/Japanese type of language where the incorporation in question is impossible, a non-subcategorized element cannot be connected with the verb, thus the unacceptability of the French (17) and the Japanese (18) constructions.

A similar account may apply to the parametric variation observed with the cognate object construction. In this construction a normally intransitive verb takes an object whose head noun is a nominalization of the verb stem. A fact to be noted is that English and German allow this construction, as shown in (19) and (20), whereas French and Japanese do not, as shown in (21) and (22).⁵

- (19) a. He laughed a merry laugh.
 b. Tom slept a sound sleep.
- (20) a. Er lachte ein glückliches Lachen.
 he laughed a merry laugh
 b. Tom schlief einen gesunden Schlaf.
 T. slept a sound sleep
- (21) a. *Il a ri un rire heureux.⁶
 he has laughed a laugh happy
 b. *Il a sommeillé un sommeil léger.
 he has dozed a sleep light
- (22) a. ?*Kare-ga yookina warai-o warat-ta.
 he-Nom merry laugh-ACC laugh-PAST
 b. *Kare-ga gussuri-no nemuri-o nemut-ta.
 he-NOM sound-GEN sleep-ACC sleep-PAST

This parametric fact follows from our assumption. The cognate object is not an inherent argument of the (intransitive) verb. In English and German, however, the non-subcategorized object can be added to the verb because of the presence of abstract feature incorporation, while in French and Japanese, on the other hand, the cognate object cannot be licensed because of the absence of the incorporation mechanism.

4. Concluding Remarks

In this paper I have presented an analysis of the parametric variation in resultative constructions on the basis of the thematic structure proposed in Kaga (1997, 1998, to appear) and the licensing mechanism of abstract feature incorporation. I have shown that this approach has an advantage of being able to accommodate the parametric variations observed in motion constructions, gesture-expression constructions, “a hole” constructions, and cognate object constructions, as well.⁷

A further question to be considered is whether the presence (or absence) of the syntactic operation of abstract feature incorporation in some languages is a real parameter provided by UG or whether that property derives from some more fundamental property. Given Chomsky's (1993) assumption that the significant parametric differences between languages are limited to lexical or morphological differences, it seems that attributing the parameter to a syntactic or computational process like feature incorporation is not an appropriate move. A more desirable option may be to reduce the parameter to differences in general properties of lexical items, or more specifically, differences in some morphological properties of verbs. A possible, though quite speculative, assumption may be that verbs in the English/German type of language have some property that allows incorporation of abstract features, while verbs in the French/Japanese type of language do not. A serious inquiry along these lines, however, has to be left to future research.

Notes

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¹ Washio (1997) claims that languages like French (or Romance), unlike Japanese, are subject to a further constraint that severely restricts even weak resultatives, citing unacceptable sentences like the following:

- (i) a. *J'ai peint le mur rouge. ('I painted the wall red.')
- b. *Jean l'a fusillé mort. ('John shot him dead.')

As Hasegawa (1998) points out, however, a French weak resultative like (ii), in which the result phrase is introduced in the form of PP *en bleu* and there is no agreement between the PP and the object DP, is perfectly acceptable.

- (ii) Jean a peint le mur en bleu. (=3a)

Though details have to be worked out more carefully, it seems possible to assume that the unacceptability of (ia-b) has something to do with the agreement property of the adjectives, and thus it does not show the impossibility of (weak) resultative constructions in French.

² Partly against the statement here, Washio (1997) says that "the class of verbs that can appear in weak resultatives is not equal to the class of "change of state" verbs or "accomplishment" verbs: the latter class of verbs is smaller than, and contained in, the former" (p.10). He points out that a Japanese verb *migak-u* 'polish' provides a good example indicating the point; the verb does not necessarily imply that its object-referent changes its state, as is obvious from the fact that without the result phrase, the sentence in (i) can describe the situation in which John engaged in the activity of polishing the metal and it did not become shiny, but it can appear in resultative constructions, as shown in (i).

- (i) John-wa kinzoku-o pikapika-ni migai-ta.
 J.-TOP metal-ACC shiny polish-PAST
 'John polished the metal shiny.'

Notice, however, that our theory presented here is not aspectual but thematic in nature, unlike the accounts of resultative constructions by Tenny (1987, 1994), Rapoport (1993), and others. In our terms, then, a change of state verb need not necessarily be an accomplishment verb. In this view, *migak-u* 'polish' can seem to be regarded as a kind of change of state verb. As Washio says, the verb is not an accomplishment verb. But

note that, as Washio says again, although a verb like *migak-u* 'polish' does not logically imply the change of state of the object-referent, such a verb strongly implies that the activity it names is done for a certain specific purpose, such as to make an object shiny. In other words, such a verb has a "disposition" toward a certain state (i.e. *migak-u* has a "disposition" toward the state "shiny"). Given such a characterization of a verb like *migak-u*, it seems reasonable to put it into the class of change of state verb that has a "disposition" to select the LOCATUM (Result) argument.

³ For a similar approach to the issue, see Snyder (1995), whose main proposal is that English differs from Romance (as well as Semitic and Japanese) in permitting the phonologically null aspectual morpheme that he terms the 'null telic morpheme' (\emptyset_{telic}).

⁴ The German informants comment that a gesture-expression sentence like (16c) is possible, but gesture-expression constructions in general do not seem to be so conventionalized in German. For some unknown reason, the sentence *Sie lachte ihren Dank* corresponding exactly to the English gesture-expression sentence in (15c) is judged unacceptable.

⁵ See Napoli (1992) for cognate object constructions in Italian. She points out the parametric correlation between cognate object constructions and resultatives, saying that "a language that does not allow cognate objects with otherwise strictly intransitive verbs cannot exhibit resultatives with fake objects (reflexive or not)."

⁶ The following French sentences with an apparent cognate object are acceptable.

- (i) a. Il a dansé une danse joyeuse.
 he has danced a dance merry
 b. Elle a vécu une vie heureuse.
 she has lived a life happy

However, this is because verbs like *danser* and *vivre* have a transitive use as well as an intransitive one, illustrated by the acceptability of non-cognate object constructions like (ii):

- (ii) a. Il a dansé une rumba.
 he has danced a rumba
 b. Elle a vécu des jours heureux.
 she has lived some days happy

The sentences in (i) are arguably not "true" cognate object constructions that are made

on the basis of an intransitive verb (cf. Napoli1992).

⁷ Washio (1997) classifies Patients into four types, and proposes to attribute the parametric difference between English and Japanese resultatives to a difference in the type of Patient that they permit. He gives the following statements:

- (i) a. In English resultatives of the form S-V-O-AP, O must be a Patient₁.
- b. In Japanese resultatives of the form S-O-ATP-V, O must be a Patient₃ or Patient₄.

According to his classification, while Patient₁ and Patient₂ have the property that the verbs they appear with say nothing as to whether or how they change, Patient₃ and Patient₄ have the property that the verbs say something about the changes that they may or must undergo. Washio's approach can account appropriately for the difference between English and Japanese resultatives. I am afraid, however, that his approach cannot accommodate (at least in a unified way) the parallel parametric differences observed in motion constructions, gesture-expression constructions, "a hole" constructions, cognate object constructions, and so on.

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