# Unergative Resultative Constructions vs. Detransitivized Resultative Constructions

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### Abstract

Two types of fake object resultative constructions are compared. They are Unergative Resultative Constructions and Detransitivized Resultative Construction. Although they share the same properties with respect to the Case-assignment ability and semantic selection of the postverbal NPs, we claim that they should be classified into two distinct classes. The reason for this claim comes from the fact that only the latter are subject to the two constraints proposed in Nogawa (2006a, b). The implications of the constraints will also be discussed under the analysis proposed by Levin and Rapoport (1988).

## 1. Introduction

In this paper, we will discuss syntactic and semantic properties of the verbs in resultative constructions. Specifically, we will consider their Case-assignability and semantic selection of the postverbal NPs. It will be shown that, among the four types of resultative constructions discussed in this paper, the Unergative Resultative Construction and the Detransitivized Resultative Construction are similar with respect to these two aspects. On the other hand, I have argued that the Detransitivized Resultative Construction is subject to two semantic constraints for its grammaticality (cf. Nogawa (2006a, b)). It will be shown that these two constraints distinguish these two types of resultative constructions. At the end of this paper, we will consider the nature of the constraints within the framework proposed by Levin and Rapoport (1988).

## 2. Properties of Resultative Constructions

### 2.1. Resultative Constructions as a Bieventive Expression

We can observe that languages show mismatches between semantics and syntax. For example, the same idea can be expressed in different grammatical structures. English has some

grammatical ways of expressing two distinct but successive events, which we recognize as a causal relation.  A causal relation is a semantic notion that expresses the relation between two subevents, $E_1$ and $E_2$.  These two events are in temporal succession, and the occurrence of the $E_2$, succeeding $E_1$, depends on $E_1$.  The event $E_1$ in the causal relation is the causing event and $E_2$ is the resulting event.

The causal relation can be expressed in different grammatical levels:  It can be realized at the phrasal level, e.g., simply by linking two clauses expressing the subevents.

（1）　a.  Finally, $[_{E1}$ the bullet hit the tiger], and $[_{E2}$ it died].

　　　b.  $[_{E2}$ The concert was postponed] due to $[_{E1}$ the singer's illness].

Each of the sentences above expresses a causal relation, where the expressions denoting the subevents are indicated by brackets.

There is also lexical realization of the causal relation.  The two events in a causative relation are expressed by the verbs involved.  The verbs are called causative verbs.[1]

（2）　a.  $[_{E1}$ I *made* $[_{E2}$ Mary drive the car]].

　　　b.  John *opened* the door.　　　　　（= cause to open）

　　　c.  John *brightened* the room.　　　（= make bright）

The expressions in (1) and those in (2) are obviously different in their syntactic forms.  The expressions in (1) are compound sentences (biclausal), each of the clauses denoting an event, whereas those in (2) are simple clauses but the interpretations of these sentences still contain the two subevents of the causal relation.  In this sense, both types of constructions express the same concept of causal relation.

We still find another type of grammatical structure which expresses the relation, that is, the resultative construction.  Resultative constructions are complex sentences, in which the postverbal NP and the resultative phrase following it constitute a unit which represents the resulting event.[2]　　The resultative construction is an instance of constructional realization of the causative relation.  Consider the following examples.

（3）　a.  John kicked the door open.

　　　b.  Mary broke the vase to pieces.

　　　c.  The dog barked the baby awake.

　　　d.  Sharon cried her eyes out.

Resultative constructions can be classified into the following classes according to the verbs involved.  The resultative construction involving a transitive verb is called the Transitive Resultative Construction (TRC).  The verb in the TRC is followed by its original semantic object, which functions in turn as subject of the resultative predicate in the resulting event.  TRCs are exemplified in (4).

（4） a. John broke [$_{E2}$ the glass to pieces].

　　 b. The boxer knocked [$_{E2}$ the man breathless].

　　 c. She shook [$_{E2}$ her husband awake].

　　 d. Mary painted [$_{E2}$ her room white].

（4'） a. John broke the glass.

　　 b. The boxer knocked the man.

　　 c. She shook her husband.

　　 d. Mary painted her room.

Resultative constructions with an intransitive verbs can be divided into two: Unergative Resultative Constructions (UERCs) and Unaccusative Resultative Constructions (UARCs). UERCs are based on unergative verbs. They are exemplified in (5).

（5） a. Dora shouted [$_{E2}$ herself hoarse].

　　 b. You may sleep [$_{E2}$ the unborn baby quiet again] ...

　　 c. Sylvester cried [$_{E2}$ his eyes out].

　　 d. Sleep [$_{E2}$ your wrinkles away].

Unergative verbs are inherently intransitive, and they cannot take any object NP in their original use ((5')). In this sense, the syntactic objects in (5) are 'fake' objects.

（5'） a. *Dora shouted herself.

　　 b. * You may sleep the unborn baby.

　　 c. *Sylvester cried his eyes.

　　 d. *Sleep your wrinkles.

The second type of intransitive resultative constructions, the UARC, is constructed based on an unaccusative verb and hence does not involve any object NP. The verb in the UARC is directly followed by a resultative phrase, which is predicated with the subject NP.[3],[4] Consider the following examples.

（6） a. The glass broke to pieces.

　　 b. The lake froze solid.

　　 c. The bottle broke open.

　　 d. The gate swung shut.

The resultative phrases are predicated with the subject NPs, and this property of subject-orientation of the resultative predicate is unique to the UARC. In TRCs and UERCs, the resultative phrases can be predicated only with the object NPs, whether they are true objects or fake ones. Consider the following examples, TRCs in (7) and UERCs in (8). (In each sentence, the intended reading of predication is indicated with underlines.)

（7）a. *<u>Mary</u> broke the glass <u>to tears</u>.

　　b. *<u>Mary</u> painted her room <u>exhausted</u>.

（8）a. *<u>The baby</u> cried <u>to sleep</u>.

　　b. *<u>The lecturer</u> talked <u>hoarse</u>.


## 2.2. *Case-Assignment and Semantic Selection by the Verbs*

Resultative constructions, except for UARCs, show the same basic syntactic linearization: subject NP - verb - object NP - resultative phrase. In this section we compare properties of the verbs involved in the constructions. The properties to be considered are Case-assignability and semantic selection of the object NPs.

Let's start with the verbs in TRCs. As we have seen above, TRCs involve a transitive verb. Transitive verbs have Case-assignability and assign an accusative Case to their objects. Since the verbs in TRCs being inherently transitive, they can be analyzed, even in the constructions, as assigning a Case to the postverbal NPs. We have seen, moreover, that the object NPs in basic transitive constructions (e.g., (4')) can also appear in their resultative counterparts ((4)). These examples indicate that transitive verbs preserve their semantic selection of their internal arguments even when they are used in resultative constructions.

The verbs in UARCs are unaccusative. Since they do not have any Case to assign, they do not accompany any object in their basic use. Accordingly, they do not need semantically to select syntactic objects either.[5] In UARCs, there appears no postverbal NP between the verbs and the resultative phrases. Thus, the two properties of unaccusative verbs can be considered still unchanged even in resultative constructions.

Verbs in UERCs are also intransitive in their original use. As is the case with unaccusative verbs, UERC verbs are also one-place predicates, whose only arguments are realized in the subject position. On the other hand, in addition to the preceding subject NPs, the verbs have postverbal NPs immediately following them in resultative constructions (see (5)). The sentences in (5') show, however, that those NPs are not selected by the verbs. Thus, we can say that unergative verbs in resultative constructions do not need semantically to select objects.

Since unergative verbs in their basic use construct intransitive sentences, they cannot take any objects. Then, they seem to have no Case-assignability at all. On the other hand, within resultative constructions, the verbs do accompany a postverbal NP, which functions as the subject of the resultative predicate. Assuming that that NP must be assigned a Case to be licensed, the only possible Case-assigner must be the verb preceding it. This implies that the (unergative) verbs in UERCs do have Case-assignability.

Actually, it has been pointed out in the literature that unergative verbs have the ability to

assign a Case.  The argument that they are potential Case-assigners is supported by the fact that they can constitute some constructions which contain a syntactic object.  For example, unergative verbs can take a cognate object in cognate object constructions (as in (9)) or can constitute *way* constructions (as in (10)).

（9） a.  She smiled *a bright smile*.

b.  He slept *a sound sleep*.

c.  He lived *a happy life*.

d.  Malinda smiled *her most enigmatic smile*.

（10） a.  The jogger ran *his way* to better health.

b.  Swim *your way* to a new you!

The only conceivable Case-assigners in these examples are also the verbs.  Thus, these constructions also indicate that the verbs can potentially assign a Case to the postverbal NPs, and this assignability reveals in certain, though limited, conditions.  The resultative construction can be regarded as another instance of such situations, where unergative verbs reveal their ability to assign a Case.

It should also be noted here that, in contrast with unergative verbs, unaccusative verbs (i.e., another type of intransitive verbs) cannot appear in those two constructions.  They cannot even take, as their object, a cognate one ((11)) nor *one's way* ((12)).

（11） a.  *The actress fainted *a feigned faint*.

b.  *The mirror broke *a jagged break*.

c.  *She arrived *a glamorous arrival*.

d.  *The apples fell *a smooth fall*.

（12） a.  *The oil rose *its way* to the surface.

b.  *The apples fell *their way* into the crates.

c.  *She arrived *her way* to the front of the line.

d.  *She rose *her way* to the presidency.

Then, the verbs in TRCs and those in UERCs alone can assign an accusative Case to the NPs following them.

Although both TRC verbs and UERC verbs are Case-assigners, the syntactic relations between the verbs and the Case-assigned NPs seem to be different.  While TRC verbs assign a Case in a very local way, UERC verbs do not.  Case-assignment by the latter crosses the clausal boundary of a resultative small clause.[6)]    Another difference between TRC verbs and UERC verbs is whether they semantically select the NPs.  Verbs in TRCs do select their objects (i.e., assigning a semantic role to them), whereas those in UERCs do not.  We assume that the UERC verbs "select" the resultative small clause (representing the resulting event $E_2$), instead.  Considering

the discussion so far, we can conclude that semantic selection and Case-assignment by UERC verbs are not carried out in a parallel fashion.[7]

So far, we have discussed three types of resultative constructions.  However, it has been pointed out in L&RH (1995) that English has yet another type of resultative constructions, which is referred to in Nogawa (2005, 2006a,b) as the detransitivized resultative construction (the DRC).[8]  Consider the following examples of the DRC.

（13）a. Sudsy cooked them all into a premature death with her wild food.

　　　b. I'm glad you didn't stay at the Club drinking yourself dottier.

　　　c. Having ... drunk the teapot dry ...

　　　d. Drive your engine clean.

　　　　　　　　(Levin and Rappaport Hovav (1995: 37))

As we can see from the sentences above, DRCs are built around a transitive verb (for example, *cook, drink*, and *drive* as in (13)).  In this sense, with respect to verb selection, they are similar to TRCs.

On the other hand, DRCs make a clear contrast to TRCs with respect to their semantic selection of the postverbal NPs.  In resultative constructions, the original semantic objects of the DRC verbs are not realized in the object position.  Consider the examples in (13) and notice that the NPs following the DRC verbs are not selected by the verbs.  This point can be clarified with the unacceptable sentences in (14), where the resultative phrase in each example in (13) is omitted.

（14）a. *Sudsy cooked them.  (on the interpretation intended in (13a))

　　　b. *You drank yourself.

　　　c. *They drank the teapot.

　　　d. *Drive your engine.

　　　　　　　　(Levin and Rappaport Hovav (1995: 37f.))

The sentences in (14) are all ungrammatical because the semantic restriction on object selection is violated.[9]   The postverbal NPs in DRCs are not selected by the verbs and have no semantic dependency of the verbs, but are merely the subjects of the resultative predicates.  This is exactly what we have observed with UERCs.  We can thus assume that in DRCs the verbs accompany a resultative small clause, instead of their original semantic objects.  Then, with regard to their semantic selection, the DRC verbs can also be regarded as intransitive.

It should be pointed out, however, that this does not mean that the DRC verbs lack Case-assignability.  Consider the example in (13a).  The object pronoun there is realized in the accusative case form *them* (*all*).  This indicates that the NP is assigned a Case, and the preceding verb *cook* is, naturally, the only possible Case assigner.  Thus, we assume that although being

intransitive, DRC verbs are still (potential) Case-assigners and do keep the ability. And, as was also the case with unergative verbs, DRC verbs, though detransitivized, can actually demonstrate the ability to assign a Case in resultative constructions (again, across a clausal boundary to the semantically unselected NPs). To summarize, although DRC verbs are inherently transitive, they are used as intransitive (unergative) in resultative constructions: they lack the ability to semantically select the postverbal NPs and Case-assignment is carried out across a clause boundary. In this sense, they can be regarded as standing somewhere between the TRC and the UERC.

We have seen that English has three types of resultative constructions which contain a syntactic object: the TRC, the UERC, and the DRC. We have discussed the properties of Case-assignability and semantic selection of the object in each construction. What we have seen can be summarized as follows.

（15）

|  | Verb type | Case-assignment | Semantic selection |
|---|---|---|---|
| TRC | transitive | ✓ | ✓ |
| UERC | intransitive | ✓ | ＊ |
| DRC | transitive | ✓ | ＊ |

The verbs in the TRC and the DRC are transitive whereas the verb in the UERC is intransitive. Since the three constructions contain an object NP, however, all the verbs assign an accusative Case to the following NPs. They also differ in their selection of the objects. While the TRC verb selects the postverbal NP semantically, the verbs in the UERC and the DRC do not.

From the chart above, we can say that the DRC verb is detransitivized, and changed from a transitive verb into an intransitive (unergative) verb. In the resultative construction, we assume, the DRC verb denotes (or highlights) the occurrence of an action itself.[10] Thus, the UERC and the DRC are quite similar to each other.


### 2.3. Properties of the DRC

Although the verb in the DRC is originally transitive, it gets its object syntactically elided and sets another NP, independent of the verb, in the object position. As we have seen above, this indicates the dual aspects of the DRC verb: it is similar to the TRC verb but also is like the UERC verb.

Moreover, the chart presented above shows that the UERC verb and the DRC verb have the same relation to the postverbal NPs: they do assign an accusative Case to the NPs but do not semantically select them. One question arises here: Is there any difference between UERCs and DRCs? Of course, DRC verbs are transitive in their original use, and this makes them different

from UERC verbs.  I pointed out in Nogawa (2006a, b) that this is not the only difference.

2.3.1.  Nogawa (2006a, b)

　　Levin and Rappaport Hovav (L&RH) (1995) claim that the resultative construction we refer to as the DRC is unique in that the implied objects of the verbs (distinct from the syntactically realized objects) must receive an indefinite or unspecified interpretation (cf. Carrier and Randall (1992)).  L&RH call DRC verbs as unspecified object verbs.  According to their analysis, if a verb is not an unspecified object verb, it cannot constitute a DRC.  Consider the following examples.

（16）a. *The bombing destroyed the residents homeless.

　　　b. *The bears frightened the campground empty.

　　　c. *The magician hypnotized the auditorium quiet.

（17）a. The bombing destroyed *(the city).

　　　b. The bears frightened *(the hikers).

　　　c. The magician hypnotized *(the volunteers).

Following their analysis, the sentences in (16) are unacceptable because the verbs involved are not unspecified object verbs (as is indicated by the sentences in (17)).  Their argument implies that the type of verbs determines grammaticality of the construction.

　　I argued in Nogawa (2005) against the analysis proposed by L&RH.[11]　Moreover, I have proposed that there are two constructional properties which are unique to the DRC (Nogawa (2006a, b)).  Firstly, the original objects of DRC verbs are not completely eliminated.  We can find them still in the resultative constructions.  In other words, the properties of the original use of DRC verbs are somehow preserved in the construction, and these characterize the construction different from the UERC.  The constraint is stated as follows.

（18）A grammatical DRC must have the original internal argument of the verb syntactically realized in the resultative predicate.[12]

　　Consider the following examples.

（19）a. Matilda poked a hole in the rice paper screen (with her cane).

　　　b. Stephanie burned a hole in her coat (with a cigarette).

　　　c. Frances kicked a hole in the fence (with the point of her shoe).

　　　　　　　　　　　　　(Levin and Rapoport (1988))

（20）a. Matilda poked {the rice paper screen/*a hole} (with her cane).

　　　b. Stephanie burned {her coat/*a hole} (with a cigarette).

　　　c. Frances kicked {the fence/*a hole} (with the point of her shoe).

Although the verbs in (19) are transitive, the object NPs following them (underlined) are not semantically selected by the verbs, as is shown by the sentences in (20).  Thus, the resultative

constructions above are DRCs.  In these examples, the original objects of the verbs can be found within the resultative phrases (italicized).  We add more examples below.  ((21a) to (21c) are attested examples.)  Again, the original objects of the verbs are not underlined syntactic objects, but are italicized NPs in the resultative phrases.

（21） a. But Meckler's style, Jenny thought, would have been to cut <u>a hole</u> in *the netting of the lacrosse stick* - and to have left the useless stick in the sleeping Hathaway's hands.

b. She grabbed a pack of Marlboros from a table, snapped a lighter, and drew <u>flame</u> into *the cigarette*.

c. Brinskey shook <u>another cigarette</u> from *a pack of Marlboros*, looked at it a moment, apparently thought better of it, and returned it to the pack.

d. Acid ate <u>holes</u> in *my suit*.

e. Termites ate <u>holes</u> in *the wood*.

Another constraint on DRCs can be stated as follows.

（22） A grammatical DRC must have a fake object whose referent undergoes a change in its existence as a result of the denoted action.[13]

In (20) and (21), each of the underlined syntactic objects refers to something that emerges as a result of the action denoted by the verb.  Moreover, in the following DRCs (all attested examples), the syntactic objects refer to what disappear after the denoted actions.[14]

（23） a. Columbo walked toward the house, slapping <u>ash</u> off *his raincoat*, then pulling on the knot in his tie.

b. "Yeah," I mumbled as I rubbed <u>the sleep</u> out of *my eyes*.

c. A guy on his way through this sitting room, on his way to kill people with a knife, stops to clean <u>mud</u> off *his shoe*?"

d. Victoria Stopped and pressed <u>fingers</u> to *her eyes*, squeezing out tears.

e. He pinched <u>the fire</u> out of *his cigar* and deposited it in his raincoat pocket.

In contrast to the DRC, grammatical UERCs are not constrained by any such constructional constraints.  Consider the UERCs in (5), repeated below.

（5） a. Dora shouted herself hoarse.

b. You may sleep the unborn baby quiet again ...

c. Sylvester cried his eyes out.

d. Sleep your wrinkles away.

Since the two characteristics forced by the constraints in (18) and (22) are unique to the DRC, they differentiate the DRC from the UERC.  Although we have seen above that the DRC and the UERC show similarities in Case-assignability and semantic selection, they must be analyzed as

distinct constructions.  Moreover, since grammaticality of the DRC alone depends on these constructional constraints, we can say that derivation of DRCs is more restricted than that of UERCs.

### 2.3.2.  The Nature of the Constraints

In this section, we briefly consider the implication of the two constraints in (18) and (22) within the analysis proposed in Levin and Rapoport (1988).

### 2.3.2.1.  Lexical Subordination

Levin and Rapoport (1988) propose a lexical operation which they call 'lexical subordination.' It is an operation which enables lexical extension of the base verb meaning, resulting in producing a variety of constructions.  The constructions which Levin and Rapoport consider to be derived through the operation are (i) the resultative construction, (ii) the verb-particle construction, (iii) the verb-preposition construction, (iv) the construction derived by the conflation of the meaning components of motion, manner, and path into a single verb, (v) the construction derived by the conflation of cause, motion, and path components into a single verb, (vi) the gesture-expression construction, (vii) the *way* construction, and (viii) the *a hole* construction.[15]

The operation of lexical subordination specifically derives a complex conceptual structure of a construction from the original lexical conceptual structure (LCS) of the verb involved in the construction.  (The derived conceptual structure is referred to as a (complex) LCS in Levin and Rapoport's analysis.)  It is defined as follows.

（24） Lexical subordination takes a verb in its original, or basic, sense and subordinates it under a lexical predicate.

<div align="center">(Levin and Rapoport (1988: 82))</div>

Lexical subordination defined above suggests that the original LCS of a verb is subordinated (or embedded) in the complex conceptual structure, and that a new component representing a resulting event is introduced which functions as the matrix clause in that structure.  At the same time, a new variable can be introduced into the derived conceptual structure.[16] [17]

（25） LCS:  manner/instr → LCS:  [result BY manner/instr]

　　　(*BY* is used to represent 'by means of' or 'in the manner of')

<div align="center">(Levin and Rapoport (1988: 282))</div>

According to their analysis, the event denoted by the verb in its original use is considered merely as a manner or an instrument within the complex LCS.  On the other hand, the focus of the meaning of the verb shifts to the newly introduced matrix component.  This component denotes the resulting event caused by the embedded event (thus, represented as 'result' in (25)). To demonstrate the operation, Levin and Rapoport present the following pairs of sentences.

（26） a. The company processed the food.

　　　　process$_1$: [x 'process' y]

　　 b. The company processed the vitamins out of the food.

　　　　process$_2$: [x CAUSE [y BECOME (AT) z] BY [x 'process' y]]

（27） a. Evelyn wiped the dishes.

　　　　wipe$_1$: [x 'wipe' y]

　　 b. Evelyn wiped the dishes dry.

　　　　wipe$_2$: [x CAUSE [y BECOME (AT) z] BY [x 'wipe' y]]

Suppose, for example, that the verb *process* in (26a) has the LCS [x 'process' y]. When the verb appears in a sentence like (26b), however, the LCS of the verb is made complex through the operation of lexical subordination. In the derived LCS, the original meaning of the verb is embedded and functions merely to represent a manner or an instrument which causes another event to occur. The resulting event is conceptually represented as [x CAUSE [y BECOME (AT) z].

### 2.3.2.2. The LCS of the DRC Verb and the Semantic Constraints

　　Now, with the analysis in Levin and Rapoport (1988), let us consider the two constraints on the DRC.[18]　Based on their analysis, we propose that the verb in the DRC can be analyzed as having the following complex conceptual structure.

（28） LCS: [ x CAUSE [z GO (TO/FROM) y] BY [x DO y]]

　　The conceptual structure above consists of two components. One is the original LCS of the DRC verb, which is subordinated and is expressed as [x DO y]. Remember that the DRC verb is inherently transitive and takes an internal argument, which is represented as a variable (*y*). This part of the conceptual structure is syntactically realized only as the subject-verb sequence. As we have seen above, the internal argument of the verb (*y*) is suppressed in the sense that it is not realized as a postverbal NP. The other component (i.e., the matrix part) of the LCS is introduced by the operation of lexical subordination, and represents the resulting event caused by the embedded event. It is represented above as [x CAUSE [z GO (TO/FROM) y]. Syntactically, this part is realized as the resultative small clause. The variable *z* in this component is syntactically realized as a postverbal NP. These two components are simply connected by the BY function. They share the same variable *x* as their subjects, and the internal argument of the verb's LCS (i.e., the variable *y*) is also expressed within the matrix event. As a whole, the LCS in (28) can be read as '*x* causes *z* to move to/from *y* by means of making an act on *y*.'

　　Now, let us consider the constraint in (22) first, i.e., the constraint on the syntactic object in the DRC. We have argued that the syntactic object must be something which undergoes a change in its existence.

In the DRC, the internal argument of the verb is not syntactically realized. Instead, the set of a postverbal NP and a resultative predicate is selected within the construction. This means that the resultative clause is required independently of the internal semantics of the verb. The question is what are legitimate sets of resultative clauses. A clue in understanding the first constraint lies in the fact that the (derived) LCS contains the function BECOME. This BECOME function requires as one of its variables an entity that undergoes a change. On the other hand, that component in the LCS corresponds syntactically to the resultative small clause. Thus, the semantic subject of the resultative small clause in the DRC (i.e., the postverbal NP) denotes a referent which can undergo a change in its existence.

Let us turn to the constraint in (18), i.e., the syntactic realization of the semantic objects of the verb in the resultative small clause. In the complex LCS derived through lexical subordination, the result component and the manner component are linked together. As we have seen, they must form a causal chain. That means the event expressed by the manner component must surely lead to the occurrence of the resulting event. To make this possible, the two events represented by those components must not be entirely unrelated to each other. There must be some causal link to make these two parts integrated into one, and we propose that that link is the variable $y$. Through the medium of sharing the same variable, the causing event and the resulting event are properly connected.[19]

## 3. Concluding Remarks

In this paper, we compared four types of resultative constructions in respect of the abilities of their verbs for semantically selecting the postverbal NPs and for assigning a Case to them. We have observed that among the four, the UERC and the DRC, though differing in their verb selection, are similar to each other in these abilities: the verbs in these constructions do not select the postverbal NPs but assign an accusative Case to them. On the other hand, we have also seen, the DRC is subject to two constructional constraints, which are not imposed upon the UERC. The implications of the constraints are discussed with the framework proposed by Levin and Rapoport (1988).

Notes

1 Verbs like *make* in (2a), *cause*, *let*, and *have* are called analytic (syntactic, or periphrastic) causatives. Verbs like *open* in (2b) are lexical causatives (cf. Dixon (1991: 295)). The resulting event $_{E2}$ in the example is [$_{E2}$ the door opened]. Simple lexical causatives also include verbs like *raise* (= cause to rise), *stop* (= cause to stop), *fell* (= cause to fall), *kill* (= cause to die), etc. Verbs like *brighten* in (2c) are morphological causatives, derived by adding causative affixes like *en-*, *-en*, *-ify*, and *-ize*. The resulting event $E_2$ in (2c) is [$_{E2}$ the room is

bright]. Other morphological causatives includes *humidify* (= make humid), *enlarge* (= make large), *actualize* (= make actual), etc.

2 The Unaccusative Resultative Constructions, introduced below, is exceptional to this description.

3 Under the unaccusative hypothesis, this property of the UARC is attributed to NP movement from its base object position to the subject position.

(i) a. The glass$_i$ broke ____$_i$ to pieces.

    b. The lake$_i$ froze ____$_i$ solid.

    c. The bottle$_i$ broke ____$_i$ open.

    d. The gate$_i$ swung ____$_i$ shut.

  Thus, although unaccusative verbs do select a semantic object, it is syntactically realized as their subject, because, as we will see below, UARC verbs do not have Case-assignability at all.

4 Observations of the facts such as these lead Levin and Rappaport Hovav (1995) to propose the Direct Object Restriction on the resultative predicate.

5 They do semantically select their internal arguments, though the arguments are syntactically realized in the subject position.

6 We do not discuss syntactic significance of the "clausal boundary" in this paper.

7 In this sense, UERCs are close to ECM constructions or other small clause constructions. Also, we can say that the UERC is a construction counter to the passive construction, which keeps its thematic-selection but detrantsitivized and cannot assign an accusative case.

8 Levin and Rappaport Hovav do not propose any specific name to this construction.

9 The ungrammaticality of (14) could be analyzed as a result of detransitivization of the verbs, since they convert to intransitive verbs in DRCs.

10 In Nakau's (1994) analysis, this conversion can be analyzed as a change from the AFFECT verb to the ACT verb.

11 The problems with L&RH (1995) are discussed in Nogawa (2005) in detail.

12 Specifically, in Nogawa (2006a), the constraint is defined as follows.

(i) A grammatical DRC with an AFFECT verb must have the original internal argument of the verb syntactically realized in the resultative predicate.

  Since the specification of the verb type in DRCs above needs an argument which is irrelevant to this paper, the constraint is expressed in a slightly simplified way.

13 In Nogawa (2006a), this constraint is defined as follows.

(i) A grammatical DRC with an AFFECT verb must have a fake object whose referent undergoes a change in its existence as a result of the denoted action.

  Since the specification of the verb type in (i) also needs an argument which is again irrelevant to this paper. Thus, we present a simplified version of the constraint.

14 Our analysis predicts that the ungrammatical DRCs in (16) are due to violation of the two constraints, and that they can be rescued by satisfying the two constrained. This prediction was correctly born out in Nogawa (2006a, b)

(i) a. The bear frightened <u>a scream</u> out of *the mute*.

    "The bear frightened the mute and he could scream."

  b. The psychiatrist hypnotized <u>the old memories</u> from/out of *the amnesiac*.

    "The psychiatrist hypnotized the amnesiac, and she could recall her old memories."

   (ii)  The piper charmed <u>a dance</u> from *the snake*.

      "The musician charmed the snake and the snake started to dance."

15 The constructions are exemplified in the following.

   (i) a.  Denise hammered the metal flat.                      (i)

      b.  Claudia laughed herself silly.                        (i)

      c.  Sylvia filed the serial number off.                  (ii)

      d.  Sylvia filed the serial number off the terminal.    (iii)

      e.  The bottle floated into the cave.                  (iv)

      f.  Dora floated the box into the harbor.            (v)

      g.  Pauline smiled her thanks.                     (vi)

      h.  Jack moaned his way out the door.              (vii)

      i.  Matilda poked a hole in the rice paper screen (with her cane).    (viii)

16 From the syntactic standpoint, we can say that the original LCS of the verb is subordinated and a new component conceptual structure, corresponding to a result phrase, is newly introduced.  From the semantic standpoint, on the other hand, we can say that the surface structure of the construction is derived (whether syntactically or not) by promoting the subordinated component (the 'manner/instr' clause, i.e., the embedded original LCS of the verb) and demoting or degrading the result phrase in the main clause.

17 Assuming lexical subordination, we need either lexical (or syntactic) operations to derive syntactic structures from the complex LCSs or correspondence rules which can link these two structures.

18 Notice that the constructions (ii), (iii), (iv), (v), and (viii) in Levin and Rapoport (1988) can be classified into the DRC.

19 As for the TRC, this kind of special linkage is not needed, because the internal argument of the TRC verb is syntactically realized as its object and it also functions as the semantic subject of the resultative predicate. Thus the resulting event and the causing event are linked through the object NP.  On the other hand, as for the UERC, which is closer to the DRC, we expect that there should be some linking variable in the LCS, since the UERC verb lacks an internal argument, which could function as a linker.  The UERC, however, does not seem to need such a constraint as (18) at all.  We need to explain why this is so, but cannot provide a full account of this in this paper.

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