
Verbs of Inherently Directed Motion Are Compatible with Resultative Phrases

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(see, e.g., Jackendoff 1990, 1992, 1997). If this is the case, the levels of LF and conceptual structure, both of which are independently necessary, are not mere notational variants, but are separate linguistic levels in which different aspects of meaning are determined and different types of grammatical operations are carried out.

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VERBS OF INHERENTLY DIRECTED
MOTION ARE COMPATIBLE WITH
RESULTATIVE PHRASES

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Levin and Rappaport Hovav (1995) (henceforth L&RH) show that resultative predication serves as a diagnostic for unaccusativity in English: if a resultative can be predicated of the single argument of a monadic verb, that verb is unaccusative. However, they point out that if a monadic verb cannot occur with a resultative, it does not necessarily follow that the verb in question is not unaccusative. For example, they conclude on the basis of (1) that the subclass of unaccusatives they call *verbs of inherently directed motion* (henceforth VIDMs) are incompatible with resultatives for independent reasons.

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- (1) *Willa arrived breathless.
(L&RH 1995:58, (58))

In this squib I argue that L&RH's account for the apparent incompatibility of resultatives with VIDMs cannot be maintained and that the ungrammaticality exhibited by (1) is found with all unaccusatives. Thus, it cannot be concluded on the basis of this example that VIDMs are incompatible with resultatives. Given L&RH's explanation for the types of resultatives that can occur with inherently delimited verbs like *break*, I argue that VIDMs, like all inherently delimited unaccusatives, are compatible with resultatives.

1 Resultative Predication in English

L&RH define a resultative XP as "an XP that denotes the state achieved by the referent of the NP it is predicated of as a result of the action denoted by the verb..." (p. 34). Because a resultative denotes a state achieved by the NP it is predicated of, it acts as a delimiter of an eventuality.

L&RH note, following Simpson (1983), that there is a "Direct Object Restriction" on resultative predication in English: resultatives can only be predicated of D-Structure objects. This can be seen in (2)–(4), where resultatives can be predicated of objects of transitives (2), but not of oblique arguments (3) or of subjects of unergatives (4).

- (2) a. John broke the vase open.
b. Mary pounded the metal flat.
(3) *Mary pounded on the metal flat. (cf. (2b))
(4) a. *John laughed helpless.
b. *John yelled hoarse.

They further note that resultatives can be predicated of surface subjects of unaccusatives (5) and passives (6).

- (5) a. The vase broke open.
b. The lake froze solid.
(6) a. The table was wiped clean.
b. John was shaken awake.

The facts in (2)–(6) suggest that the surface subjects of passives and unaccusatives originate as D-Structure objects. Thus, resultative predication can be used as a diagnostic for unaccusativity: if a monadic verb is compatible with a resultative, then it must be an unaccusative verb.

2 VIDMs and Their Apparent Incompatibility with Resultatives

Although L&RH show that unaccusatives are generally compatible with resultatives, they conclude on the basis of the example in (1) (repeated here as (7a)) that VIDMs (e.g., *arrive*, *ascend*, *come*, *depart*, *descend*, *enter*, *escape*, *exit*, *fall*, *flee*, *go*, *leave*, *return*, *rise*), despite

their unaccusative status, are incompatible with resultatives ((7b–c) are similar examples).

- (7) a. *Willa arrived breathless.
- b. *John came sad.
- c. *John returned happy.

As L&RH explain (p. 58), (7a) cannot mean that Willa became breathless as a result of arriving, even though there is nothing pragmatically incoherent about such a proposition. Rather than conclude that VIDMs are not unaccusatives in English, L&RH provide an independent explanation for the ungrammaticality exhibited in (7), allowing them to maintain the diagnostic status of resultative predication, as well as an unaccusative analysis of VIDMs.

The explanation L&RH provide (p. 58) for this apparent incompatibility incorporates an observation made by Tenny (1987). According to Tenny, an eventuality may be associated with at most one delimitation. L&RH note that VIDMs are already inherently delimited, or telic, eventualities. Given Tenny's constraint, this means that VIDMs cannot be associated with a second syntactically encoded delimiter. Since a resultative acts as a delimiter, VIDMs (already inherently delimited) cannot occur with resultatives. I will refer to this as the "appeal-to-delimitedness" explanation.

I will now turn to some data that render the appeal-to-delimitedness explanation untenable.

As L&RH themselves note (p. 172), some VIDMs are not inherently delimited. They refer to this class of verbs, which includes verbs such as *descend*, *rise*, and *fall*, as "atelic verbs of inherently directed motion." Their atelicity (or nondelimitedness) can be demonstrated by their compatibility with a durative phrase.

- (8) a. The hang glider pilot descended for 3 minutes.
- b. The gas rose for 5 minutes.
- c. The meteorite fell for 15 minutes.

Given L&RH's appeal-to-delimitedness explanation for the incompatibility of VIDMs with resultatives, we predict atelic VIDMs to be compatible with resultatives, since they are not inherently delimited. However, this prediction is not borne out.

- (9) a. *The hang glider pilot descended breathless.
- b. *The gas rose cool.
- c. *The meteorite fell hot.

The surface subjects in (9) cannot be interpreted as achieving the states expressed as a result of the actions denoted by the verbs (e.g., (9a) cannot mean that the hang glider pilot became breathless as a result of descending). Thus, the atelic VIDMs, although they are not inherently delimited, appear to be incompatible with resultatives in the same way that the inherently delimited VIDMs are (cf. (7a)).

Given (7) and (9), we are led to one of two conclusions:

- (A) L&RH's appeal-to-delimitedness explanation for the incompatibility of VIDMs with resultatives is untenable.

- (B) L&RH's appeal-to-delimitedness explanation for the incompatibility of inherently delimited VIDMs with resultatives is still tenable, but a separate explanation must be provided for the incompatibility of atelic VIDMs with resultatives.

I reject (B) on metatheoretical grounds: it misses the important generalization that both inherently delimited (telic) and noninherently delimited (atelic) VIDMs, which form a coherent verb class, behave identically with respect to their apparent incompatibility with resultatives. Different explanations for the ungrammaticality of the sentences in (7) and (9) run the risk of overlooking some property shared by VIDMs that could be responsible for their similar behavior.

This leaves (A). To capture the generalization that delimited and nondelimited VIDMs behave identically with respect to this apparent incompatibility with resultatives, an appeal to delimitedness will not work. Given this conclusion, it would seem that we must find another explanation for the incompatibility of VIDMs (both inherently delimited and noninherently delimited) with resultatives.

However, in the remainder of this squib I provide an explanation for the data in (7) and (9) that holds that the incompatibility of VIDMs with resultatives is only apparent and that the ungrammaticality exhibited in (7) and (9) is found with all unaccusatives. The account I provide thus does not make specific reference to VIDMs.

3 Inherently Delimited Eventualities and Resultatives

Let us return to the constraint, noted by Tenny, that an eventuality may be associated with at most one delimitation (the *Single Delimiting Constraint* (SDC)). If no further qualifications are made, this constraint predicts that inherently delimited eventualities, such as *break*, are incompatible with resultatives, contrary to fact:

- (10) The bottle broke open.
(L&RH 1995:59, (62))

However, Tenny notes that a VP may contain two delimiters, provided that the second one is a further specification of the first one. L&RH also make this observation, and account for (10) as follows: "The resultative phrase [in (10)] can be seen as a further specification of the inherent state that is part of *break*'s meaning, . . .so that breaking open is a very specific type of breaking. . .The resultative phrase [*open*], then, does not describe a second result state in addition to the state inherently specified by *break*; therefore, it is not prohibited from occurring with the verb" (p. 59). In other words, a verb that is inherently delimited may occur with a resultative, so long as the resultative acts as a further specification of the result already inherent in the verb's meaning (and thus does not doubly delimit the event). Let us call this the *Further Specification Constraint* (FSC) (which follows from the SDC).

The FSC predicts that a resultative that does not further specify

the result inherent in the meaning of *break* should be incompatible with this verb. This prediction is borne out.

- (11) *The vase broke worthless.¹
(Jackendoff 1990:240)

Although there is nothing pragmatically incoherent with a vase becoming worthless as a result of its breaking, the sentence in (11) is not possible. The same facts can be seen with the unaccusative verb *melt*, which is compatible only with a resultative that respects the FSC (12a), and not simply any pragmatically logical result (12b).

- (12) a. The wedding cake melted into a slimy mess.
b. *The wedding cake melted ugly.

We cannot conclude from (11) and (12b) that *break* and *melt* are incompatible with resultatives. Rather, we can only conclude that the FSC is operative.²

Now let us extend the above discussion concerning *break* and *melt* to example (1)/(7a), repeated here as (13).

- (13) *Willa arrived breathless.

The sentence in (13), like (11) and (12b), is ruled out by the FSC. The AP *breathless*, like the APs *worthless* and *ugly* in (11) and (12b), is incompatible with the verb *arrive* because it does not further specify the result inherent in the verb's meaning. Thus, the ungrammaticality exhibited by (13) is exhibited by all unaccusatives. Consequently, we need not make any specific reference to VIDMs to explain (13). This is a happy consequence, given that the ungrammaticality of (13) needed to be explained, since the appeal-to-delimitedness explanation could not be maintained.

4 Conclusion: PPs with VIDMs Are Resultatives

In the appeal-to-delimitedness explanation of the ungrammaticality of (13), L&RH show that a VIDM can occur with a goal phrase (which is a delimiter), so long as it serves to further specify the endpoint that is entailed by the verb's meaning.

- (14) We arrived at the airport.
(L&RH 1995:58, (59))

Thus, *arrive* is compatible with a PP such as *at the airport*, for the same reason that *break* is compatible with *open*.

¹ Jackendoff provides a different explanation for the ungrammaticality of this sentence. According to him, nonrepeatable point-event verbs (such as *break* and *arrive*) cannot occur with resultatives. Jackendoff's explanation will not be pursued here; however, note that it is not clear how his explanation accounts for the sentence in (10).

² It should be noted that the FSC applies to inherently delimited transitive verbs as well.

- (i) Mary broke the vase open/*worthless.

Since both (10) and (14) fall under the SDC and the FSC, there does not seem to be a way to straightforwardly maintain that *open* in (10) is a resultative but *at the airport* in (14) is not. Although *at the airport* further specifies a location rather than a state, this simply follows from the fact that the meaning of a VIDM entails a change of location rather than a change of state. In fact, given the FSC, we should expect a resultative of a VIDM to specify a resulting change of location rather than a resulting change of state. The semantics of the atelic VIDMs entail a change of location rather than a change of state as well, so it follows that they, too, only allow locative XPs as resultatives.^{3,4}

The SDC and the FSC (which are two sides of the same coin), then, lead to the conclusion that locative XPs occurring with VIDMs are resultatives. Goldberg's (1991) analysis of resultatives and directional phrases points to this conclusion as well.⁵ Goldberg notes that there is a constraint against resultatives and goal phrases occurring together.

- (15) *Ann kicked her black and blue down the stairs.
(Goldberg 1991:369)

She points out that this must be a grammatical constraint, because there is nothing pragmatically impossible about a person being kicked down the stairs and becoming black and blue simultaneously. To account for this cooccurrence restriction, she formulates the *Unique Path Constraint*, which essentially states that an NP cannot be predicated to move to two distinct locations at any given time. She makes the constraint relevant to change-of-state resultatives by understanding resultatives to encode a metaphorical change of location (which falls

³ The locative resultative does not necessarily have to be realized as a PP. It can be realized as an AP, so long as the AP encodes a location of some sort, as (i) shows (thanks to Yafei Li for pointing out this example to me).

- (i) The gas rose high.

In their discussion of unergative verbs of manner of motion that also behave like unaccusative verbs of directed motion, L&RH point to a number of examples of resultative APs that encode a location (*jump clear*; *swim apart*; *roll open*; *swing shut*).

⁴ The fact that atelic VIDMs are restricted in the same way that inherently delimited unaccusatives are raises a question concerning the status of the FSC with respect to atelic eventualities in general (I thank an anonymous reviewer for calling my attention to this point). Though this question is beyond the scope of this squib, I note here that the behavior of atelic eventualities is not clear. Certain atelic eventualities seem to be subject to the FSC (e.g., (i) and atelic VIDMs), whereas others do not (e.g., (ii)).

- (i) John washed his baby clean/*happy.
(ii) John beat Bill silly/senseless.

⁵ Compare also Jackendoff's (1983) Thematic Relations Hypothesis (thanks to an anonymous reviewer for pointing these analyses out).

under a general systematic metaphor involving understanding changing state in terms of moving to a new location).⁶ Note that the proposal that change-of-state XPs and change-of-location XPs are grammatically the same suggests the conclusion arrived at here, which is that locative XPs that occur with motion verbs are resultatives.

Finally, there is no apparent syntactic difference between the resultative XP *open* in (10) and the XP *at the airport* in (14), underscoring that these two XPs have the same status. The *do so* test, which L&RH appeal to in order to show that resultatives (16b), like subcategorized PPs (16a), are VP-internal (and thus are part of the core eventuality of the VP), also works for the location-goal PPs of VIDMs (17).

(16) a. *John put a book on the table, while Bill did so on the chair.

b. *John broke a vase open, while Mary did so to pieces.

(17) a. *Willa arrived at the station, while John did so at the airport.

b. *Willa came to the colloquium, and John did so to the party.

c. *Willa returned to Italy, while John did so to England.

(17a), for example, contrasts with (18).

(18) Willa exercised at the health spa, while John did so at the YMCA.

The PP *at the station* in (17a), unlike the adjunct PP *at the health spa* in (18), does not occupy a VP-external position; rather, it is part of the core eventuality of the VP, just like the resultative XP in (16b).

To conclude, we find no empirical argument that supports a resultative analysis for the XP *open* in (10), but not for the XP *at the airport* in (14). The XP *open* bears the same semantic relation to *break* as the XP *at the airport* bears to *arrive*: both serve to further specify the resulting state entailed by the meaning of the verb. Since both respect the SDC and the FSC, and since both behave the same syntactically, we can conclude that *at the airport* in (14) is a resultative XP and thus that VIDMs are compatible with resultatives.

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⁶ In Tenny's (1987) terms, the ungrammaticality of (15) (which contains two distinct delimiters) is explained by the SDC.

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