The Resultative Construction

Cutting Verb Classes a Break

B.A. essay

Einar Andreas Helgason

March 2009
The Resultative Construction

Cutting Verb Classes a Break

B.A. essay

Einar Andreas Helgason
Kt.: 180282-7269

Supervisor: Matthew Whelpton
March 2009
Abstract

The resultative construction, while not unique to English, is relatively rare. Because of that, it is of interest to study it. To better understand the resultative construction, the question whether it is syntactically or semantically motivated has been the focal point of much research.

First I review some major theoretical accounts of the resultative construction; the Binary SC Analysis, the Ternary Analysis, the Hybrid SC Analysis, and a semantic analysis. Second I explore certain classes of verbs; in particular break-verbs, cut-verbs and hit-verbs as defined by Levin (1993). These classes of verbs, generally defined as compatible with the resultative construction, show variable behavior in the resultative construction with regard to their resultative phrases. By comparing these classes, as well as comparing constituents within each class, I attempt to make an argument in favor of one of the accounts covered.

I present evidence that the post-verbal NP is in some cases selected by the verb which favors the Ternary and Hybrid SC Analyses. Furthermore, evidence that the RP is itself selected by the verb favors the Ternary analysis. However, these verb classes are limited to verbs pertaining to transmission of force and therefore inherently do not offer any examples violating the DOR, which is a strong argument in favor of a semantic account of resultatives. I therefore conclude that while these verb classes offer insufficient insight into the resultative construction, further research into the connection between verb classes and the resultative construction may provide fruitful.
## Contents

1. Introduction ..................................................................................................................... 1

2. Review of literature ......................................................................................................... 5
   2.1 Hoekstra: Resultatives as Small Clauses ................................................................. 5
   2.2 Carrier and Randall: Ternary Analysis and Beyond .................................................. 10
       2.2.1 The Ternary Analysis ....................................................................................... 10
       2.2.2 Hybrid SC ....................................................................................................... 12
   2.3 The End of Syntax ...................................................................................................... 13
       2.3.1 Core Event Structure: Deriving the Results ..................................................... 13
       2.3.2 Arguments against a syntactic approach ......................................................... 15
   2.4 Resultatives: A Semantic Account ............................................................................. 17
   2.5 Conclusion .................................................................................................................. 22

3. Hit-Cut-Break: A Viewpoint ............................................................................................. 22
   3.1 The Result: Where Does It Come From? ................................................................. 22
   3.2 The Patients: Post-verbal NPs .................................................................................... 27

4. Conclusion ......................................................................................................................... 30

Appendix ............................................................................................................................ 32

Works cited .......................................................................................................................... 33
1 Introduction

When looking at the resultative construction (hereafter referred to as RC), one first has to decide from what angle to look at it. First of all, there is the question whether it is semantically or syntactically motivated. Moving on there is the question why the RC is so limited in functionality and usage. But most important to this thesis, there is the question whether the RC behaves differently with different classes\(^1\) of verbs. In particular, this thesis will explore how a verb (in particular verbs categorized as hit-verbs, break-verbs and cut-verbs) dictates possible result states, where the result state is limited – in some cases even determined – by the verb.

In short, a RC is simply a sentence consisting of a subject, a verb, possibly an object, and an XP, consisting of either an adjective or a prepositional phrase. This XP is often referred to as a result phrase (RP), for it expresses the result, and without it there would be no RC. Examples (1) (with an object) and (2) (without an object) follow.

1. The blacksmith hammered the metal flat.

2. The ice froze solid.

That is not to say that each and every such construction is automatically a RC. See examples (3) and (4), where in both cases the exact same phrases are present, only different lexical items.

\(^1\) Unless otherwise specified, classes of verbs refer to Levin (1993)’s division of verbs into classes based on their syntactic behavior and semantic limitations.
(3) The painter painted the door red.

(4) The painter painted the door drunk.

In (3), we have a stereotypical RC where the result is predicated of the object. In (4) however, while a perfectly acceptable sentence of English, there is no result expressed. The painter (let alone the door) does not get drunk as a result of painting the door; it is simply a subject-oriented depictive, a stative description of the painter. To force a resultative meaning on (4), i.e. to say that the painter became drunk, because of the fumes from the paint perhaps, results in ungrammaticality. Therefore it is important to realize what is a (grammatical) resultative and what is not; and then there is the question whether there even are subject-oriented RCs. But before answering that one first has to look at the different explanations behind the RC.

There is a debate in the literature as to whether RC is semantically or syntactically motivated. Even that is an oversimplification, for one of the arguments in favor of a semantic solution (e.g. Levin & Rappaport Hovav 2001) is simply that the syntactic supporters, so to speak, have been unable to unite under the same umbrella. Instead, there are various theories in contention, e.g. Hoekstra 1988 and Carrier & Randall 1992, with none being complete enough, or convincing enough, to come out as a clear winner. By exploring the specific verbs covered in this thesis, one of the questions I will attempt to answer is whether the results shed any light on that particular debate, and possibly offer evidence in support of either side.
The verb classes covered in this thesis, namely hit-verbs, break-verbs and cut-verbs, were chosen because of their similarities. They are similar, but not the same. What it is that sets them apart and how it is evident in the RC is one of the questions to be explored and hopefully answered. These verbs can appear as transitive verbs where they generally express a happening, oftentimes an action performed by a sentient agent, which affects an object; e.g. a patient being affected by the action. In addition there is the RP, but as is the case with these verb classes, the verbs themselves oftentimes at the very least hint towards a result, whether it is implicitly stated or not. Consider examples (5) and (6).

(5) The girl broke the vase.

(6) The girl broke the vase to pieces.

As is evident, (6) is a RC while (5) is not. But does the result phrase to pieces in (6) add all that much information to what is already available in (5)? The fact that the girl broke the vase already implies that the vase is in some state of disrepair, the most natural of which being that it has become two or more pieces. Further evidence that the RP only adds to what is already given by the verb is the limitations the verb break places on the possible RP. Looking back at examples (1), (2) and (3) we can see that while flat, solid and red are all fine RPs, they do not work so well with break.

(7) *The girl broke the vase flat/solid/red.

With solid and red it is easy to point out reasons for why they shouldn’t work. To be broken is to be “not-solid”; and why should the vase become red as a result of breaking. More puzzling is why it is not acceptable to have “break flat” while “crush flat” seems fine.
Furthermore, swapping out the verb leads to a grammatical sentence, while swapping out the subject and object for viable alternatives, which have been shown to exist in the RC in (3), does not. So it is evident by the following examples that this is not a limitation imposed by either the subject or the object, but rather by the verb itself.

(8) The girl painted the vase red.

(9) *The painter broke the door red.

Which RPs are possible with each verb/verb class and, perhaps more importantly, which RPs are not possible, is therefore a matter worth investigating further.

In addition to resultatives, I will also be taking a brief look at these verb classes as they appear in the conative alternation, as in the following example.

(10) a. The girl broke the vase.

   b. *The girl broke at the vase.

This is done in hope of either further supporting or disproving any and all results which can be drawn from the exploration of the RC. In short, the idea is that there is semantic information inherent in the verb, information which can act as either an enabler or as an inhibitor with regards to the conative alternation, and how that may affect the RC.

   It is by stacking these classes up against each other and peering through the miniscule rifts created, that I hope to better understand what sets these classes apart in much the same way as the dual nature of light can best be observed when it is shone through slits and the resulting pattern examined. In order to achieve this I will start with a
review of some seminal accounts in the literature to provide a framework for my discussion in chapter 2, focusing on the particulars of each theory that have the most bearing on my analysis in chapter 3. Chapter 3.1 gives a rudimentary introduction to the verb classes, looking at their representative verbs and how they react to possible RPs. Then in chapter 3.2, I will look into the post-verbal NPs and their role in the RP. Finally I will conclude that for a variety of reasons these verb classes, while showing interesting behavior in the RC, do not shed sufficient light on the subject matter to provide support in favor of any of the major theories of the RC; Hoekstra, Carrier & Ralll, and Levin & Rappaport Hovav.

2 Review of literature

2.1 Hoekstra: Resultatives as Small Clauses

In a 1988 paper, Hoekstra puts forward a comprehensive theory of resultatives as small clauses, based on works such as Stowell 1981, referred to as “the most widely adopted one” (Carrier and Randall 1992:174). Because it is based upon the idea that all syntactic branching is binary, it is often called the Binary SC analysis. Although this theory has since come under severe criticism, it does still provide considerable insight into the world of resultatives, and seen in historical light, it is ideal to start a review of the literature there.

The main idea behind the theory is that the object of the verb and the result phrase form a small clause, with the small clause as a whole being contained in the verb phrase as a sister to the verb. A problem arises as to where the small clause comes from so to speak,
i.e. how it is introduced, as many verbs do not take small clause complements under normal circumstances. So in order to motivate the small clause theory, Hoekstra gives the following example (his 33a).

(11) He laughed himself sick.

Here we have an unergative verb that under normal circumstances does not take an object. The fact that the post-verbal NP and the resultative AP must appear together lends support to claims that they do in fact combine as a unit, a small clause. Furthermore, there are also (traditionally) transitive verbs that display the same behavior.

(12) He washed the soap out of his eyes. (Hoekstra 1988:116, ex. 35a)

Here the soap appears to be the direct object of the verb, but if the resultative PP is dropped it can be seen that the soap is not a “normal” object.

(13) *He washed the soap. (possible under a different meaning)

The examples above lead towards the conclusion that there is no semantic relation between the verb and its direct object. Rather, the post-verbal NP forms a semantic relationship with the result phrase, i.e. a small clause.

Based on the observations made from the examples above, Hoekstra expands the small clause interpretation to transitive verbs with “normal” objects such as the example in (3) above, repeated here slightly modified as (14).

(14) The painter painted the door (red).
While (14) can perfectly well appear without the result phrase, Hoekstra chooses to analyze this resultative construction also as involving a small clause in order to maintain the synergism with the other examples. Supporting that conclusion is the fact that *paint* can occur without an object as in (15); and furthermore that *paint* can occur with unselected object resultatives as in (16).

(15) He painted for hours.

(16) He painted his brush fuzzy.

(Matthew Whelpton, personal communication, February 18, 2009)

In order to motivate these decisions, Jayaseelan (1984) set forward the Small Clause Rule, stating the following.

(17) it adds a small clause complement to the verb

(18) it eliminates the internal arguments of the verb

(19) it gives the verb a causative reading  

(Hoekstra 1988:118)

Note that this is a descriptive rule, and because of the causative reading requirement in (29) it is limited to transitive and unergative verbs (although it cannot be applied to all such verbs, evident by the fact that not all such verbs can appear in the resultative construction) and does not apply to unaccusative verbs. In order to expand the coverage to include unaccusative verbs, Simpson added the following generalization.
(20) The controller of a resultative attribute must be an OBJECT, whether that
OBJECT is a surface OBJECT, as in transitive verbs, or an underlying OBJECT, as in passives and intransitive verbs of the Unaccusative class, or whether the
OBJECT is a fake reflexive, as in intransitive verbs of the unergative class.


This is often referred to as the Direct Object Restriction (DOR) (c.f. Levin & Rappaport Hovav 1995), which applies as Simpson mentions to resultatives but not to e.g. depictives which can be seen to contain a small clause in a similar manner but is not restricted to direct objects, as can be seen in (21).

(21) Ms. Daisy drove the car tired.

The example doesn’t mean that Ms. Daisy became tired as a result of driving the car – and certainly not that the car got tired if we were to enforce the DOR – but rather that she was tired while she drove the car. It is therefore a subject-oriented depictive and not a resultative, and the AP can therefore without qualm refer back to the subject of the main verb, i.e. Ms. Daisy.

Unlike Jayaseelan, Hoekstra finds that there should not be an ad hoc rule stripping the verb’s direct object, but rather that the verb can select either a direct object, or, in the case of resultatives, a small clause. Furthermore, Hoekstra argues that there is no DOR rule as such, but rather that the thing that comes to be in the final state in the resultative is a subject of the small clause, and the small clause always follows the verb. Rather than being a rule, it is simply a restriction on where small clauses can appear.
To summarize, transitive verbs select a small clause rather than a direct object, which contains either a possible direct object outside of the resultative construction as in (14), or introduces a new NP not semantically related to the verb as in (12). In a similar way, there is a small clause added to unergative verbs, where the subject of the small clause is a reflexive\(^2\). It is when we get to unaccusatives that the plot thickens.

A small clause must contain a subject. In the cases we have been looking at that subject is a directly post-verbal NP. But what about cases with unaccusative verbs such as in (2), here repeated as (22)?

(22) The ice froze solid.

Given that this is a valid example of the resultative construction, we seem to be missing a post-verbal NP in order for Hoekstra’s theory to be valid. But considering that we are dealing with an unaccusative verb, the subject of (22) isn’t a true subject, but rather the subject of the added SC which has been raised to the subject position of the verb, and thus adequately accounting for unaccusatives under Hoekstra’s theory.

In this section we have explored Hoekstra’s small clause theory relating to resultatives and looked at the main arguments for it. In the next section we will take a look at another syntactic theory set forward by Carrier & Randall, addressing some of the weak points of Hoekstra’s theory, before scrapping syntax altogether because of a fatal flaw relative to resultatives and moving on towards a more semantically-based approach in later sections.

\(^2\) It is not really only limited to reflexives but for our intents and purposes that definition is sufficient.
2.2 Carrier and Randall: Ternary Analysis and Beyond

2.2.1 The Ternary Analysis

In their 1992 paper, Carrier and Randall argue for a Ternary Analysis of resultatives. Its name derives from the fact that in the Ternary Analysis, the verb phrase always includes three elements: the verb, a NP and a result phrase. This violates the tradition of binary branching and the theory thereby loses a lot of its elegance, but it arguably makes up for it by being factually sound.

Note that the noun phrase can take on many guises. It can be an argument of the verb as with transitive resultatives, but in the case of unergative resultatives it is not an argument of the verb. Also it is not always contained within the verb phrase; with unaccusative resultatives the NP, while an internal argument of the verb, moves out of the VP into the subject position via NP movement.

One of the main ideas behind Carrier and Randall’s Ternary Analysis is that the result phrase is an argument of the verb. In addition, the post-verbal NP can also be an argument of the verb. This, they argue, is made possible because both the RP and the NP are sisters of the verb, “[u]nder the standard assumption that argumenthood requires sisterhood” (Carrier and Randall 1992:174 citing Chomsky (1986:13)). Simplicity and elegance are considered an important part of any analysis, and as Carrier and Randall state: “[t]he Ternary Analysis also makes it possible to claim that verbs in resultative sentences inherit the ASs that they have in nonresultatives” (1992:179) it is obviously something they strive for. But then they continue: “only adding an argument” (Carrier & Randall 1992:179),
meaning the resultative phrase; or the *resultant-state* as Carrier and Randall call it. This little detail takes away some of the elegance gained by “retaining” the AS of the verb, simply because adding an argument is not what I would call retaining the argument structure. Even more so, I am unsure if I find the idea of very casually adding an argument to a verb any more appealing than Jayaseelan’s stripping of the internal argument cf. the Small Clause Rule. 3

Despite this, it is hard to argue against the benefits of retaining the verb’s internal argument (as its internal argument and not as a part of a SC). In support of their argument, Carrier & Randall cite the following example.

(23) The gardener watered the tulips flat. (Carrier & Randall 1992:173, ex. 1)

They argue that (23) should mean “’[a]s a consequence of the gardener watering the tulips, the tulips became flat’” (Carrier & Randall 1992:179), an interpretation made possible by the fact that *the tulips* is an argument of the verb, and presumably the intended transitive meaning of the sentence. By contrast, this is exactly what the Binary SC Analysis cannot mean. *The tulips* are then no longer an argument of the verb and the meaning of (24) would be: “’As a consequence of the gardener engaging in the activity of watering, the tulips became flat.’” (Carrier & Randall 1992:179)

As for more evidence in favor of the argument that a verb retains its argument structure, Carrier and Randall iterate the following:

---

3 It should be noted that Levin and Rappaport Hovav (1995) take another stance on this matter. In their analysis, the verb actually retains its argument structure in the true sense of the word. Instead they derive the resultative meaning by construing a core event (see below). Apart from that fact, they follow Carrier & Randall pretty closely, and so I will not be covering their analysis on its own.
First, the postverbal NP is selected by the verb. Further, transitive resultatives undergo three rules that apply only to verbs whose postverbal NP is a direct internal argument: (i) Middle Formation, (ii) Adjectival Passive Formation, and (iii) Nominal Formation. A fifth set of facts, from long distance extraction, is compatible with this claim. The same five criteria also show that for intransitive resultatives the postverbal NP is not an argument of the verb. (1992:182)

Although some aspects of this statement have been questioned (c.f. Levin & Rappaport Hovav 1995), the evidence they provide is nonetheless compelling and I will support the view that the direct object is in some cases selected by the verb in my own discussion later.

2.2.2 Hybrid SC

Along with the Ternary analysis, Carrier and Randall formulate another analysis, one they refer to as the Hybrid SC Analysis. The Hybrid SC Analysis is a kind of middle ground between the Binary SC Analysis and their Ternary Analysis. They appear not to be particularly in favor of it – although they do seem to approve of it better than the Binary SC Analysis – but nevertheless they flesh it out a bit as a kind of pre-emptive strike against anyone who might suggest such an analysis.

The Hybrid SC Analysis is so called because it affords different structure to transitive resultatives on the one hand and intransitive resultatives on the other. Intransitive resultatives are analyzed in the same way as they are handled with the Binary SC analysis, i.e. a VP consisting of a verb and a SC. With transitive resultatives, the VP has a ternary structure, similar to the Ternary Analysis, but rather than having a result phrase as a sister of the verb and NP, the result XP is contained in a SC, as the name would indicate.
Judging from that structure, the Hybrid SC Analysis takes the middle ground between the Binary SC Analysis and the Ternary Analysis. The postverbal NP can be an argument of the verb, as it is with the Ternary Analysis, but counter to the Binary SC Analysis. Furthermore, the RP, being contained in a SC, is not and cannot be an argument of the verb. Conversely, this is similar to the Binary SC Analysis but different from the Ternary Analysis.

Carrier and Randall offer technical arguments in favor of the Ternary over the Hybrid SC analysis which fall beyond the scope of this thesis (arguments relating to Case Theory and the Left Branch Subpart Condition, cf Carrier & Randall 1992:213). My own discussion below concerning RP-selection also favors the Ternary Analysis.

Taking one of the more appealing facets of the Ternary Analysis, the preservation of argument structure, and moving on, in the next section I will explore some further problems related to syntactic analyses of resultatives and begin moving towards a semantic explanation.

2.3 The End of Syntax

2.3.1 Core Event Structure: Deriving the Results

An important question facing any syntactic approach – and indeed any approach – to resultatives is where the resultative meaning comes from, i.e. how it is understood. And as with many other aspects, some of which are discussed above, it is something which syntactic analyses don’t agree on. Roughly speaking, the approaches to this matter can be
split into two camps; those which claim that the resultative meaning is introduced by the verb, and those who claim otherwise.

As mentioned above, Carrier and Randall (1992) are of the persuasion that the verb introduces the resultative meaning by means of an added argument, the result state. What this entails is that a verb in a resultative sentence is in fact different from the verb when it is found in a non-resultative sentence. This is an elegant solution in the sense that there is no doubt as to what the meaning is, i.e. the transitive effect of the verb. Someone does V to something, and as a direct result of that, that something gains the property indicated by the RP. This analysis has a large impact on the selection of the RP; as a sister (and argument) of the verb, the RP can be selected by the verb, i.e. the verb affects the available choices of RPs. For example, with the verb *break*, *red* is not a possible result. Note that there do not appear to be any ulterior reasons blocking *red* as an RP, as can be seen in (3) where it acts as a RP with the verb *paint*.

Opposed to such an explanation are analyses such as Hoekstra’s Binary SC Analysis and also Levin & Rappaport Hovav (1995)’s analysis, who instead go a route which I like to think of as a brute force route. Because of discrimination directed towards brute force approaches however, it is often overlooked that brute force is oftentimes a valid solution. They believe that the resultative interpretation is achieved by coercion. You have a verb, often an activity verb such as *wipe, paint or hammer*, with the same argument structure as in a non-resultative sentence (or in Hoekstra’s case, a verb stripped of its internal arguments) and a result state. This leaves us with what can be called an accomplishment, as stated by Levin & Rappaport Hovav: “Accomplishments are usually
analyzed as complex eventualities consisting of an activity and a state, where the activity results in the bringing about of the state” (1995:50). This leads them to conclude: “The resultative construction differs from lexically simple accomplishments in that both the activity and the result state are lexically specified, each by a different predicate: the former by the verb and the latter by the resultative XP.” (Levin & Rappaport Hovav 1995:50)

This leaves us with two competing theories. I will not be taking a stance in this matter at this given time, but rather consider it in more detail at a more appropriate time below.

2.3.2 Arguments against a syntactic approach

The myriad of various syntactic analyses with no clear winner is only one of the problems the syntactic camp is facing. There are arguments and strong evidence against syntactic approaches in general and against the DOR in particular, without which analyses such as Hoekstra (1988) and Carrier & Randall (1992) crumble to dust.

To start with, let me repeat the DOR as stated in (20), repeated here as (24).

(24) The controller of a resultative attribute must be an OBJECT, whether that
OBJECT is a surface OBJECT, as in transitive verbs, or an underlying OBJECT, as in passives and intransitive verbs of the Unaccusative class, or whether the OBJECT is a fake reflexive, as in intransitive verbs of the unergative class.

Levin & Rappaport Hovav (2001) state that both Verspoor (1997:150-51) and Wechsler (1997:313) have challenged the correctness of the DOR, citing examples of transitive verbs where the RP is predicated off the subject of the verb despite the verb retaining its object. I have included a few of the examples below in (25-27).

(25) The wise men followed the star out of Bethlehem.

(Wechsler 1997:313, ex. 15 – L&RH 2001:770, ex. 10a)

(26) John danced mazurkas across the room.

(Verspoor 1997:151, ex 4.102 – L&RH 2001:770, ex. 11a)

(27) We drove the Blue Ridge Skyway from beginning to end.

(David Dowty p.c. – L&RH 2001:770, ex. 12c)

In these examples it should be clear that the RP is predicated of the subject. In (25) it is the wise men that come to be out of Bethlehem as a result of following the star. An argument could of course be made that the star is also “out of Bethlehem” but since the star was presumable never in Bethlehem it would be interpreted as a depictive rather than a resultative, c.f. The wise men followed the star in the sky.

There is still hope for the DOR, and L&RH (2001) point out two possible arguments to save it. The first is that the subject is in fact a deep-structure object, similar to unaccusatives and passives; while the second is that the RP is in fact predicated off of the object, but appears to be predicated off of the subject due to the subject and object being semantically related. Levin & Rappaport Hovav (2001) counter these arguments with the
generalization that “verbs with subject-predicated complements cannot be passivized” (2001:771).

(28) *The star was followed out of Bethlehem (L&RH 2001:771, ex. 13a)

Levin & Rappaport Hovav go on to conclude that “[t]he existence of result XPs predicated of the subject of transitive verbs with overt direct objects undermines the DOR’s validity. If the DOR is not valid the presence of reflexives in some resultatives cannot be traced to it” and furthermore that “[w]hen a result XP is combined with a transitive verb, the NP it is predicated of cannot be identified by its grammatical relation.” (2001:772-773)

Because of the invalidity of the DOR, and the problems it causes for syntactic analyses, semantic analyses of the resultative construction have become more widespread and in the next section we will take a look at one such analysis set forth by Levin & Rappaport Hovav in their 2001 paper.

2.4 Resultatives: A Semantic Account

When analyzing resultatives from a semantic perspective, one is of course not limited to one viewpoint, as the field of semantics is wide and varied. I will however limit myself to one such analysis, put forth by Levin & Rappaport Hovav (2001) based on event structures. In addition to providing a comprehensive semantic analysis, Levin & Rappaport Hovav take a step further in order to explain the mapping to syntax, e.g. when a reflexive is needed, and also why the DOR is nearly always correct and therefore such a compelling explanation.
The event structure analysis is based on the assumption that the presence or non-presence of a reflexive is dictated by “[t]he temporal relation between the event described by the verb and the event of achieving the state/location represented by the result XP” (Levin & Rappaport Hovav 2001:775). Simply put, what this means is that if the event described by the RP is completely co-dependent with the event described by the verb, beginning when the event described by the verb begins and ending when the event described by the verb ends, there is a temporal relation between the two, and in essence they can be thought of as the same event. (29) is an example of this.

(29) Tracy danced to the other side of the stage.  

Levin & Rappaport Hovav point out that adding an adverbial can make it easier to understand the temporal dependency of the events. When the events are temporally dependent, a single adverbial modifies both events, while when the events are not temporally dependent, there is no such requirement.

(30) Tracy quickly danced to the other side of the stage.

Example (30) is an example of this, where the events are co-dependent and therefore the adverbial modifies both events, i.e. both the dancing and the getting to the other side of the stage are simultaneous and quick, as can be seen by the contradictory nature of the following example.

(31) #Tracy danced quickly to the other side of the stage, but it took her a long time to get there since the stage was so crowded.
Here the contradiction arises because getting to the other side of the stage cannot have taken a long time if it also happened quickly. In addition, the presence of a reflexive has nothing to do with the difference between unergative and unaccusative verbs, in fact the analysis doesn’t require such a distinction and because of that it can be said to act as an argument against the theory of unaccusativity.

“Since it is irrelevant to our account whether the verb in a resultative construction is unaccusative or unergative, two temporally dependent events should be expressible via the bare XP pattern, even if the verb naming one of them is typically classified as unergative. Thus, there is no need to posit a second syntactic classification for verbs of manner of motion and verbs of sound emission simply because they can appear in bare XP as well as reflexive resultatives.”

(Levin & Rappaport Hovav 2001:778)

What gives rise to the reflexive pattern is something which Levin & Rappaport Hovav refer to as the ARGUMENT-PER-SUBEVENT CONDITION, stated here as (32).

(32) ARGUMENT-PER-SUBEVENT CONDITION: There must be at least one argument XP in the syntax per subevent in the event structure.

(L&RH 2001:779, ex. 36)

This has the effect that “event structures with two subevents must give rise to sentences with both a subject and an object, while simple event structures would give rise to sentences that require only a subject” (L&RH 2001:779). Therefore, in constructions with intransitive verbs, depicting two separate events, there must be an added post-verbal NP, to fulfill the condition set forth in (32). In cases where the participant is the same in both subevents, instead of repeating the participant, a reflexive comes in its place. This is illustrated in the following examples.
(33) Susan kicked free of the ropes.

(34) Susan kicked herself free of the ropes.

In (33) the kicking and Susan becoming free coincide and therefore can be seen as only one subevent. However, (34) implies that Susan kicked and kicked and in the end managed to break free, constituting two separate subevents and therefore requiring a reflexive.

Of course a question arises as to why a reflexive cannot be added at any time to intransitive resultatives such as (29).

(35) *Tracy danced herself to the other side of the stage.

Levin & Rappaport Hovav’s explanation for this is that the scenario depicting the tightest event structure is preferable, i.e. that “a bare XP resultative is preferred to a reflexive resultative when the subevents meet the conditions for event identity, unless pragmatic considerations override the maxim of quantity.” (L&RH 2001:782)

Levin & Rappaport Hovav (2001) continue their analysis by stating that reflexive resultatives are complex event structures, and in turn, they are also causative event structures. This they derive from the fact the following properties which apply both to reflexive resultatives and lexical causatives.

(36) a. The subevents need not be temporally dependent.

b. The result subevent cannot begin before the causing subevent.

c. Only the result subevent can bound the event as a whole.
d. There is no intervening event between the causing subevent and the result subevent; that is, causation is direct.

(L&RH 2001:783, ex. 45)

Bare XP resultatives on the other hand receive a different interpretation, i.e. they are not causatives. This can be seen by the fact that sentences such as *The bottle broke open* cannot be paraphrased as *The bottle’s breaking caused it to become open* (L&RH 2001:784). This further enhances the argument that in bare XP resultatives the events are temporally co-dependent, but that in other resultatives that is not a requirement.

Another argument in favor of Levin & Rappaport Hovav’s analysis is the DOR. Although their main reason for dismissing syntactic analyses of resultatives is that the DOR is not always correct, their semantic analysis elegantly explains why it is in most cases found to be true and therefore such a compelling theory. Without going into much detail about the logic behind their argument, suffice to say that Levin & Rappaport Hovav look at resultative constructions as nonbranching causal chains where the RP is predicated of the argument which is the force recipient. With most causative verbs involving the transmission of force where the object of the verb is the recipient, this explains why the RP is so often predicated of the object, i.e. why the DOR holds true in so many cases. When the object of the verb is not a force recipient, the RP is free to be predicated of the subject, as then the object does not prevent it by its presence in the causal chain.

In closing, it can be said that while there is strong evidence in favor of a semantic analysis of resultatives, analyses such as Levin & Rappaport Hovav 2001 do not address
factors such as whether the RP is selected by the verb and whether or not the post-verbal NP (if present) or the RP are in fact true arguments of the verb. While perhaps not important to their analysis, it does limit its relation to my analysis in chapter 3 of the different verb classes.

2.5 Conclusion

In this section I have taken a look at some of the major analyses, both syntactic and semantic, relating to resultatives, in addition to exploring their weaknesses. In the next chapter, in my analysis of the different verb classes, I will be looking back at this chapter and considering whether or not a particular analysis holds true in each case; and also looking at the particular resultative constructions, what further insight, if any, can be gained by viewing it from the viewpoint of a particular analysis.

3 Hit-Cut-Break: A Viewpoint

3.1 The Result: Where Does It Come From?

In this section I will be taking a closer look at three specific verb classes; hit-verbs, cut-verbs, and break-verbs; with the objective of trying to decipher some intra-class and/or inter-class tendencies with regards to the verbs, their post-verbal NP, and the result phrases they take. These verb classes are iterated in full in the appendix.

The reason for choosing these verb classes is that although they may be similar in many ways there are some important differences. As I get into more detail below, break
and *cut* already specify a certain result state for their object whereas *hit* does not. Looking at the conative alternation gives a further twist on things.

(37) a. Paula hit the fence.

   b. Paula hit at the fence.

(38) a. Margaret cut the bread.

   b. Margaret cut at the bread.

(39) a. Janet broke the bread.

   b. *Janet broke at the bread.

(Levin 1993:41, ex. 84, 87 and 91 respectively)

In (39), *break* is incompatible with the conative alternation because unlike *hit* and *cut* it only pertains to the change of state itself, and not how the change is brought about.

When looking at these verb classes, one thing that stands out is the variety of result phrases they take when found in the resultative construction. But when looking at results, one cannot forget that both the *cut*-verbs and the *break*-verbs already include a result, that information is semantically coded into the verb. You cannot break something without that thing resulting in being broken, while you can hit something and have no effect. But rather than serve as a disabling factor for *break* and *cut* class verbs in the resultative construction, it appears to have the opposite effect, with those verbs being common in the resultative construction.
(40) The bottle broke open.

(41) The pumpkin smashed open.

(42) The barber cut the hair short.

(43) The brave knight slashed the belly of the beast open.

What is apparent with these and other examples involving these verbs is that because the verbs already indicate a specific type of result, the RP can be limited in scope.

Hit-verbs however, while not as prominent in the resultative construction, possibly offering more resistance to having a result meaning derived from them, appear to be freer in their choice of RP. That is not to say that they can take every single adjective as an RP under normal circumstances, but in many cases the choice of adjective does not go against any intuitive physical law. Take for example (44), which at first sight may seem ungrammatical.

(44) ?Jack hit the door red.

Jack hit the door is perfectly acceptable, so the addition of the non-standard result of someone hitting something, in particular a door, and it becoming red must be what makes the sentence at the very least seem a bit odd. But imagine a door that, when hit, changes color. It may start out as white but each time someone hits it, it changes color, going from white to blue to yellow to black and so forth. Then Jack comes along and for some reason fancies the door to be red so he goes on to hit the door until it becomes red. So as stated
above that while maybe not the expected result when hitting a door, given the appropriate scenario it is acceptable. Compare this with another example, such as (45).

(45) *Jack broke the door red.

*Jack broke the door is fine, so again it is the RP causing trouble. Here though it is more difficult, if not impossible, to imagine a scenario where this could be conceivable. Of course we could envision the same door as above, with Jack hitting it repeatedly to make it red, but doing so the hit that makes the door red also breaks the door, so does the door become broken or does it become red or both? Apparently resultatives are only acceptable when there is one result event (cf. Tenny 1987): the door cannot become both broken and red, and so the example is ungrammatical.

Having established a noteworthy gap between the hit-verbs on the one hand and cut- and break-verbs on the other, let’s now look in more detail into the differences between the cut and the break classes of verbs. As noted above, both classes often involve some kind of result even when they are found outside the resultative construction. You cut/break something and the result is that that object is cut/broken, “but the break verbs, unlike the cut verbs, are pure verbs of change of state, and their meaning, unlike that of the cut verbs, provides no information about how the change of state came about.” (Levin 1993:242) So while break verbs involve a result, cut verbs involve “notions of motion, contact and effect” (Levin 1993:157) where the effect is basically the result.

Taking a closer look at the differences between cut and break verbs, the following examples illustrate that while with cut verbs, one can end up with sub-parts of the original
object (46), break verbs involve the object as a whole, with the complete object being affected and thus incompatible with RPs such as short which imply only partial change (47). Something can be cut, cut off, and even cut short; while with break, there is nothing which can be broken short.

(46) The barber cut the hair (off/short).

(47) The boy broke the antenna (off/*short).

The same is true for most of the other members of the break class; they are incompatible with any adjective not indicating full degree of effect. Exceptions to this are verbs such as rip and tear which can involve some degree of gradual change, as seen by the fact that one can stop half-way through ripping or tearing something.

(48) I started to tear my shirt asunder but immediately started regretting it so I stopped in hopes of mending it later.

(49) *I started to break the vase to pieces but immediately started regretting it so I stopped in hopes of mending it later.

Here, (49) could be acceptable, but then only in the sense that the doer started moving towards breaking the vase, e.g. by picking up a hammer, but stopped before actually breaking the vase. With tear, the action of tearing has actually taken place for some time – albeit undisclosed – when it is stopped, which is similar to the cut class of verbs.

What is interesting about this aspect of the cut class – and indeed some members of the break class – is that this differentiation arises not from the verb itself but from the RP,
as can be seen by the fact that the verb does not carry this added meaning when found outside of the resultative construction as in the simple version of (42) above, repeated here in its non-resultative form as (50).

(50) The barber cut the hair.

Based on these observations, it would seem that at least some verbs behave differently with regards to their classification when found in the resultative construction than they do outside of it. Such an effect could be achieved with a lexical rule of the sort that Carrier & Randall envisage for adding a resultant state to a verb: except that they view this rule as having no affect on the interpretation of the original arguments of the verb whereas in these cases the rule would indeed introduce a change.

3.2 The Patients: Post-verbal NPs

When looking at these particular verb classes, one fact that becomes apparent is that they all involve transmission of force. In transitive instances of these verbs then, because of this force transmission from subject to object, the RP will always be predicated off the object, per chapter 2.4, so we shouldn’t expect to see any examples violating the DOR.

(51) The SWAT Team kicked the door open.

However, looking at examples with a force affect which is not an object (52) or an object which does not have a force affect (53), both appear to be ungrammatical.

(52) *The SWAT Team kicked in the door open.
Because of this fact, it is possible that both the DOR and the force affect restriction apply

Investigating the post-verbal NP can give us other information, information about the verbs themselves and the selection of their objects. Because *hit*-verbs don’t entail any change in their objects, despite involving transmission of force, they do not impose any restriction on their object under normal circumstances.

(53) *John envied Bill smug.

(Matthew Whelpton, personal communication, August 24, 2008)

(54) Jack hit the door.

Here, *door* can be replaced with practically any physical object imaginable because the verb itself doesn’t impose any restrictions on the object other than it be a valid force recipient. Where it gets interesting is when these verbs are found in the resultative construction. Let’s take another look at example (44), repeated here as (55).

(55) ?Jack hit the door red.

As mentioned above, give the correct scenario, this example is perfectly fine given that the object, *the door* in this case, is capable of becoming red. This is also true for other members of the class.

(56) Jack kicked the door open.
The only limitation is that the object be able to be in the state of being open. Therefore, 
door/refrigerator/bottle are all acceptable, but objects such as rock or grass are not acceptable.

(57) *Jack kicked the rock open.

The ungrammaticality here is caused by the contradiction between the RP and the post-
verbal NP, as can be seen by the fact that the non-resultative version of the sentence is perfectly fine, and it’s even good in the resultative construction given the appropriate RP.

(58) Jack kicked the rock (to pieces).

This shows that rather than the verb imposing restrictions on its object, it is the RP that constricts the selection of the object.

It gets more complicated with the break and cut verbs; where, as mentioned in the previous section, the RP is selected by the verb. And because it is selected by the verb, it is more difficult to deduce whether they behave similarly to hit verbs where the RP imposes restrictions on the post-verbal NP, or if the verb either directly or indirectly through the choice of RP influences the selection of the post-verbal NP. Because these verb classes, break and cut, already involve a result of sorts as is mentioned above, the post-verbal NP not only has to conform to that result, but also conform to the RP when it is found in the resultative construction.

(59) Jack broke the bottle open.
Here the post-verbal NP, in this case *the bottle*, has to have the ability of not only being in a broken state, but also the ability of being in an open state, as can be seen by the unacceptability of the following example.

\[(60)\] *Jack broke the rock open.*

This is proof in favor of the post-verbal NP being selected by the RP much like with the *hit* verbs. As can be expected, *cut* verbs behave in much the same manner as *break* verbs.

The examples we have looked at in this section, and in the previous section, add support to the theory that not only is the post-verbal NP selected by the RP, but also that the verb itself can affect that selection. This is compatible with both the Ternary Analysis and the Hybrid SC Analysis, leaving us with no clear-cut evidence in favor of either one.

### 4 Conclusion

Having looked at these different classes of verbs in their various incarnations, we have seen interesting behavior from them; deviant behavior between the classes and within them. What seems to stand out is the fact that some verbs seem to already entail a result even before materializing in the resultative construction. These are verbs such as *break* and *cut* and their various class members which directly affect the selection of a RP when appearing in the resultative construction, and to a lesser degree the selection of the post-verbal NP.
Furthermore, we have what could be called the anti-resultative construction in the conative alternation, which not only doesn’t entail a specific result; it actively prohibits verbs such as the *break* class verbs from appearing in the alternation. Because of this aberrant behavior, it is tempting to accept this division of the verbs into classes, regardless of some variations mentioned above.

The question remains whether these classes can offer any clues in favor of one or some of the analyses of resultatives we have looked at. The evidence that the post-verbal NP is in some cases selected by the verb favors the Ternary and Hybrid SC Analyses; evidence that the RP is itself selected by the verb favors the Ternary analysis. Finally, because these verb classes all deal with the transmission of force, we don’t encounter any counterexamples to the DOR, and are therefore unable to decide between a syntactic, ternary approach, or a semantic approach similar to Levin & Rappaport Hovav 2001. I can therefore only conclude that further research, focused upon the verbs and their classes to the extent that they are valid, which appear in examples violating the DOR, is needed.
Appendix

Following is a listing of the specific verb classes cited in this work as compiled by Levin (1993).

18.1 *Hit Verbs* (listed under 18 Verbs of Contact by Impact)

bang, bash, batter, beat, bump, butt, dash, drum, hammer, hit, kick, knock, lash, pound, rap, slap, smack, smash (where no effect implicated), strike, tamp, tap, thump, thwack, whack

21.1 *Cut Verbs* (listed under 21 Verbs of Cutting)

chip, clip, cut, hack, hew, saw, scrape, scratch, slash, snip

45.1 *Break Verbs* (listed under 45 Verbs of Change of State)

break, chip, crack, crash, crush, fracture, rip, shatter, smash, snap, splinter, split, tear
Works cited


