



## Three Types of the Intransitive Resultative Construction in English: A Generative Account

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### ABSTRACT

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Through a close examination of the grammatical constraints of English resultatives discussed in the previous literature, this study argues that morpheme-based generative accounts have more explanatory adequacy than constructional-semantic accounts. The constructional view classifies English resultatives into four syntactic varieties: transitive resultatives with a selected/unselected object and intransitive resultatives with/without an object, and considers them to comprise a family resemblance of which the core type is the caused motion-path construction (Goldberg and Jackendoff 2004). Focusing on intransitive resultatives which have been more controversial, we review a range of attested data from previous research sources and make the case that despite their resemblance, they are not identical in semantics. Specifically, we propose that there are at least three distinct types of morphosyntactic derivation: transitivized (agentive), causativized (happenstantial), copularized (extensional) resultatives, and that those with an overt object are instances of argument structure augmentation derived from the verb's intransitive-to-transitive/causative alterations and those without an object are instances of argument structure augmentation derived from the verb's unaccusative-to-copular extension. The discussion has led to the conclusion that the semantico-syntactic nature of intransitive resultatives can be explained more adequately by morpheme connotations than by a virtually infinite number of constructional idiosyncrasies on the basis of semantic uniformity.

### KEYWORDS

resultative, syntax-semantics interface, secondary predicate, argument structure, constructional grammar

## 1. Introduction

Resultatives in English have been one of the most controversial constructions in the study of the syntax-semantics interface (e.g. Aue-Apaikul 2006, Boas 2003, 2005, Bowers 2002, Embick 2004, Ettlinger 2005, Goldberg and Jackendoff (G and J) 2004, Iwata 2020, Levin and Rappaport Hovav (L and RH) 1995, 2004, Mondorf 2010, Rappaport Hovav and Levin (RH and L 2001). The construction is characterized by a sentence-final predicate that indicates a changed state of the object (or the postverbal NP theory-neutrally) as a result of the action expressed by the verb.

### (1) Examples of English resultatives

- a. They hammered the metal flat.
- b. They ran their shoes threadbare.
- c. They cooked the stove black.
- d. cf. They ate the hot dogs full.

The reading of (1a) is ‘They hammered the metal to the extent that it became flat’ or ‘They caused the metal to become flat by means of hammering’ in constructional-semantic terms. Similarly, the reading of (1b) is ‘They ran to the extent that their shoes became threadbare’ or ‘They caused their shoes to become threadbare by running’.

English resultatives are known to have peculiar grammatical constraints that are not found in similar phrasal patterns such as depictives (Aue-Apaikul 2006, Carrier and Randall (C and R) 1992, Jackendoff 1990, Iwata 2020, Mondorf 2010, L and RH 1995, 2004, RH and L 2001). First, the resultative phrase is restrictively predicated of the postverbal NP, not the subject NP. Therefore, (1c) above means that the stove became black as a result of their cooking on it. It cannot possibly mean that they became black as a result of cooking on the stove. (1d) only has the depictive reading such that they ate the hot dogs though they were full; the resultative reading that they became full as a result of eating the hot dogs is not allowed. Second, the postverbal NP may not be an argument selected by the verb, as illustrated in (2).

### (2) Unselected postverbal NP

- a. They drank the teapot dry. (\*They drank the teapot.)
- b. Cook all your flesh dry and brittle (\*Cook your flesh.) (L and RH 1995)
- c. The clock ticked the baby awake. (Hoekstra 1988)
- d. Sleep your wrinkles away. (L and RH 1995)

Third, unergative resultatives usually require an overt object, of which a common type is reflexive pronouns. On the contrary, unaccusative and passive resultatives do not accompany a postverbal NP.

### (3) Required expression of the postverbal NP

- a. \*The joggers ran sick. (The joggers ran themselves sick.)
- b. The river froze solid. (\*The river froze itself solid.)
- c. \*The snow melted the road slushy.
- d. The floor had been swept clean of debris.
- e. They were shaken awake by the earthquake. (L and RH 1995)

Fourth, an NP occupies the postverbal position even though the subcategorization of the verb favors a PP when it is used in non-resultative sentences.

- (4) Direct objecthood of the postverbal NP
- a. They hammered on the metal/?the metal.
  - b. \*They hammered on the metal flat.
  - c. They cooked on the stove/\*the stove
  - d. \*They cooked on the stove black.

Researchers have different opinions on the grammatical role of the postverbal NP and the grammatical relation that the resultative phrase has with the verb. The pioneering study of Hoekstra (1988) regarded the postverbal NP as the subject of the result predicate in both transitive and intransitive resultatives. Jackendoff (1990), on the other hand, viewed the postverbal NP and the result predicate as adjuncts lying outside of the verb's argument structure. Larson (1990) claimed that the verb and the resultative phrase comprise a complex predicate that takes the postverbal NP as its complement. In a different vein, the constructional-semantic account posits that the varieties of the resultative construction comprise a family of subconstructions, of which the core type is the caused motion-path construction. Change-of-state resultatives are thus considered derivatives out of metaphorical analogy (Ettlinger 2005, G and J 2004). The primary goal of this paper is to reexamine these previous analyses of English resultatives and propose an alternative account within the generative framework.

## 2. The Puzzles of English Resultatives

### 2.1 The Generative View

For a subset of resultatives, there is general consensus that the pair of the postverbal NP and the resultative phrase is best analyzed as a predication, i.e., a verb-less clause. Accordingly, the verb's argument structure in resultative sentences is different from when it is used in non-resultative sentences.

- (5) Resultatives as subordinate clauses
- a. John stared (\*at) Bill down.
  - b. He worked some weight off.
  - c. They starved John into giving up.
  - d. They danced their days away. (Hoekstra 1988)

With the taxis of the postverbal NP and the resultative phrase seen as a subordinate clause, this analysis works particularly well with the case in which the postverbal NP is not selected by the verb. However, for another group of resultatives, the postverbal NP appears to be selected by the verb.

- (6) Selective restrictions on the postverbal NP
- a. The bears frightened \*the campground empty.
  - b. The magician hypnotized \*the auditorium quiet. (C and R 1992)

In this type of resultatives, which are based on transitive verbs, the postverbal NP is the argument of the verb and at the same time the argument of which the resultative phrase is predicated. Then the postverbal NP in these resultatives cannot be treated as the argument of the construction as a whole. The argumenthood of the postverbal NP is further supported by the contrast in the formation of middles and deverbal adjectives. These derivations apply only to transitive verbs:

- (7) Middles and deverbal adjectives
- a. New seedlings water flat easily.
  - b.\*Competition shoes run threadbare easily.
  - c. the stomped-flat grapes
  - d.\*the danced-thin soles (C and R 1992)

That the postverbal NP is an argument selected by the verb in some transitive resultatives gives rise to the assumption that the resultative phrase is also an argument selected by the verb. In this view, resultatives are of ditransitive type. As is well-known, Larson (1988, 1990) proposed that ditransitives are derived from conjoining two layers of VPs.

- (8) Larson's complex VP account
- a. Maxi will [<sub>VP</sub> [<sub>V'</sub> put<sub>i</sub> [<sub>VP</sub> the box [<sub>V'</sub> t<sub>i</sub> in his car.]
  - b. John sent<sub>i</sub> [<sub>VP</sub> a letter [<sub>V'</sub> t<sub>i</sub> to Mary]] (Larson 1988)

In (8a), *put*, which is generated at the lower V, moves to the higher V, and thereby makes *the box* case-marked. Sentences like (8b) also derive in the same way; the verb and the indirect object make up a constituent and then V-raising follows for the direct object to be case-marked. When it comes to resultatives, evidence for the constituency of the verb and the resultative phrase was suggested from gapping sentences.

- (9) Ellipsis evidence for the merge of the verb and the resultative phrase
- a. Max painted the barn red, and Bill the house.
  - b.\*Max painted the barn red, and Bill pink.
  - c. Max painted more barns red than he did houses.
  - d.?Max painted more barns red than he did pink. (Larson 1990)

Radford (1997, 1998) echoes this complex VP analysis by positing the causative verb *v* for the resultative construction.

- (10) [<sub>VP</sub> The gardener [<sub>V'</sub> watered<sub>i-cause</sub> [<sub>VP</sub> the tulips [<sub>V'</sub> t<sub>i</sub> flat]

In (10), the verb *water* first selects the result AP *flat* and constructs a V<sup>1</sup>. Then the V<sup>1</sup> conjoins the NP *the tulips* and completes the inner VP. The verb moves to *v* where the phonetically null causative verb is conflated, and the *v*<sup>1</sup> together with the subject *the gardener* constitute the outer vP. This verb-movement account works particularly well with those which have an unselected postverbal NP.

## (11) Unselected transitive resultatives

- a. They washed the soap out of their eyes./?They washed the soap.
- b. They wiped the crumbs off the table./?They wiped the crumbs.
- c. They shook loose the keys.
- d. What did they do to the keys./\*How did Ellen shake the keys? (Ferris 1993)

As shown in (11c-d), some resultative phrases can be placed immediately after the verb when the postverbal NP moves to sentence-final position, and the resultative phrase alone cannot be *wh*-questioned while the complex predicate can.

However, these properties do not necessarily support the claim that the resultative phrase is an argument of the verb. If the trace of the resultative phrase is  $\Theta$ -governed, then there should be no grammatical constraints that keep it from movement. There is also no morphological reason to motivate the movement of the verb in its non-causative state to the causative head if it is base-generated with the resultative phrase that denotes a change of state caused by the verb. Moreover, the assumption that the resultative phrase is not a predicate but an argument of the verb adds an amount of theoretical complications. It is assigned a  $\Theta$ -role from the verb, and besides it assigns a  $\Theta$ -role to the postverbal NP. This account posits that a phrase can be both argumental and predicative at the same time, which demands at least two extensive revisions in the standard  $\Theta$ -Criterion: one is for the postverbal NP which has two distinct  $\Theta$ -roles from two sources, and the other is for the resultative phrase which assigns and is assigned a  $\Theta$ -role. If two  $\Theta$ -roles, or two selectional restrictions — one from the V and the other from the resultative phrase — merge into  $V^1$ , it follows that the  $V^1$  should be able to either assign two  $\Theta$ -roles or fuse the two  $\Theta$ -roles into an idiomatic complex  $\Theta$ -role. The first possibility would violate the  $\Theta$ -Criterion, and the second would need a virtually indefinite number of  $\Theta$ -roles.

Therefore, evidence for the argumenthood of the resultative phrase is defective on theoretical grounds. In fact, there are no verb-driven subcategorization restrictions on the resultative phrase except for idiomatic collocations (e.g., *They drove her crazy*/\**happy*).

## (12) Restrictions on the resultative phrase

- a. She pounded the dough flat as a pancake/into a pancake/a flat pancake.
- b. They ran their sneakers ragged/to tatters/a dingy shade of grey.
- c. They scrubbed the pot [shiny/\*shined/\*shining]
- d. The joggers ran themselves [sweaty/\*sweating] (C and R 1992)

(12c-d) show that the resultative phrase favors stative adjectives over processual ones to denote an end state, which supports that the predication relation between the postverbal NP and the resultative phrase is copulative. It is thus more reasonable to assume that the verb is not associated with the postverbal NP and the resultative phrase individually but with them in combination.

Bowers (1993) proposed another influential account with the assumption that there is a functional head Pr(-edication) that links IP and VP. In this model, subjects and objects are symmetrically generated in the specifiers of PrP and VP, respectively (i.e.,  $_{IP}[_I[_{PrP}[_{Subject}[_{Pr}[_{VP}[_{Object}[_V[_{XP}]]]]]]]]$ ). The V first assigns a  $\Theta$ -role to the resultative phrase, and then  $V^1$  to the object.  $Pr^1$  assigns a  $\Theta$ -role to the subject. Therefore,  $\Theta$ -roles are assigned stepwise and strictly locally in sister relation. The V moves to Pr so that the object gets case-marked from the verb. It is worth noting that the movement is not for the verb's sake but for the object's sake. If Pr attracts V

for reasons other than the need of the object, questions arise of why Pr incorporates a lexical head V, and which Pr is a case-assigner and which is not. To support the presence of PrP, Bowers (1993) cites the examples in (13a-b) where the postverbal NP and its predicate can be coordinated. If there exist PrPs between IPs and VPs, these can be explained as instances of the across-the-board extraction of V.

(13) Evidence for the presence of PrPs

- a. Mary considers John a fool and Bill a wimp.
- b. You eat the fish raw and the beef cooked.
- c. Mary drank herself into a stupor.
- d. [<sub>PrP</sub> Mary<sub>i</sub> [<sub>Pr</sub> drank<sub>j</sub> [<sub>VP</sub> herself<sub>i</sub> [<sub>V'</sub> e<sub>j</sub> [<sub>PrP</sub> t<sub>i</sub> [<sub>Pr</sub> e<sub>j</sub> into a stupor ]]]]]].
- e. John hurt himself/\*Bill.
- f. [<sub>PrP</sub> John<sub>i</sub> [<sub>Pr</sub> hurt<sub>j</sub> [<sub>VP</sub> himself<sub>i</sub> [<sub>V'</sub> e<sub>j</sub> ]]]]. (Bowers 1993)

The PrP analysis hypothesizes that the postverbal NP in resultatives moves from the lower [Spec, PrP] to [Spec, VP]. The contrast between (13c) and (13e) is then explained in terms of verb raising. The pseudo-reflexives move to the [Spec, VP] from their underlying subject position of [Spec, PrP] while those in transitive resultatives are base-generated at [Spec, VP]. This derivation is like the *want*-type ECM construction. One of the complications this analysis brings about is that it is unclear why the reflexive pronoun in resultatives moves from [Spec PrP] to [Spec VP]. If the movement occurs for case reasons, an explanation is required for why case-marking does not occur in situ.

The predication relation between the postverbal NP and the resultative phrase is further supported by the fact that the verb in resultatives denotes a telic action when its aspect is atelic in non-resultative counterparts.

(14) Telicity of the resultative construction

- a. They cooked the carrots for hours.
- b. They cooked the carrots soft \*for hours/in hours.

In (14a), *for hours* modifies the action of cooking, and the extent of time coextends with the action of cooking. In (14b), *soft* indicates the effect of cooking on the carrots. It is the resulting, as opposed to coextending, aspect of the action. This implies that the resultative phrase is not aspectually dependent on the verb and that the semantic relation between the postverbal NP and the resultative phrase is stative-copulaic.

The stative-copulaic relation between the two elements is also observed in the contrast between depictives and resultatives with respect to adverb insertion. The examples in (15) show that the depictive predicate can be separated from the postverbal NP with an adverb between them while the resultative predicate can not (Embick 2004).

(15) Separation tests for depictives and resultatives

- a. Maia ran the Marathon (last week sick/sick last week).
- b. Maia eats carrots (soft repeatedly/repeatedly soft).
- c. Maia ran herself (sick last week/\*last week sick).
- d. Maia cooked the carrots (soft repeatedly/\*repeatedly soft).

Finally, *do (so)*-substitution and VP-preposing tests further support that the resultative phrase is not adjunctive

but argumental inside the VP.

(16) *Do (so)*-substitution and VP-preposing tests with resultatives

- a. \*Bill said that he would fasten the shutters open, and fasten them he did open.
- b. \*The joggers ran the pavement thin, and the runners did so smooth.
- c. \*The joggers thought that they would run the pavement thin, and run the pavement they did thin.

(L and RH 1995)

These lines of evidence converge to indicate that the postverbal NP and the resultative phrase comprise a clausal constituent.

## 2.2 The Constructional View

The resultative construction has also been a major topic in constructional approaches to grammar (Boas 2003, Ettliger 2005, Goldberg 1995, G and J 2004). The constructional-semantic view hypothesizes that the resultative phrase is an argument of the constructional scheme, [NP V NP AP/PP], conveying the meaning of causation. It also assumes that the resultative construction is analogous to the caused motion construction.

(17) Analogy between caused motion sentences and resultatives

- a. They kicked the ball into the room.
- b. They kicked the ball flat.
- c. They pounded the dough into a pancake.

To put it differently, the caused-motion construction is one type of the resultative construction (form-meaning pairing) where the result is expressed by a path/locative phrase. That is, the prepositional phrase *into the room* in (17a) is construed as the result state of the ball caused by the action of kicking. In this view, the sentences in (18) are also considered resultatives in which the prepositional phrase is predicated of the subject. Change-of-state resultatives are derived from conceptual metaphor that maps the domain of physical motion to the domain of state change.

(18) Spontaneous motion sentences as resultatives

- a. Bill followed the road into the forest.
- b. We drove Highway 5 from SD to SF.
- c. John danced mazurkas across the room. (G and J 2004)

In support of the constructional-semantic view, Ettliger (2005) points out that not all resultative phrases can be topicalized.

(19) Topicalizability of path and change-of-state phrases

- a. [Into the room] I ran \_\_\_\_.
- b. [Away] the ball rolled \_\_\_\_.
- c. \*[Into a rage] Bolton flew \_\_\_\_.
- d. \*[Clean] I wiped the table \_\_\_\_.

He argues that the resultative phrase can be topicalized only when it refers to a change of location, as opposed to a change of state. In other words, the path/location phrase can be fronted, while the corresponding change-of-state phrase can not because it is of metaphorically extended type. This account reflects the central tenet of constructional grammar that semantics determines syntax and the conception of resultatives as a group of resembling constructions organized by the metaphorical extension of motion in space to the abstract meaning of causation.

Two leading proponents of this constructional view, Goldberg and Jackendoff (2004), make use of three parameters for characterizing the resultative construction. First, the resultative phrase can represent either a path or a change-of-state/property. Second, the syntactic category of the resultative phrase can be either an AP or a PP. Third, the valency of the verb can be either intransitive, transitive or unselected transitive. (20) show examples of the unselected transitive resultative for later discussion.

(20) Unselected transitive resultatives

- a. She talked them into oblivion. (cf. \*She talked them)
- b. The nurse rolled us into the room. (cf. \*She rolled us.)
- c. She drove the tires bald. (cf. \*She drove the tires.)

Ettlinger (2005) argues against the generative view on the grounds that it does not take into account the semantics of the resultative phrase and thus it predicts that all resultatives can or cannot be topicalized equally for syntactic reasons. He cites the examples in (21) to show that path phrases, whether AP or PP, are topicalizable whereas change-of-state phrases are not; that is, the topicalization of the resultative phrase varies not by its syntactic category but by its semantic feature (path versus change-of-state).

(21) Path and change-of-state resultatives

- a. Free of the mooring the tugboat pulled the skiff.
- b. Out of the park Ortiz hit the ball.
- c. \*Clean Mel wiped the table.
- d. \*Into a rage, the trial sent Bolton.
- e. It was into the operating room that the nurse rolled us.
- f. \*It was clean that Mel wiped the table. (Ettlinger 2005)

He then concludes that the caused-motion resultative has greater freedom in syntax than the change-of-state resultative because the former is the core case while the latter is the extended one.

In fact, his conclusion is not a true explanation but an observation that there are grammatical constraints on movement. Perhaps the most problematic assumption of the constructional-semantic view is that the relation of motion to path is conceptually identical to that of action to effect. Path is a component of motion. It plays the role of framing a motion event in linguistic encoding, as theoretically formulated by Talmy (2000a, 2000b). However, effect is not a component of action, nor vice versa. In (21c-d) above, wiping the table does not entail the effect of its clean state or the action of sending does not entail the effect of Bolton's rage. In logical terms, motion and path are coextensional, hence in the relation of mutual entailment. Path constitutes, rather than results from, a motion, and so it is an argument of motion description. This calls into question the assumption that the resultative phrase, whether indicating a path or a change-of-state, is an argument that fills the slot of the constructional scheme. The data from Ettlinger (2005) actually corroborate the well-known grammatical constraint that predicative elements



are hardly topicalized or *it*-clefted. Furthermore, the topicalization and clefting of state phrases in depictives and secondary predicates yield varying degrees of grammaticality. For example, (22a) below shows that depictives are paratactic to the main clause. In (22b), *raw* is not used to describe the state of the carrots, as Ettliger (2005) implicitly supposed. It indicates a way/manner of eating the carrots, which can be argumental. (22b) further attests that *it*-clefting (i.e., a grammatical device to give emphatic/contrastive focus on an argument) and fronting (i.e., a grammatical device to modulate information structure) are not subject to the same grammatical constraints.

(22) Dislocation tests with depictives, secondary predicates, and path/location phrases

- a. It was naked that Paula painted the house. / Naked Paula painted the house.
- b. It was raw that Mari ate the carrots. / \*Raw Mari ate the carrots.
- c. \*Away the ghost scared us.
- d. \*There Pedro threw the ball. (Ettliger 2005)

As shown in (22c-d), path satellites and deictic path/location expressions are not topicalizable because their argumenthood is not sufficiently independent. Therefore, it can be said that the constructional account of topicalization/clefting restrictions in terms of the path-state distinction stems from the misconception that the resultative phrase is always construction-argumental, as opposed to predicative, irrespective of its clausal context.

### 3. Proposal: Three Types of the Intransitive Resultative

#### 3.1 Intransitive-to-Transitive Resultatives

One of the key questions concerning the structure of intransitive resultatives is whether or not the postverbal NP is an argument of the verb. In previous studies, evidence for its argumenthood has been proposed mainly on the basis of two empirical sources, although they did not pay close attention to which predicate, either the verb or the resultative phrase, it is the argument of. One is long distance *wh*-extraction. The long-distance extraction of the postverbal NP yields similar results in both transitive and intransitive resultatives. Likewise, when the resultative phrase is extracted out of a *wh*-island, the result is a Subjacency violation, regardless of the valency of the verb.

(23) Extraction of the postverbal NP and the resultative phrase out of a *wh*-island

- a. ?Which metal do you wonder who hammered flat?
- b. ?Which sneakers do you wonder who ran threadbare?
- c. ?How flat do you wonder whether they hammered the metal?
- d. ?How threadbare do you wonder whether they should run their sneakers? (C and R 1992)

Importantly, however, grammaticality judgments on these sentences are not consistent. There is considerable gradience in acceptability between transitive and intransitive resultatives, and the latter are often far worse.

(24) Gradience in acceptability

- a. ?Which shoes do you wonder who ran threadbare?
- b. ?Which table do you wonder whether he wiped clean? (C and R 1992)

- c. ??Which pavements do you wonder whether they ran thin?
- d. ??Which neighbors do you wonder whether the dog barked awake? (L and H 1995)
- e. \*Which baby do you know why the clock ticked awake?
- f. \*Which men do you know when he laughed off the stage? (Rothstein 1992)

These indicate that the degree of grammaticality does not depend on the extracted element per se. The resultative phrase produces a lesser degree of deviation when extracted. As shown in (25), depictive phrases behave similarly.

(25) Extraction of the depictive phrase out of a *wh*-island

- a. ?How raw do you wonder whether John ate the fish?
- b. ?How sweet do you wonder whether Mary likes her coffee?

It is thus not so much a matter of whether the extracted phrase is an argument or an adjunct as of how readily its conceptual link and grammatical role are recoverable. For example, Kuno (1992) cites the following pair of sentences to argue that the same syntactic structure exhibits different degrees of grammaticality.

(26) Extraction of the resultative phrase

- a. How flat did they hammer the metal?
- b.\*How flat did the gardener water the tulips? (Kuno 1992)
- c. The gardener watered the tulips flat.

Beyond what Kuno meant to show, this contrast is significant from a semantic perspective. Not all resultatives describe an intended (agentive/intention-transitive) causation. Some describe the meaning of unintended (intention-intransitive) effect, which we call happenstantial resultatives. In (26a), the metal's having become flat is the intended result caused by their hammering on it, and the intentional-actional force of hammering is transitive and coextensional (concurrent) to the metal's change of state. In contrast, the transitivity of (26c) can be ambiguous in the aspect of intention. One possible and more likely reading is that the tulips' having become flat was a happenstantial-consequential result caused by the gardener's watering. That is, it refers to an intention-intransitive effect. The force of watering is not coextensional to the tulips' change of state. It is a happenstantial consequence effected by the action (see also Iwata 2020). This semantic distinction and its syntactic effect are also observed in formation of middles.

(27) Middle formation

- a. \*The metal hammers flat easily.
- b. The metal was hammered flat.
- c. Young seedlings water flat easily. (C and R 1992)
- d. \*Young seedlings were watered flat.

Unlike agentive-coextensional resultatives, happenstantial resultatives such as (27c) can be used as middles, the derivation of which is essentially identical to the inchoative-to-copular augmentation with unaccusative verbs that we will turn to shortly. Transitivity in English (here represented as *v*-HAVE) is not specified for the intentional-extensional dimension, so intention-intransitive verbs can still be force-transitive (ACTOR vs. AGENT in the terminology of Role and Reference Grammar). Table 1 represents the English verb categories and alternations in

featural terms.

**Table 1. Featural Specifications of English Verb Categories and Alternations**

Semantic feature	Transitive		Intransitive	
	Agentive	Extensional (Consequential)	Unergative	Unaccusative
intentional	+	-	+	-
happenstantial	-	+	+	+
effecting	+	+	-	-
Alternation		Feature specification		
Intransitivization	Middle		[+happenstantial]	
	Passive		[-happenstantial]	
Transitivization [-effecting] → [+effecting]	Resultative Type 1		[+happenstantial]	
	Resultative Type 2		[-happenstantial]	

Another source of evidence for the semantic distinction between agentive-coextensional and happenstantial-consequential resultatives is found with nominalization, which can only apply to a subset of resultatives in specific contexts. According to C&R (1992), (28a) and (28c) are ruled out because they do not involve a durative action which is necessary for formation of a process nominal. They offered (28b) and (28d) which contained the same resultatives as fully acceptable sentences.

(28) Nominalization

- a. \*The hammering of metal flat is exceedingly difficult.
- b. Mechanics find the hammering of metal flat to be exceedingly difficult.
- c. \*The starving of John into giving up could have been avoided.
- d. The starving of rebels into submission has become a tactic of contras.

The aspectual notion of durativity is given a more refined explanation here in terms of the distinction between coextensional and consequential resultatives. The examples in (28) further support that the semantics and syntax of resultatives cannot properly be reduced to monolithic constructional semantics. (28a) lacks an overt agent (a clue for intention-transition) as opposed to (28b). (28c) describes the happenstantial-consequential aspect of John's starving; it is the consequence that could have been avoided. That is to say, John starved and as a consequence he gave up, which could have been avoided. On the other hand, (28d) accentuates the agentive-processual aspect of the rebels' starving and coming into submission; the tactic of contras is to make rebels starve to the effect/extent that they come to surrender. It means that rebels were made to starve and thereby to surrender, which has become a tactic of contras. John's giving up is a happening in association with his starving while rebels' submission is an intended effect that is co-processual (or unfolds together) with their starving.

Passivization was another source of argument for the direct objecthood of the postverbal NP in intransitive resultatives, albeit the conclusions drawn by previous studies were mixed. Some intransitive resultatives are

eligible to be passivized while others are not.

(29) Passivization of intransitive resultatives

- a. Their shoes have been run threadbare.
- b. \*They were run sick.
- c. They were laughed out of the room.
- d. \*The handkerchief was cried wet.

Again, the contrast between (29a) and (29b), which use the same verb *run*, suggests that they are not identical in semantics. (29a) is a force-transitive coextensional resultative where their running has coextended with their shoes having become threadbare. But (29b) is a happenstantial resultative where their running led to the consequence of their being sick (cf. event complexity and temporal dependence in L&RH 2004; force dynamics in Iwata 2020). Similarly, the resultative reading of (29c) is agentive-coextensional such that the effect of (some people's) laughing coextended with their moving out of the room, whereas the resultative reading of (29d) is happenstantial-consequential, the aspect of which does not accord with passive voice.

Moreover, some transitive resultatives are not passivizable:

(30) Passivization constraints

- a. The sailors rode the breeze clear of the rocks.
- b. \*The breeze was ridden clear of the rocks. (RH and L 2001)
- c. He could feel the air on his neck; the breeze was cooled by the lake.

The object *the breeze* cannot be the subject in passive sentences. According to RH and L (2001), this is because its  $\Theta$ -role is a theme, not a force recipient. The constructional-semantic view does not offer an explanation for when and why such subject-resultatives occur. In our terms, the action of riding is not force-transitive to the breeze, and the consequential effect of the action is rather on the sailors than on the breeze. The subject, *the sailors*, is given the role of AGENT from the verb *rode*. The impossibility of (30b) suggests that the object, *the breeze*, is given a role from transitivity (i.e., extensional effecting) rather than from the action denoted by the verb *rode*. This provides an account of why transitivity does not imply passivizability. In (30a), the action of riding is intentional while the transitivity of the action is extensional, resulting in a happenstantial-consequential effect. We may call the abstract role that transitivity gives to the object EFFECT, and transitivity can be represented as an abstract morpheme  $v$ , following the traditional notations of generative grammar (cf. Van Valin 2007; Van Valin and Wilkins 1996 for another line of discussion in Role and Reference Grammar). (30c) exemplifies the use of passive form to express a force-transitive, non-happenstantial effect. The effect was brought about by the lake that lacked intention. Thus, whether or not passivization is possible rests not on the verb's transitivity per se (i.e., [+effecting]) but on its semantic property of [-happenstantial] in the given context. In view of syntax, passivization is the product of transitive-to-intransitive alternation and semantically it is the process of specifying [-happenstantial] on [+effecting]. It can therefore be conceived as the process and product of intransitivization with semantic specification [-happenstantial]. The converse operation, intransitive-to-transitive/causative alternation with semantic specification [+effecting], is the focus of the present study, i.e., intransitive resultatives. Relevant evidence is also found with the Exceptional Case Marking (ECM) construction.

## (31) Passivization of the ECM construction

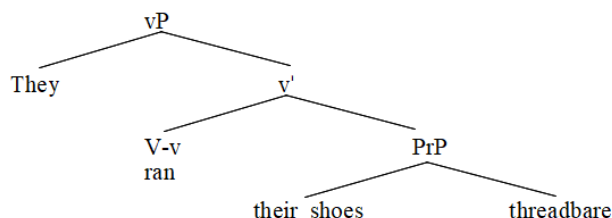
- a. They consider him a fool. / He is considered a fool.  
 b. They expect the men off the ship. / The men are expected off the ship.

As is well-known, the postverbal NP is accusative-marked even though it is not selected by the verb. The postverbal NP can be the subject in passive sentences as it accords with the feature, [-happenstantial]. Therefore, neither of the rationales for the direct objecthood of the postverbal NP in intransitive resultatives is tenable.

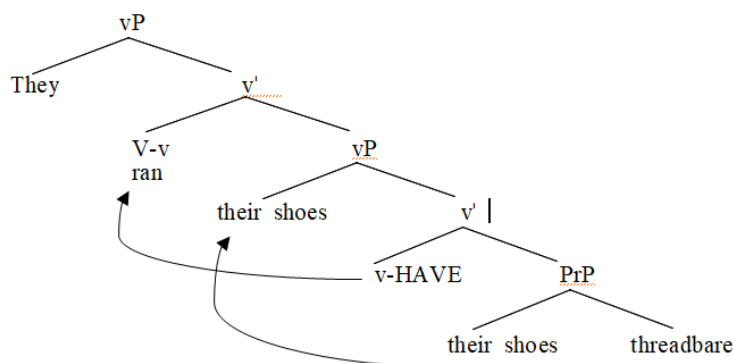
These observations lead to the hypothesis that one subtype of the intransitive resultative construction is derived through intransitive-to-transitive alternation with semantic specification [+effecting] (see Aue-Apaikul 2006 for other manifestations of transitivity). Varying on the cline of lexicalization, its structures can be represented in multiple ways, of which two are illustrated here:

## (32) Intransitive-to-transitive resultatives

## a. Lexical derivation



## b. Syntactic derivation



This augmentative alternation is structurally identical to that of the ECM construction. This structure also represents the meaning of this sentence as ‘they ran to the effect/extent that their shoes became threadbare’ rather than ‘they caused their shoes to become threadbare by running,’ as assumed by the constructional-semantic view.

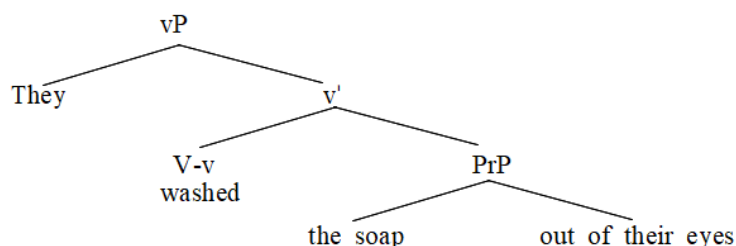
The constructional view hypothesizes that language treats the meaning of cause-effect as a unified (metaphorically integrated) concept and so there is no conceptual distinction between transitivity and causation insofar as resultatives are concerned. In this view, all resultatives are instances of the constructional meaning, causation. For example, Jackendoff (1990) once argued that the verb in the transitive sentence *Pat has eaten a nectarine* is a causative such that it means [CAUSE NP<sub>obj</sub> to GO INTO the MOUTH of NP<sub>subj</sub>]. This abstraction is

excessively speculative, if not misleading. Transitivity and causativity are two distinct notions of linguistic significance. In comparison to causation, which refers to the conceptual meaning of causativity, we will use the term “effectation” to refer to the linguistic meaning of transitivity. Even though the two are conceptual equivalents, they are aspectual counterparts.

In our analysis, *ran* in (32) is not a causative verb and the sentence only describes the transitive effect of the action. The causal relation is essentially inferential and interpretive. It is a construal involving such extrapolations as running usually requires shoes, occurs while putting them on, exerts force on them, etc. This type of resultative describes the effect of running, not the cause of their shoes’ having become threadbare, though the two are conceptually linked. The transitive-causative distinction is related to grammatical aspects, which plays an important role in the syntax-semantics interface. The linguistic meaning of ‘they ran their shoes threadbare’ is not aspectually identical to that of ‘they caused their shoes to become threadbare’. We will turn to causative resultatives shortly, whose aspect is congruent to causatives.

Although our discussion herein focuses on intransitive resultatives, the structure for transitivized resultatives proposed above is identical to that of unselected transitive resultatives.

(33) Unselected transitive resultatives



Again we assume that there is no aspectual meaning of causation in these resultatives; it is an interpretive construal inferred from the transitive meaning of the verb. Thus, the meaning of the unselected transitive resultative in (33) is ‘They washed to the effect of the soap being out of their eyes’ rather than ‘They caused the soap to become out of their eyes by washing’. Consider (34) for the distinction between effectation and causation in linguistic meaning.

(34) Effectation and causation

- a. Non-effecting: The giant kite flew in the sky.
- b. Effecting: They flew the giant kite.
- c. Causation: They caused the giant kite to fly.
- d. They made him fly the giant kite; that is, they (\*flew it / caused it to fly).

This analysis, which is based on morpheme-conflation (i.e., transitivity), expects that such transitivized resultatives can reversely be intransitivized through passivization, marking the meaning of [-happenstantial]. The constructional-semantic (i.e., causation-driven) account cannot give an explanation for why some resultatives are passivizable and some are not.

(35) Passivization of transitivized resultatives

- a. Their shoes have been run threadbare.
- b. We have been talked into a stupor.

Following the notations of Bowers (2002), we represent the combination of the postverbal NP and the resultative phrase with the label PrP. He proposes that transitive resultatives are a control construction with a PRO in the subject position of the resultative phrase. Intransitive resultatives are a subject-to-object raising construction. In this view, transitive and intransitive resultatives are analogous to the comparison between *persuade*- and *believe*-type verbs. They both include a clausal complement, but are distinguished by the point that the postverbal NP in transitive resultatives is base-generated as the direct object of the verb and a PRO serves as the subject of the resultative phrase. On the other hand, the postverbal NP in intransitive resultatives is generated in the subject position of the resultative phrase, [Spec, PrP] and then moves to [Spec, VP] so as to get case-marked. This account neatly highlights the difference between the two constructions. However, it did not go so far to offer empirical tests for the complementhood of the PrP in intransitive resultatives.

### 3.2 Intransitive-to-Causative Resultatives

When it comes to happenstantial-consequential resultatives, there is no selectional restriction on the choice of the postverbal NP and the resultative phrase imposed by the verb. They cannot be passivized or ellipitd in gapping coordinates.

(36) Happenstantial resultatives

- a. She cried. / She cried the handkerchief wet.
- b. \*The handkerchief was cried wet.
- c. \*She cried the handkerchief wet and Benjamin the tissue.
- d. The clock ticked. / The clock ticked the baby awake.

In these resultatives, there is no inherent contribution that the resultative phrase makes to the interpretation of the verb. Apart from the postverbal NP, the two are independent of each other. The resultative phrase of this type is engaged with the postverbal NP, and they together express a happenstantial-consequential event caused by the event expressed by the matrix clause. The verbs lack the capacity for licensing passivization. In other words, they are deficient in agentive transitivity.

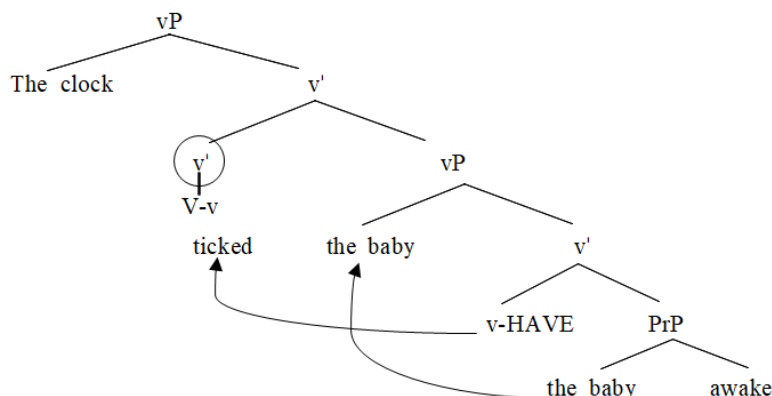
Besides, extraposing the postverbal NP in happenstantial-consequential resultatives yields sentences that are significantly worse than in the case of agentive-coextensional resultatives.

(37) Extraposition of the heavy NP

- a. They hammered flat the metal that weighed over 100lb.
- b. He ground into fine powder the beans that his wife brought yesterday.
- c. \*He walked to pieces the feet that had not recovered from the injury.
- d. \*She cried out the eyes that need to be examined.

These suggest that the postverbal NP and the resultative phrase in happenstantial-consequential resultatives are adjunctive to the projection of the main verb. Therefore, their structure can be represented as follows:

(38) Intransitive-to-causative resultatives (Happenstantial-consequential)

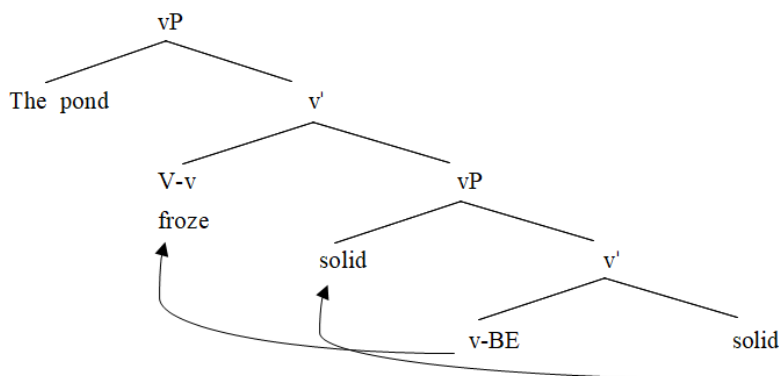


This structure resembles the constructional-semantic analysis of resultatives in that the sentence conveys the meaning of causation, i.e., cause-effect complex events. Different from the constructional (non-derivational) view, however, the meaning is represented by the functional verb, *v-HAVE*, and so the initial phase meaning is ‘The clock ticked, having the effect of the baby being awake’ and its derived phase meaning is ‘The clock caused-by-ticking the baby to be awake’, which is equivalent to that of the constructional-semantic account. Unlike transitivized resultatives, the verb in this type of resultative is a causative (or more precisely, causativized) verb, and thus ‘The clock ticked the baby awake’ is aspectually identical to ‘The clock caused the baby to become awake’. That is, it describes the contingency of the causal event, *the clock ticked*, and the consequential event, *the baby awake*, rather than the transitive-coextended effect of the clock’s ticking. Although the two are conceptually commensurate, they are distinct aspectually, hence grammatically. The structure also represents the fact that the resultative predication is external to the verb and it is the complement of *v*. The standard  $\Theta$ -Criterion keeps a hold.

### 3.3 Intransitive-to-Copular Resultatives

The third type is the unaccusative resultative construction, whose structure and derivation are represented as follows:

(39) Unaccusative-to-copular resultatives (Happenstantial-coextensional)



This type of copula conflation, which has not received much attention from the constructionist camp, is found



in a range of stative and inchoative verbs, among which are many familiar groups of verbs such as stance verbs (e.g. *seem, look, appear*), resultative verbs (e.g. *prove, turn, result*), and measure verbs (e.g. *weigh*). Even motion verbs, often semantically light ones, can be augmented by conflating the copular function.

(40) Copula conflation of motion verbs

- a. There's no pressure. But our weekly specials usually go pretty quick.
- b. Art comes alive with student gallery guides.

The proposed structure is essentially identical to that of the complex VP analysis except that it contains two verbs and their conflation at the head of predication (Pr) as a result of the movement of *v*-BE, instead of moving the content verb *froze* from the lower V to the higher V. This is an attested movement in English and therefore has important theoretical and empirical advantages over the movement-based complex VP account. Furthermore, we assume that this type of resultative does not convey any meaning of causation or force-transition. Instead, it introduces the meaning of identification/characterization or change-of-state that copulative verbs carry. For example, Goldberg and Jackendoff (2004) and Jackendoff (1990) argue that there is no structural constraint that bans (41b) and (41c).

(41) Constraints on copularized resultatives

- a. The vase broke into pieces.
- b. \*The vase broke worthless.
- c. \*The baby cried asleep.
- d. The baby cried to sleep.

These seem to be attributable to semantic constraints. The unaccusative resultative is happenstantial-coextensional, and *into pieces* in (41a) is congruous to the copularized *broke-vBE* as it characterizes the change of state expressed by *broke* whereas *worthless* in (41b) is an aspectually stative, evaluative/disjunctive adjective, which is incongruous to copular conjunction. Similarly, *asleep* in (41c) is an aspectually stative adjective which indicates a semelfactive achievement, while *to sleep* in (41d) is processual and coextensional with the activity of crying. The action of crying is depicted here as happenstantial rather than agentive, which makes it behave like unaccusatives in syntax.

## 4. Conclusion

As mentioned, the constructional-semantic view holds that the resultative construction is based on a common semantic structure of which all the surface varieties comprise a family resemblance and that its prototype is the caused motion-path construction from which change-of-state resultatives are derived through metaphorical extension. Reviewing the grammatical constraints of intransitive resultatives in English, we propose that despite their resemblance, they are not alike in semantics, hence in syntax. We also find it misleading to posit the conceptual identification of cause (causing) and effect (effecting) through metaphor for an explanation of grammar around resultative sentences. It appears that the grammatical role and aspectual meaning of transitivity cannot properly be explained by the conceptual integration of cause and effect. In language, effecting is one and causing

is another with the former given grammatical priority; it allows us to describe an effect without identifying or describing its cause but it disallows us to do in the other way around.

Drawing on a range of attested data from previous research sources, we found that there are at least three distinct types of the intransitive resultative construction: transitivized, causativized, and copularized resultatives. In terms of semantics, transitivized resultatives are agentive-coextensional, causativized resultatives are happenstantial-consequential, and copularized resultatives are happenstantial-coextensional. In syntactic terms, intransitive resultatives with an overt object are instances of argument structure augmentation derived from the verb's intransitive-to-transitive/causative alterations and those without an object are instances of argument structure augmentation derived from the verb's unaccusative-to-copular alteration. These have led us to conclude that regressing resultatives to motion-path constructions does not properly explain their grammatical features and that the varieties of the resultative are given an adequate explanation within the generative framework in terms of functional morphemes that operate in intransitive-to-transitive/causative and inchoative-to-copular confluences. The construction-as-a-meaning view inevitably assumes virtually an infinite number of distinct constructions for all relevant semantic-syntactic idiosyncrasies (path vs. change-of-state, causation vs. non-causation, emission of sound/light, reflexive objects, *way*-objects, etc.) and necessitates the abstraction of semantic unity that underlies all these subconstructions. If such surface varieties are not identical in their semantics, then the productive nature of resultatives can be explained more adequately and economically by morpheme confluences than by a number of constructional variations on the basis of common semantics.

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Examples in: English

Applicable Languages: English

Applicable Level: Tertiary