Manner/Result and (in)Transitivity Alternations

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1. Introduction

Over the past forty years, following Perlmutter and Postal’s (1983) work, there has been a constant interest in argument structure alternations. In general, they are seen as a promising empirical ground to help us identify connections between verb meaning and behavior and its impact on grammatical representation. A more fundamental debate touches on lexicalized properties and how they interact with higher level syntactic facts. As a result, transitivity alternations—causative, causative-inchoative alternations, locative alternations, conative alternations—became central to the discussion. To illustrate with one prominent example, the causative alternation became one of the classics of the argument structure literature, spawning sufficiently different theories on the lexical encoding of grammatically relevant properties, the relative role of the VP configuration verb roots appear in (e.g. in radical constructionist approaches); but, more generally, the question touches on the semantics-syntax mapping. Yet, and quite crucially, intransitive alternations have been rarely discussed.

Against this background, we focus on monadic (atransitive) constructions recently discussed in the literature. We consider classically-analyzed intransitive alternations with similar structural properties and contrast them with the atransitive forms just mentioned. We show that, even if apparently subsumable under one (intransitive) alternation type, they are strikingly different as to the semantic structure, the participant roles involved, and their aspectual behavior and restrictions. In light of these properties, the facts discussed here reveal a major difference between traditionally acknowledged intransitive alternants (‘Objectless Constructions’ or ‘Unspecified Object Alternations’) and atransitive alternants of verbs linked to the causative alternation, where the internal argument is not entailed, realized nor syntactically licensed at all and the aspectual profile is consistent with lack of BECOME component. We moreover show that the contrast between these distinct intransitive constructions can be crucially linked to Manner/Result complementarity (Rappaport Hovav and Levin 2010), thus contributing new, yet untapped evidence to other argument structure alternations which have been also argued to be sensitive to this typological (lexical-semantic) opposition. We contend that the constructions paired here (i)track finer-grained semantic properties in verbs challenging the usually proposed classification and (ii)offer a relevant diagnostic connecting the meaning of the construction and the specific semantic features required for the verb to be allowed in each (or both) of them.

2. Intransitive (Unexpressed Object) alternations

Constructions referred to as ‘intransitive alternations’ across the literature involve either transitive manner verbs (e.g. wash, read, wipe, etc.) allowing for forms apparently lacking the theme, e.g. *John reads in the afternoon, This dog bites*, or unaccusative verbs which have transitive counterparts too, e.g. *The sun melted the chocolate and The chocolate melted* (e.g. evaporate, sink, melt, etc.). There is one crucial difference, however. Traditional transitivity alternations, like inchoatives (anticausatives) and middles, constantly involve an (affected) theme. Thus, the option bears on whether the external argument is realized—setting aside the question on their (disputed) status as syntactically active. Intransitive alternations acknowledged precisely as such on the literature (Levin 1993) keep instead the external argument as the constant or invariably present argument. Therefore, diathesis touches on whether the

internal argument or patient is realized or not. Whereas the former are more clearly differentiated as ‘Object of Transitive=Subject of Intransitive’ alternations, the latter are defined as ‘Unexpressed Object Alternations’ or ‘Objectless Constructions’. Here, we constrain the notion of ‘intransitive alternation’ to the second option, i.e. alternatives where the object is missing from the phonological representation. Among them, and for reasons that will become clearer later, we focus on a prototypical case: the Characteristic Property of Agent alternation (Levin 1993, going back to Fellbaum and Kegl 1989, Genusiene 1987, i.a.). This alternation, just like a closely-connected variant referred to ‘Characteristic Property of Instrument Alternation’, is defined by the fact that the subject of the transitive use of the verb and the subject of the intransitive use bear the same semantic relation to the verb (Levin 1993: 33).

(1) Characteristic Property of Agent Alternation (CPAA)
   a. That dog bites people.
   b. That dog bites.

The verbs found in CPAA are, in principle, almost exclusively instances of what is called ‘manner’ verbs. This set of verbs contrasts with another set defining a class often considered to stand in complementary distribution: that is, ‘result’ verbs (Mittwoch 2005, Rappaport Hovav and Levin 1998, 2010 and references therein). The distinction touches directly not only on specific lexical-semantic properties crucially defining their behavior, but also, and in consequence, on transitivity and argument structure realization. Manner verbs, unlike result verbs, allow a large array of argument structure alternations, the most prototypical ones illustrated in (2). Most crucial to our present interests, a key difference with anticausative transitivity alternations and middles—generally allowed by result verbs—, is that manner verbs independently allow unexpressed and unspecified objects (Rapoport 2012; Levin and Rappaport Hovav 1995; Rappaport Hovav and Levin 2010; Levin 2017; Rappaport Hovav 2014, 2017, i.a.).

(2) a. POSSESSOR RAISING: The dog bit me on the ear.
   b. NONSELECTED OBJECTS: A mad dog bit his way through town.
   c. CONATIVE CONSTRUCTION: The dog bit at me.
   d. UNSPECIFIED OBJECTS: The dog bit.

Not only core unexpressed and null object alternations involve verbs whose meaning has a prominent manner component (Mittwoch 2005); moreover, emphasis (provided by the verb, the context) is put on the action/Agent (Lemmens 2006 i.a.). Yet, what distinguishes the CPAA is that the intransitive variant is used to express that the subject typically shows a propensity for the action named by the verb. And, in consequence, the action named by the verb is interpreted as a characteristic of the subject. Here, the dog is defined by its disposition to bite, while the unexpressed object is (putatively) interpreted as something like ‘people’ (Levin 2006, i.a.). Even if the closely-related alternation, the Characteristic Property of Instrument Alternation does not necessarily conform to this criterion, in both cases the ‘missing’ theme is somehow deducible from the semantic properties of the subject and the action named by the verb.

(3) Characteristic Property of Instrument Alternation (Levin 1993, Dixon 1991 i.a.)
   a. This knife cuts.
   b. These shears clip well.
   c. These scissors won’t cut.

Just as in (3), an important problem with the CPAA is that it is difficult to precisely characterize the set of (manner) verbs that show this alternation— even apparent result verbs are seen in such constructions—, although it appears to be a fairly restricted set. Prototypical verbs allowing CPAA are manner verbs like bite, butt, itch, kick, pinch, prick, scratch, sting, sweep, scrub, wipe, sew (Levin 1993).

(4) a. Cinderella scrubbed. (Levin 2006)

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1 Levin (1993) already marks that unexpressed complements here may lead to different scenarios: generic objects, optional objects, null and unspecified objects.
Two important entailments can be seen as necessary conditions for CPAA. First, the event named by the verb must have occurred at least once; second, these constructions somehow involve a controlled event. Their eventive status is visible, namely, in their natural compatibility with non-generic tenses, especially perfective ones (see the prototypical examples in the literature like (2)a). Also, they generally license habitual readings. In most cases, they can appear in perception reports and modals can give deontic or epistemic readings. These points, among many others, draw an interesting contrast with other putative intransitive alternatives, which, we contend, belong to a sufficiently different type, to be discussed next.

   b. Anyone who saw this dog bite [any other] should contact the authorities.
   c. This dog must bite \( \approx \) is in the obligation to bite (deontic) / \( \approx \) it probably bites (epistemic)

3. Atransitive alternation

The main concern for this paper, however, touches on a specific construction, which is fully productive in Romance and allows for some regular productivity in English. The construction, called here Intransitive Causative (IC), provides a significant body of examples involving a relatively underexplored argument structure realization for verbs entering causative alternation. ICs pose a problem in contrast to the data above, but also concerning argument structure, possible alternations, mandatory arguments, and possible VP configurations. Consider the symmetry between English (6) and Romance (Spanish) (7).

(6)a. Smoking kills.
   b. Bleach disinfects.
   c. Alcohol dehydrates.
   d. Rice constipates.
   e. Shaving creams irritate.
   f. Sunlight oxidizes and discolors.
   g. Normal dryers wrinkle.

(7)a. Fumar mata.
   b. La lejía desinfecta.
   c. El alcohol deshidrata.
   d. El arroz estriñe.
   e. Las cremas de afeitar irritan.
   f. La luz solar oxida y destiñe.
   g. Las secadoras arrugan.

Important for the present discussion is that ICs pattern as stative, nonhabitual predications. This is evidenced by standard stativity diagnostics. To give one example, the present tense does not yield habitual readings (Dowty 1979; Krifka et al. 1995), and unlike transitive causative variants, ICs are infelicitous in contexts forcing eventive readings such as what-x-did or what-happened-was (10) (Cruse, 1973; but also Jackendoff 1990; Dowty 1991, i.a.). Note the contrasts below.\(^2\)

(8)a. John disinfects the kitchen. (\( = \) John habitually disinfects the kitchen)
   b. Bleach disinfects. (\( \neq \) Bleach habitually disinfects)

(9)a. My dad wrinkles my clothes. (\( = \) My dad habitually wrinkles my clothes)
   b. Normal dryers wrinkle. (\( \neq \) Normal dryers habitually wrinkle)

(10) a. #What rice did was dehydrate/constipate. (cf. What John did was kill animals)

\(^2\) Anticausatives and middles show no evidence of a syntactically or semantically active external argument, but the atransitive variant does. Conversely, it shows no evidence of a syntactically or semantically active ‘theme’. Consequent with this particular arrangement (full lack of theme), its aspectual profile and event structure is dramatically different to instances where an internal argument is licensed (unaccusatives and transitives on the same verb). This explains the term (atransitive) used here, setting them apart from other intransitive forms like the CPAA.
b. #What happened was that shaving creams irritated. (cf. What happened was that the wind broke the window)

Consistently, ICs also are odd in perception reports (11) and fail to be located in space (12) (see Maienborn 2007; Rothmayr 2009). Similarly, modals give epistemic readings (13)-0, as opposed to the clear deontic readings seen in eventive predications (14) (Copley 2018). The latter three observations are crucial, as they not only point to a stative layout. Such behavior is associated with a specific kind—Individual-Level Predication—and, more importantly, with pure states (as opposed to Davidsonian states; see Dowty 1979; Maienborn 2007; Rothmayr 2009, i.a.). Essentially, ICs express generic, properties bearing on the subject without episodic and/or habitual or frequentative entailments (cf. (5) above)

(11)a. #Tom saw smoking kill. (cf. Tom saw John kill the men)  
   b. #Tom saw intense light burn. (cf. Tom saw the fire burn the forest)  
   c. #Tom saw normal dryers wrinkle. (cf. Tom saw his dad wrinkle his clothes)
(12)a. #Bleach whitens in the launder. (cf. John killed the animals in the forest)  
   b. #Rice constipates in the kitchen. (cf. The wildfire burned the forest in that region)  
   c. #Wool itches in the bedroom. (cf. The toddler broke the vase in the room)
(13)a. Smoking must kill.  OK Smoking probably has property x / #Smoking is under obligation to kill.  
   b. Intense light must burn.  OK Light probably has property x / #Light is under obligation to burn.
(14)a. John must kill the animals.  OK John is under obligation to kill / #John probably has property x.  
   b. John must burn the books.  OK John is under obligation to burn / #John probably has property x.

As a result, in English, just like in Romance, ICs come to share two key properties with middle constructions (e.g. *This vase breaks easily*), such as stativity and genericity. As to genericity, note that ICs, like middles, do not readily license episodic readings and do not necessarily refer to actual events that have occurred. In fact, cancellation is possible (cf. CPAAs: *This dog bites #(…but it hasn’t bite /ever)*). Essentially, they report an inherent property that holds of the subject regardless of there having been actual or repeated occurrences before (see Boneh 2019)—hence, in a distinct way than CPAAs do.

(15)a. Chromic acid burns (... that is why it has never been used before).  
    b. This vase breaks easily (... that is why it is kept inside the box).

Specifically, ICs instantiate dispositional generic predications (Lekakou 2005, but see also Schäfer 2008, i.a.). Consequently, they are true in virtue of the properties inherent to the subject, rather than depending on whether there were actual events of the specific type denoted occurring in the past. As Krifka et al. (1995: 17) note, in such cases, there is no “semantic generalization over events; rather, the generalization would appear to be over characterizing properties of individuals”. In this respect, ICs and middles, as dispositional properties, are crucially different from so-called dispositional habitualls (Krifka et al. 1995), which “assert the existence of a pattern of regularly recurring events” (Lekakou 2008: 256). Hence, the latter are true insofar as there were actual verb-designated events occurrences. ICs are thus different from CPAA (below) and transitive realizations of the same verb, as in (17), which are true only if there have been (previous) actual events of hunting wild animals or helping people.

(16)a. John helps homeless people.  
    b. US citizens hunt wild animals for fun.

This does defuse important commonalities with CPAAs and other intransitive alternations, like the Characteristic Property of Instrument Alternation mentioned above. Both CPAAs and ICs also show the restriction claimed by Fara (2002) (17) and several properties of dispositional argued for in the literature (e.g. Copley 2018) formalized in (17)-(18) below. Yet, there is a contrast: whereas ICs are restricted to generic tenses, CPAAs are instead naturally allowed, and most often found, in past tenses, as argued and shown above (recall prototypical examples of Instrument and CPAA like (2)d (4) above).

(17) The disposer must have the relevant property to be able to generate the event denoted by the verb.  
(18) Dispositional causation: (a) y is the holder of e, (b) e is a state that directly causes e'
(19) a. This dog bites (#but it hasn’t bitten anybody yet).
    b. Stand back! This horse kicks (#but it hasn’t kicked anybody yet).
(20) a.*Smoking killed.
    b. This dog bit

In fact, both ICs and CPAAs conform to a basic property of objectless constructions (Rice 1988: 206): they both ‘readily evoke general semantic frames or scenarios’ where the object potentially involved is ‘fairly unimportant as the pragmatic focus is on the activity itself’. Nonetheless, it has been largely pointed out that for CPAA and of Instrument alternations, adverbials focusing habitual repetitions of the action dramatically improve grammaticality (Lemmens 2006; Bordignon 2003), as in (21). Note also that the presence of an object in the last verb of the series not only contributes improving acceptability, but is does not imply a semantic change in the predication as the insertion of an object would in ICs. Standard examples of ‘objectless constructions’—a terminology crucially disregarding ICs—support this idea. The idea to pull so-called atransitive alternations away from the latter is that, for usually-studied Intransitive Alternations, it has been often argued that the ‘missing’ theme is deducible from the semantic properties of the subject and the action named by the verb. In ICs, there is no conceptual or semantic link between the subject’s dispositional property and the potential theme experiencing/undergoing it.

(21) a. The chef-in-training chopped and diced all afternoon.
    b. Owls only kill at night.
    c. The famous lecturer always aimed to dazzle/please/disappoint/impress/charm.
    d. Pat gave and gave, but Chris just took and took. (Goldberg 2010: 222)

(22) Robot multifunction MAGIMIX. 23 functions: chops thinly, crushes, grinds, mixes, homogenizes, emulsifies, blends, whips, kneads, beats, cuts, shreds thin and medium, squeezes citrus fruits …

4. Manner/Result Complementarity

Over the last decades, a major opposition has sparked interest. Verbs from various semantic fields have been often classed as either manner or result verbs. The distribution was in principle meant to be mutually exclusive: a verb belongs to and only to a certain (manner/result) type. Essentially, manner verbs are referred to as such since they basically specify a manner of carrying out an action (Levin 1993 i.a.). Result verbs, on the other hand, characteristically encode a specific result of an event(uality).

(23) MANNER VERBS: cry, hit, pound, run, shout, shovel, smear, sweep, (…)
    RESULT VERBS: burn, clean, dry, cover, die, empty, fill, put, remove, (…).

One of the most compelling aspects of this (lexical) semantic distinction is that it crosscuts the transitivity alternations, hence carrying major grammatical relevance. Each type is expected to show its own distinctive cluster of argument realization alternatives (Fillmore 1970; Rappaport and Levin 1998), hence crucially linking a semantic (lexical) distinction to the discussion on argument realization.

In this vein, the two intransitive alternations discussed above lead to new observations. On the one hand, the objectless construction generally analyzed in the literature—Unexpressed Object Alternations in Levin’s (1993) classification—seems to be guaranteed in verbs coding a manner meaning component. Yet, the list of verbs argued to show this alternation include verbs that could be seen as result verbs, denote scalar change, and which in fact allow for causative-inchoative alternation. As mentioned above (cf. (2)), manner roots are expected to appear in a wide range of syntactic contexts including unselected and specified objects (Fillmore 1977: 75), whereas result roots allowing for causative-anticausative, while crucially disallowing unspecified or null objects (Levin 1993 i.a.)—i.e., objectless constructions.

(24) This lotion softens, soothes, moisturizes, and protects. (Levin 1993: 39)

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3 As it would turn the generic, dispositional ILP stative into a regular causative COS event denotation.
On the other hand, ICs pose the need to revisit the general assumption that the patient must be somehow realized, either as object (transitive causative) or as (promoted) subject (anticausatives, middles) in verbs with causative the alternation. More specifically, they challenge two specific assumptions on such verbs: first, the sole argument is not interpreted by default as undergoer or affected theme (but rather as cause); second, with a semantic (aspectual) profile consistent with (lack of) the evitative tier, which is the one crucially linked to internal-argument licensing, they stress the need to consider originally intransitive constructions, as opposed to null, unspecified, pro-arb, understood and unexpressed object ‘intransitive’ alternations (Levin 1993, i.a.). ICs, however, lend further support to the notion that distributional properties linked to argument structure realization and potential alternations are crucially linked to specific lexical-semantic properties in the verb, while they challenge the view that for verbs allowing scalar change of state predication, transitivity alternations are necessarily constrained to unaccusative (anticausative) and transitive (causative) realizations, consistently resisting intransitive variants.

In our case, as anticipated, putative result verbs appear in Characteristic Property Alternations, with all the expected properties (event enumeration, habituality, episodic denotation, etc.). Yet, we also note that verbs often considered as manner verbs seem to allow ICs. Apparently, most native speakers allow verbs like those listed in (25) in stative, subject-only intransitive occurrences without entailing agents and or instrument used in a certain manner, but rather entities with the sufficient potential to trigger a non-deontic, non-episodic change of state without necessary effective instantiations in the past.

(25) Scratch, sting, bend, crease, crinkle, wrinkle, annihilate, demolish, ravage.

(26)a. This sweater scratches. Cf. This brush scratches, sands and cleans (Property of Instrument).
   b. Barbed wire stings. Cf. These bees (won’t) sting (CPAA).
   c. Highly-contagious African viruses generally annihilate #(well/thoroughly) (cf. (3) above).

A well-known claim for the existence of a mixed or ambiguous set of verbs comes from Koontz-Garboden (2009) and Beavers and Koontz-Garboden (2012) (see also Ausensi et al. 2021). Essentially, they contend that certain subsets of verbs deterministically seen as manner verbs in earlier literature, like manner of death verbs may have both a manner and result component in their meaning. Similar claims go back to Dowty’s (1979: 203–204) proposal that the existence of certain verbs lead to rather believe that Manner/Result Complementary as such may not involve a truth conditional fact about possible verb meanings and their complementary exclusive distribution.

(27) MANNER OF DEATH VERBS: asphyxiate, behead, crucify, hang, decapitate, disembowel, drown, electrocute, eviscerate, gas, guillotine, gut, immolate, impale, poison, quarter, smother, strangple.

Even if verbs often classified as manner verbs do appear in many compelling examples, ICs show interesting permissions and restrictions on verbs capable of triggering this construction.

(28)a. Caffeine dehydrates and overstimulates.
   b. Oxygen monoxide/A sickening stench asphyxiates.
   c. This fridge electrocutes.

(29)*This thing beheads/crucifies/hangs/decapitates/disembowels/eviscerates/gases/guillotines/guts/immolates/impales/quarters/smothers. (subject cause \(\forall\)Caffeine causes dehydration and weakness).

What draws a difference from CPAAs is that, for verbs entering the causative alternation, unspecified and understood objects are not tolerated, but intransitive (unergative) structures altogether lacking a DO altogether are allowed. We contend that verbs allowing ICs must have a probable result asserted, no matter whether they entail manner. In our case, this leads to a reformulation of intransitive alternations which constrains verb behavior to the structural licensing (or not) of a theme, suggesting a necessary distinction between unexpressed/unspecified/pro-Arb/understood intransitivity alternations and ICs.

Such an observation is crucially compatible with the claim (Husband 2011, i.a.) that manner as a modifier must be asserted if present, while result can be presupposed. For instance, in objectless frames, subjects interpreted as instruments with verbs such as cut or interpreted as general causes with verbs like suffocate seem to generate result-like interpretations—considering the potential result necessarily entailed as the expected result of the IC (if instantiated)—, and not manner interpretations. Namely,
whereas manner interpretations are often attributed to agent or animate subjects acting volitionally or instrument subjects (i.e., verbs where the grammatical subject is necessarily interpreted as a tool directly involved in carrying the event), since these subject types are by definition the only ones compatible with the carrying out of a manner of action, result interpretations instead are generally allowed in intransitive (atransitive) variants under the condition that the subject be not interpretable as volitional/agentive—hence, willingly performing what must remain as an inherent, nonvolitional, noneventive predication.

(30) a. These stones cut. (= stone causes a cut, by defect = is not a tool used to such effect)
   b. The black hot suffocates. (= black hot causes suffocation) (Lemmens 2006)
(31) a. This servant sweeps. (= servant has a tendency to carry out a sweeping action)
   b. This dog bites. (= dog has a tendency to carry out a biting action)
(32) a. This knife cuts (well). (= The knife is necessarily used as a tool to cut)
   b. His dog won’t bite. (= The dog must necessarily act volitionally, performing a manner of contact)

Inanimate nouns with verbs allowing manner interpretations in objectless frames foreground the result in stative predications describing inherent, noninstrumental properties of the subject. Clearly, result verbs can appear in causative contexts regardless of subject type in transitive eventive frames (cf. The wind/John/John’s negligence broke the car). Crucially, however, this contrasts with canonical result verbs like kill which, in allowing distinct subject types generate IC or CPAA readings depending on subject type. In objectless frames, animate subjects yield ICs, whereas agent subjects generate CPAA. In the case of verbs such as murder, which does encode a result state; yet, in restricting subject types to agents only, only generate CPAA interpretations in objectless frames.

(33) a. Smoking kills. (= result is foregrounded)
   b. Talibans kill. (= manner is foregrounded)
(34) a. Talibans kill (purportedly/violently/randomly). (#but they didn’t actually kill anybody yet)
   b. (People saw) Talibans kill (often/during religious festivities/in public places).
(35) a. #Smoking murders. (= result foregrounded)
   b. CIA spies murder carefully (= manner foregrounded).

Our observations are not only in line with mainstream discussion like the ones raised by Husband and Beavers and Koontz-Garboden. Further, they are consistent with revised versions like the reformulation of Manner/Result Complementarity: a root cannot syntactically be associated simultaneously with a result structure and a manner structure (cf. Rapoport 2012, i.a.). Instead, it is argued that different structures hold for each aspect of the verb. An alternative, recently discussed approach builds on this notion. Take, for example, the Atom Theory (Erteschik-Shir and Rapoport 2010). This essentially states that a verb’s meaning consists of a manner atom, a result atom, or both, each atom acting independently. In their view, Manner/Result derives from differences in “Aspectual Focus”. Since only one part of the structure can be foregrounded; the other, while present, is backgrounded. Simultaneous aspectual foregrounding of both parts of a structure is impossible. This, in our case, readily explains IC/CPAA distribution.

5. Summing up

Constraints on possible semantic components encoded by a verb has been an important topic of discussion for lexical semantics over the last decades. Yet, it could become equally interesting for discussions contemplating constructional and compositional semantics. The data presented here, drawing on the occurrence patterns in intransitive variants of otherwise transitive verbs, becomes useful insofar as they offer new, original evidence on the need to refine certain notions and concepts. In the particular case explored here, manner of death verbs push Manner/Result Complementarity in an interesting direction, drawing attention to further frame alternations they interact with. Specifically, they provide further support to the necessary differentiation between seemingly similar (in)transitivity alternations, at the same time that they reinforce the need to consider cases where the semantic underpinnings of the construction (i.e., constructional semantics) impose restrictions on verb meaning, helping, with the empirical manifestation of the constraints imposed, to pinpoint the distinction between verbs traditionally lumped together in a same semantic class (manner of killing).
In answer to the present empirical challenge, we advance that while a certain subset manner of death verbs lexicalize both a manner and a result component, these components are subject to the syntactic frame they appear in and, more importantly, respond to a constrain imposed by the semantic properties of a specific construction. Namely, change-of-state verbs allow for intransitive alternation under the condition of it being a real one. Unspecified objects are not tolerated, but intransitive (unergative) structures lacking a DO altogether are allowed. This strongly suggest that verbs allowing ICs must have the result asserted, no matter whether they entail manner, therefore leading to a reformulation of intransitive alternations that constrains verb behavior to the structural licensing (or not) of a theme.

References


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