

Intransitivity and Stativity in English causative verbs. Nothing has to (really) change here

We analyze a construction which, to our knowledge, has gone largely overlooked in the literature, even if it has central implications for the study of argument structure, argument alternations and alternatives in verb formation/derivation in English. Object-less (intransitive) causatives [IC] like (1) feature a subject (an inanimate entity) naturally interpreted as cause(r) of a potential change-of-state (COS); crucially, the affected entity is (semantically&syntactically) unrealized. Even if not fully (freely) productive as in other languages (vs. e.g. Romance, Greek, Alexiadou 2014; M. Rasia 2018), English shows a productive (semi)regularity deserving to be explored. We note that:

(1). a. *Smoking kills.* b. *Alcohol dehydrates.* c. *Rice constipates.* d. *Bleach disinfects.*

e. *Shaving creams irritate.* f. *Sunlight oxidizes and discolors* g. *Normal dryers wrinkle.*

1. ICs denote ([Individual]-L[evel]) states, not change of state. Besides not allowing perception reports (IL-diagnostic)(2), standard tests (Maienborn 2004; Rothmayr 2007) show that ICs lack habitual reading in the present (3); are infelicitous in *what-x-did* frames(4) and contexts forcing eventive readings(5) (see 8); can be located in time but not in space (6), which is the expected pattern for pure (eventless) states. Unlike events, modals (*must*) give epistemic (not deontic) readings (7).
 - (2). *#I saw smoking kill.* (vs. *I saw John kill Tom*)
 - (3). *Smoking (#regularly) kills.* (vs. *John (regularly) kills animals*)
 - (4). *#What alcohol did was dehydrate.*
 - (5). *#What happened was that rice constipated.*
 - (6). *#Shaving creams irritate in the bathroom.*
 - (7). *Smoking must kill.* (^{OK} *Smoking probably has property x / #it is under obligation to kill*)
2. Like middles, ICs do not license episodic readings—i.e., they do not refer to an actual event that has occurred; rather, they simply report an (inherent) property of the subject. In this sense, they instantiate what Lekakou (2005: 88) calls *dispositional generic*. In contrast to *dispositional habituals* (8)a, which “assert the existence of a pattern of regularly recurring events”, the truth of ICs (8)b does not depend on whether there were (burning) events in the past; rather, it is true in virtue of properties inherent to the subject. Instead, dispositional habituals cannot be true if there were no events of John helping people (Krifka *et al.* 1995). A similar condition draws a contrast between ICs and Levin’s ‘intransitives’ given by Null/Unspecified Object Alternation (8). This is consonant with data (see (11)-(13) below) supporting a distinct (non-Null/Arb object) structure.
 - (8). a. *John helps homeless people (#but he hasn’t helped anybody yet).*
 - b. *Chromic acid burns (but it has not been used to burn stuff yet).*
 - c. *This dog bites (#but it hasn’t bitten anybody yet).* (*pro-Arb Object Altern., Levin 1993*)
3. ICs share with middles the **genericity** of an otherwise eventive predicate. Yet, ICs are different in that the sole DP is an external argument, not an internal one. The dispositional property is thus not attributed to the undergoer of change of state [COS], but to its (potential) **causer**. Consistent with stativity, restriction to generic tenses is key: note that perfect tense is possible for maximally different monadic (inchoative) causatives (if available(**kill*)). Hence the oddity of (5)|(9).
 - (9). **Smoking killed*/#*Alcohol dehydrated*/#*Shaving creams irritated*/#*Rice constipated*.
4. ICs reflect the basic definition of **dispositional causation** (10), insofar as in ICs the predication relates a disposer *y* (holder of a property), a dispositional state *e*, a manifestation *e'*, and a (non-episodic) eventuality description *p*. Predictable semantic restrictions hold for ICs (e.g. Necessary condition: have the relevant property to generate the COS named by V (#*water dries*) (Fara 2001).
 - (10). Dispositional causation: (a) **y** is the holder of **e**, (b) **e** is a state that directly causes **e'** ceteris paribus, (c) **e'** instantiates **p** (d) **y** is disposed toward **p**. (Copley 2018: 13)
5. In ICs, COS verbs allow constructions in which the object is unexpressed, challenging a long-held constraint (Rappaport & Levin 1998, 2010; Levin & Rappaport 1995, 2005). Levin (2017) argues that if a verb encodes a COS predicated of a theme, such theme must be expressed due to the “patient realization condition” which arises “because to know that a state holds requires looking at the entity it holds of” (e.g. **John breaks*/**killed*, see also Rappaport 2008). ICs are counterexamples to this constraint, inasmuch as they instantiate atransitive variants showing that

COS verbs can allow object-less constructions with logical consequences: notably, the state that holds, holds of a different argument/participant(causer). This result is fully coherent with **7 below**. **ANALYSIS.** There are important reasons to argue that ICs are not null-object constructions. They do not allow null-object-oriented depictive predication; adjectival predicates (licensed by null/arb arguments, e.g. *Il dottore visita [] nudi*, ‘The doctor visits [] naked’ Rizzi 1996) and null object quantification (bare *molti* in Italian) fail in (11) In Romance ICs, *ne*-cliticization and inchoative-passive morphology are consequently disallowed (12). ICs are productive with unpassivizable verbs (Object-Experiencer statives like *sadden*) and they do not bind reflexive pronouns (13).

(11). *Smoking kills dead/depressed/many. (vs. John cooks healthy/John eats a lot)

(12). Fumare (**ne*/**si*) uccide. (Italian)

(13). Bad news sadden (*myself).

6. For these empirical, but also for theoretical reasons, ICs seem better analyzed as original monadic (intransitive) realizations. Just as in other Causative-Stative constructions noted in English, the external-argument-introducing head responsible for the causative component is complemented, not by a COS-introducing (the internal-argument-licensing *proc* head), but by a rhematic projection in which $\sqrt{\quad}$ specifies the kind of change potentially triggered by the subject (*RhemeP*, Ramchand 2008, 2013), in a configuration like (14). As for the syntax-semantics interface and the important body of literature on direct mapping between semantic (event) composition and argument structure realizations, ICs are empirically crucial as they show that non-realization of the internal argument consistently correlates with lack of change-of-state (sub)event instantiation (standardly attributed to the internal-argument licensing head, Levin & Rappaport 1995, 2005; Hale & Keyser 1993, 2005 *i.a.*). This explains the dispositional (non-episodic) causation flavor of ICs, along with the stative (ILP) behavior shown (recall (1)-(5)). Arguably, as there is no theme, there is no COS-event-coding component in the semantic/syntactic composition of VP.

(14). $vP [DP_{\text{cause/trigger}} [V_{\text{INIT}}, \text{RHEME}} \sqrt{\quad}]$ Stative-Causative (Ramchand 2008)

7. **ICs challenge major generalizations on the causative alternation.** ICs are problematic for (i) the commonly shared assumption that the internal argument is a constant (Hale&Keyser 1992)/invariable constituent in the causative alternation; (ii) the prediction that unique arguments in COS verbs are interpreted by default as themes (cf. Default Linking Rule, Levin & Rappaport 1995, 2005). ICs show that a defective interpretation of unique arguments in causative verbs as cause is possible and natural.

SUMMINGUP. ICs establish a certain regularity in English, allowing a structure with distinct aspectual and syntactic properties. Lack of eventivity, ILP (stative) predication, restriction to generic tenses, along with default interpretation of the unique DP of a causative verb as a cause(r) rather than as an undergoer (theme) consistently contribute to a distinct, non-episodic predication basically reflecting dispositional causation (Fara 2001; Copley 2018).

8. Remaining issues: ICs show quirky constraints to productivity. A pressing question is why some canonical causative verbs (e.g. *break*) fail to yield ICs in English (but ok in Romance). A possibility is that English external-causation change of state verbs are to be split into two different classes with regard to the type of causation involved: while causative verbs like those in (1) allow (stative) eventualities that come about as a result of some inherent property (ILP state) of the cause(r), causative verbs of the sort *break* or *destroy* instead resist such (stative) representations (e.g. **Strong winds break*/**Earthquakes destroy*). Apparently, in English, these verbs behave like core internally-caused COS verbs (e.g. *The flower bloomed/wilted*) in that such eventualities can be only seen as coming about as direct consequence (result) of internal physical characteristics of the **theme**. Since the potential to exert change in ICs is predicated of the causer, and no theme argument figures in the representation, unproductivity in verbs restricted to internal (vs. external) causation simply falls out (**Fertilizers bloom*/**Bleach whitens*). This suggest language-specific restrictions (dependent on lexically-coded features). As Romance systematically allows COS-verb ICs, including *destroy* analogues (i.e., verbs not allowing IC in English; cf. *La ideologia destruye*. ‘Ideology destroys’), nontrivial crosslanguage variations in this respect seem possible.