

1. Introduction

A recurrent idea in linguistic theory is that predicates have complex syntactic representations that reflect their semantics. In the past twenty years or so linguistic theory has witnessed the return of lexical, or rather syntactic, decomposition approaches, which compose event structure from its meaning ingredients instantiated as distinct syntactic heads. These are essentially modernized versions of the proposals of Generative Semantics (McCawley 1968, Lakoff 1965), which answer many of the empirical objections to decomposition. This paper examines the decompositional project, concentrating on the various arguments presented in modern literature for a decompositional treatment of the relationship between pairs of verbs that differ roughly in that one of them has one more argument than the other. The paper shows that such pairs or alternations split into several types, only one of which deserves a decompositional analysis. Our litmus test for decomposition can be defined as follows: A meaning ingredient is a syntactic head, iff it is detectable by syntactic diagnostics.

Most of the paper is devoted to the causative-inchoative (alias transitive-unaccusative) alternation labeled here the inchoative alternation, which has received much attention in the decompositional literature. Section 2 discusses the decompositional analysis of this alternation (2.1), presenting the various phenomena that have motivated the return of decomposition (2.2). Section 3 reexamines these phenomena, concluding that none in fact diagnose the presence of syntactic heads corresponding to the meaning ingredients of the eventuality at hand. Section 4 presents new French data involving a construction that exhibits ‘overt decomposition’; its behavior is shown to be different from that of the alternates of the inchoative alternation in ways unexpected under decompositional approaches. Section 5 offers a broader view: it compares the inchoative alternation to other alternations labeled here the causative alternations. It examines their morphology (5.1), distinguishes between two types of causative alternations and discusses the type of account each of the alternations deserves (5.3-5.4).

2. Syntactic decomposition

The inchoative alternation involves a transitive and an intransitive member (1). The former has a Cause external role (indifferent to animacy, and thus realizable as Agent, natural force or Instrument), as illustrated in (1a) (Levin and Rappaport Hovav (1995), Reinhart 2002, among others). Typically, verbs participating in the alternation are change of state verbs.¹ It is standardly assumed that the members of the alternation are related to one another: Either one member is derived from the other or they are derived from a common source.

- (1) a. John / The storm / The key opened the door.
b. The door opened.

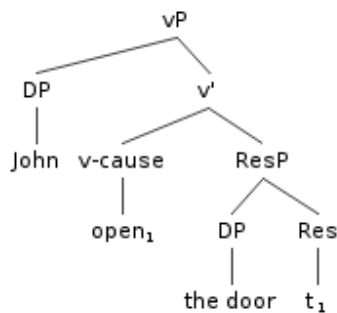
¹ Reinhart (2000) observes that certain activity verbs also give rise to the alternation.

The relation between the members of the alternation may be described in lexical terms, via a lexical operation (e.g., Chierchia 2004, Levin and Rappaport 1995, Reinhart 2002, Horvath and Sioni 2011a). Or it may be expressed in syntax, through syntactic decomposition of event structure into its meaning ingredient. Section 2.1 presents the latter approach. The lexical view is discussed in section 5.3.

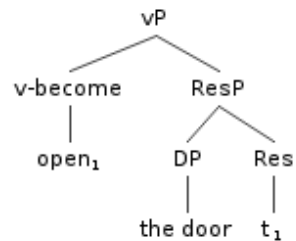
2.1 The inchoative/unaccusative alternation

Following the lexical decomposition of verb meanings into structured subevents (Dowty 1979, Parsons 1990), current decompositional approaches to verb structure propose the following representative syntactic structure for the members of the inchoative alternation. The erstwhile transitive VP is composed of a CAUSE head embedding a resultant state phrase (ResP), as illustrated in (2a) for (1a). The intransitive VP ((2b) for (1a)), in contrast, includes a BECOME head embedding the same resultant state predicate. (See Harley (2012), Pykkänen (2008), among others.²)

(2) a.



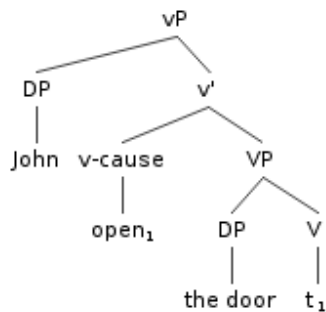
b.



Early modern versions of such approaches had the transitive alternate composed of a little *v* projection inserting the external argument in its specifier position and embedding (not a resultant state constituent but) the intransitive member of the alternation (e.g., Kratzer 1996), along lines suggested by generative semanticists, the early predecessors of current decomposition. This is depicted in (3) for (1a).

² Decompositional approaches differ regarding the exact layout of projections and labels assigned to them. Thus, for instance, Ramchand (2008) inserts a Proc(ess) phrase right below CauseP (or Init(iator) phrase, as she labels the latter), and eliminates the Resultant State phrase for a subset of the set of verbs participating in the inchoative alternation. These distinctions are orthogonal to our discussion. For more on decompositional approaches, see chapters by Lohndal and Ramchand.

(3)



Various diagnostics, however, fail to detect the intransitive member in the structure, as already argued by Fodor (1970) in his criticism of generative semantics. Thus, for instance, as discussed by Fodor (1970) and Harley (2012), a periphrastic causative construction of the type in (4a) is ambiguous. In modern terms, the PRO subject of the adjoined gerund requiring subject control can be controlled either by *John* or by *the milk*; both are subjects: *John* is the subject of the matrix verb and *the milk* of the embedded verb. But when the transitive *spoil* is used as in (4b), only *John* can be the controller as it is the only subject in the clause. *The milk* is not a possible controller. This shows that in (4b) *the milk* is not the subject of the embedded intransitive *spoil*, contra what structures of the type in (3) assume. Note that in the intransitive version, where *the milk* does function as subject, it sanctions control (4c).

- (4) a. John_i caused the milk_j to spoil by PRO_{i/j} sitting in the sun.
b. John_i spoiled the milk_j by PRO_{i/*j} sitting in the sun.
c. The milk_k spoiled by PRO_i sitting in the sun.

(Harley 2012: (15.8))

Likewise, as discussed by Fodor and Lepore (1997) and Pylkkänen (2008), if the decomposed structure involves two verbal projections as in (3), we expect it to systematically exhibit scope ambiguities of modifiers, depending on whether the modifier is attached to the lower or higher projection of the decomposed structure. But this prediction, too, is not borne out. In (5a), for instance, the manner adverb *grumpily* unambiguously modifies John's causing action, not Bill's awakening, although it can modify Bill's awakening in both the intransitive alternate (5b) and the periphrastic causative (6).

- (5) a. John woke Bill grumpily.
b. Bill awoke grumpily.

(Pylkkänen 2008: 102 (45))

- (6) John caused Bill to awake/wake up grumpily.

Since various syntactic tests fail to prove the presence of the lower verbal projection (see Harley 2012 for more discussion), current approaches (Harley 2012, Pylkkänen 2008, among others) assume the lower head denotes the resultant state of the event, not a change of state. The head is labeled RES, PRED or ROOT by various authors, and compared to an adjectival head; it is not the intransitive alternate.

Thus, as observed by Harley (2012), if the embedded predicate denotes a resultant state as in (2), not a change of state as does the embedded intransitive in (3), the subject of the lower predicate is not expected to be able to control PRO. This is so because the subject of stative predicates is not a potential controller, as illustrated by (7a-b), where the subject of the adjective *happy* fails to control PRO.

- (7) a. *Mary_i was happy by PRO_i singing. (Harley 2012: (15.10a-b))
 b. John_i made [Mary_j happy] by PRO_{i/*j} singing.

Along the same lines, Pylkkänen (2008) argues that the adverb *grumpily* is a VP adverb, and hence unable to modify the resultant state in (5a).

The next step, then, is to examine whether there is syntactic evidence for the presence of a resultant state head (RES) in the structure. The rest of this section is devoted to an overview of the evidence pointing in this direction.

2.2 Diagnostics of decomposition

2.2.1 *Measure adverbs* Measure adverbs, such as *partway* or *half*, are adverbs of measurement or degree that modify the endstate of the event (Parsons 1990, Tenny 2000). They appear thus to be able to modify the embedded resultant state of the decomposed event. For instance, in (8a), the adverbial *partway* seems to modify the resultant state of the act of closing the door; likewise, *half* seems to refer to the result of the event of filling the glass.³

- (8) a. John closed the door partway.
 b. Roger half filled the glass. (Tenny (2000: 304 (from 36, 37)))

The question is whether these adverbials modify a syntactic constituent. If they do, we expect the phenomenon to be systematic and predictable. According to Pylkkänen (2008), the pattern here is indeed systematic: The set of resultant state modifiers is the set of adverbials appearing with other stative predicates, specifically, adjectives. Let us refer to this observation as the Adjective-Res generalization. Indeed, as predicted by the generalization, the adverbials in (8) can modify adjectives (9), while *grumpily*, which cannot modify the resultant state (5a), fails to do so (10).

- (9) a. a partway closed door
 b. a half-full glass (Pylkkänen (2008: 111 (67a-b)))
- (10) *a grumpily awake boy. (Pylkkänen 2008: 111 (68))

Still, one may wonder whether it is at all possible in cases such as (8) to tease apart the reading where the adverbial modifies the resultant state and the one where it modifies the event of closing

³ In fact, the adverbial *half* has two different readings (Tenny 2000, Bochnak 2013). Bochnak (2013) distinguishes between the eventive reading, which measures out the extent to which the result of the event is complete, and the evaluative reading, which makes a comment about the degree to which the event represents a prototypical event of that type; the former reading is available in telic and atelic environments, and the latter under an atelic interpretation only. The eventive reading is the one relevant for our purposes.

or filling. After all, modification of either seems to entail modification of the other (Krifka 1989, Mittwoch this volume). That is, if in (8a) the door is partway closed as a result of what John did, then John's act of closing the door must also be described as partial; and if John's act of filling the glass is modified by *half*, then the result of his act will be that the glass is half-full. So it may be that the whole eventuality is modified by *partway* and *half*.

Other modifiers, however, do show distinct readings that could follow from the attachment site of the modifier: low attachment (modification of RES) and high attachment (modification of CAUSE), as discussed directly. The relevant modifiers are *again* and the temporal *for*-phrase adverbial.

2.2.2 *Temporal for-phrases* As is well known, the temporal *for*-phrase adverbial can modify stative predicates, i.e., homogeneous predicates, delimiting the temporal duration of either a state (of being wet in (11a)) or an activity (of walking in (11b)).

- (11) a. The towel was wet for a few hours.
 b. John walked for a few hours.

The *for*-phrase argument for decomposition goes as follows. A *for*-phrase adverbial can also modify the resultant state constituent of eventive verbs. In (12), the adverbial can delimit the resultant state of the act of opening, describing the fact that the door was in an open state for a period of five minutes (12i) after it was opened. In a decomposed structure, this can be derived from the structural position of the adverbial. If the *for*-phrase is adjoined to the RES constituent, it naturally has low scope, i.e., scope over RES (and not higher), delimiting the resultant state (12i), the same way it delimits the duration of the state in (11a). Harley (2012) reports that the adverbial in (12) can also modify the act of opening (12ii). On this reading, the act of opening took five minutes, not the resultant state. In a decomposed structure, this can be derived from attachment of the adverbial to the CAUSE constituent.

- (12) John opened the door for five minutes.
 i. The door spent a five-minute period being open. (low scope)
 ii. John spent a five-minute period in the act of opening the door. (high scope)
 (Harley 2012: (15.3b))

The latter reading (12ii) is certainly less accessible and even unavailable for many speakers (e.g., Mittwoch 2012, Rothstein 2014 among others). Nonetheless, the fact that the readings in (12) are distinct, alongside the fact that the adverbial seems to be able to modify directly the resultant state can be taken as evidence that it detects a resultant state constituent in the syntactic structure of *open* (12i).

2.2.3 *Again* As first argued in the generative semantics literature (McCawley 1968) and extensively discussed in current literature (e.g. Beck 2005; Harley 2012, von Stechow 1995, 1996, among others) the adverb *again* (and its equivalents in other languages) exhibits the so-called *repetitive* versus *restitutive* interpretations. These readings are illustrated below with the verb

open. In (13) either Bill opened a door that he had already opened in the past (13i), or he opened a door that had already been in an open state in the past (13ii).⁴

- (13) Bill opened the door again.
- i. Bill did it again. Presupposes: Bill had done it before. (repetitive)
 - ii. The door is in an open state again. Presupposes: The door had been open before. (restitutive)

These distinct readings can be straightforwardly explained as a structural ambiguity resulting from the different structural positions that *again* (possessing a single constant meaning) occupies in the decomposed syntactic structure. The attachment of *again* to the constituent denoting the causing event results in the repetitive reading; its attachment to the embedded constituent denoting the resultant state derives the restitutive reading.

Based on the same rationale, the interpretation of the adverb *almost* has also been sometimes mentioned as evidence for decomposition (McCawley 1972, and recently Rapp and von Stechow 1999). Like *again*, *almost* seems to be able to modify the cause meaning component as in (14i) or the resultant state ingredient, as in (14ii).

- (14) John almost opened the door.
- i. John almost did something that would have had the effect of the door opening.
 - ii. John did something that had the effect of the door almost being open.

However, McCawley (1972) already notes that (14) can also mean that John did something that almost had the effect of the door opening. Sevi (1998) and Tenny (2000) show that in fact *almost* offers many possible readings, and argue that the interpretations it allows represent a case of vagueness, not structural ambiguity. Kempson (1977) questions the claim that *almost* represents a case of ambiguity, on the basis of ellipsis constructions. I will discuss the ellipsis argument with regard to *again*, which represents a better case of ambiguity, in section 3.2. Sevi (1998) develops a semantic analysis (applying also to *barely*) that derives the different available meanings from the adverb's "contextual dependence", namely its ability to choose various appropriate comparison domains (i.e., different aspects of evaluation circumstances, such as world/standard/time of evaluation).

2.3 Morphology

Harley (2012) notes that in certain languages, the morphological makeup of the members of the inchoative alternation corresponds to the syntactic decomposition assumed in (2). For many roots, the morphology of the alternates is equipollent, that is, in addition to the base, the transitive as well as the intransitive bear an affix that can be taken to be the morphological reflex of the CAUSE and BECOME heads, respectively. It is important to note already here that this pattern is neither regular nor predictable. In both Japanese (15) and Hungarian (16), for instance, certain roots mark both the transitive and intransitive members of the alternation ((a-c) pairs), certain roots mark only the transitive alternate (d) and others only the intransitive alternate (e) (the relevant affixes are in bold

⁴ There could be an additional reading in which the door had been opened before but not by Bill. Pylkkänen (2008) and von Stechow (1996) argue that this reading is not available with *again*.

face). Section 5.1 resumes discussion of the variability of the morphological marking of the inchoative alternation.

(15) Japanese (Hasegawa 2001)

| | morphology | transitive | intransitive |
|----|--------------|-------------------------|---------------------------|
| a. | equipollent | <i>sim-e-ru</i> ‘close’ | <i>sim-ar-u</i> ‘close’ |
| b. | equipollent | <i>mag-e-ru</i> ‘bend’ | <i>mag-ar-u</i> ‘bend’ |
| c. | equipollent | <i>tubu-s-u</i> ‘crush’ | <i>tubu-re-ru</i> ‘crush’ |
| d. | transitive | <i>kawak-as-u</i> ‘dry’ | <i>kawak-u</i> ‘dry’ |
| e. | intransitive | <i>kudak-u</i> ‘smash’ | <i>kudak-e-ru</i> ‘smash’ |

(16) Hungarian (Horvath and Siloni 2011a)⁵

| | morphology | transitive | intransitive |
|----|--------------|---------------------------|--------------------------------|
| a. | equipollent | <i>szár-ít</i> ‘dry’ | <i>szár-ad</i> ‘dry’ |
| b. | equipollent | <i>zsugor-ít</i> ‘shrink’ | <i>zsugor-od(-ik)</i> ‘shrink’ |
| c. | equipollent | <i>olv-aszt</i> ‘melt’ | <i>olv-ad</i> ‘melt’ |
| d. | transitive | <i>fagy-aszt</i> ‘freeze’ | <i>fagy</i> ‘freeze’ |
| e. | intransitive | <i>tör</i> ‘break’ | <i>tör(-ik)</i> ‘break’ |

3. Reviewing the evidence for decomposition

This section reexamines the diagnostics for decomposition presented in section 2.2.

3.1 Partway

As discussed in section 2.2.1, if Pykkänen’s (2008) Adjective-Res generalization arguing that RES (resultant state) modifiers can also modify adjectives is correct, then it provides support for her claim that these modifiers detect a RES constituent in the decomposed VP. Under inspection, however, this generalization turns out to be untenable.

On the one hand, the adverb *again*, which is argued unanimously by decomposition proponents to be able to modify either CAUSE or RES, fails to modify adjectives, as observed by Pykkänen herself:⁶

- (17) a. *the again open door
 b. ??the open again door (Pykkänen 2008: 112 (69b))

On the other hand, Potashnik (forthcoming) observes that various adverbs can modify the relevant adjective, although they fail to modify the resultant state. Thus, for instance, the temporal adverb *recently* can modify the adjective *open* (18a). But when it modifies the transitive verb *open*, it

⁵ The suffix *-ik* is in parentheses as it appears only in (a subset of) third person singular present tense forms (which happens to be the citation form of verbs). It is not a productive affix; its distribution is synchronically not fully predictable (Horvath and Siloni 2011a).

⁶ Pykkänen (2008) observes that the adverb *once-again* can modify adjectives. But this, of course, is a different adverb.

cannot refer to RES; it must modify the whole event of opening. (18b) cannot mean that John, sometime not necessarily recently, caused the door to be recently in an open state. In contrast, in the periphrastic causative construction, *recently* can modify the resultant state: (19) can have the reading in which the causing event was not recent, but the door was in an open state recently.

- (18) a. the recently open door. (Embick 2004:357 (5a))
 b. John opened the door recently.

- (19) John caused the door to be open recently / recently open.

In sum, the Adjective-Res generalization does not hold, and consequently does not constitute evidence that adverbials such as *partway* indeed detect the RES constituent of the decomposed VP.

3.2 *Again*

Kempson (1977) rejects the claim that *almost* involves structural ambiguity, showing that the meanings it allows do not obey the parallelism requirement that ellipsis constructions impose on structural ambiguity. Horvath and Siloni (to appear; H&S) show that the same is true for *again*. Let us review this argument, illustrating it with regard to *again*. Recall that an elided sentence must be structurally parallel to its antecedent sentence (Sag 1976, Williams 1977, Fox 1995, 2000). For example, the sentence in (20a) is structurally ambiguous: either the PP *with a stick* is dominated by the embedded VP, modifying *walk*, or it is outside the embedded constituent, dominated by the higher VP, modifying the causing eventuality (*make*). In the ellipsis construction (20b), this structural ambiguity is preserved, but constrained by the parallelism requirement that both the antecedent and elided sentences involve the same structure and therefore the same interpretation, both matrix construal or both embedded construal for the PP.

- (20) a. Max made the patient walk with a stick.
 b. Max made the patient walk with a stick and so did Felix.

Applying the ellipsis test to sentences involving *again*, we should be able to decide whether or not the meanings available for (13) repeated as (21) constitute a case of structural ambiguity.

- (21) Bill opened the door again.
 i. Bill did it again. Presupposes: Bill had done it before. (repetitive)
 ii. The door is in an open state again. Presupposes: The door had been open before. (restitutive)

H&S suggest to test this using the scenario in (22) described by Paul, a nosy neighbor of John and Bill, who had to report their movements this morning to the police. Paul's last (italicized) sentence is an acceptable ellipsis sentence, in which *again* can only have the restitutive reading in the antecedent sentence, although it has the repetitive reading in the elided sentence. This would be unexpected if the two readings resulted from structural ambiguity, given the parallelism requirement exhibited by ellipsis constructions. In the (b) version, *again* has the restitutive reading in the elided sentence, and the restitutive in the antecedent sentence, showing that it is immaterial whether the repetitive meaning or restitutive one is associated with the antecedent.

- (22) a. Paul: "This morning I saw John closing his door, which was installed wide open yesterday and left open since. When closing it, he must've heard that Bill, his neighbor next door, opened his door briefly to pick up the newspaper. *Afterwards John opened the door again and so did Bill.*"
- b. "...*Afterwards Bill opened the door again and so did John.*" (H&S: (22))

The behavior of the ellipsis in (22) is clearly different from ellipsis in cases involving structural ambiguity such as (20). However, the test here involves subtle judgments, which manifest some cross-speaker variation. As pointed out by H&S, the restitutive meaning of *again* in (22) is entailed by its repetitive meaning. Consequently, although the context establishes that Bill had opened the door once before and then repeated the action, there still might be room for speakers to ignore the repetitive nature of Bill's action, while judging the italicized elliptical sentence, thus focusing on Bill as having caused a second occurrence of the door being in an open state. To get a reliable judgment for (22), speakers must be sure to keep apart the two potential meanings. This makes judgments more difficult, and the validity of the argument less unequivocal. However, there are additional observations that cast doubts on the claim that the two interpretations of *again* result from structural ambiguity, as discussed directly.

The repetitive-restitutive phenomenon is observed not only with achievement verbs participating in the inchoative alternation, but also with (agentive) accomplishment predicates. Consider the activity verb *dig*. In (23), together with the delimited object *the cave*, it describes an accomplishment comprising the resultant state of being dug. This is shown by the fact that the addition of an adverb modifying telic eventualities (the *in*-phrase) is felicitous (23a). H&S observe that *dig* allows a restitutive reading of *again* (23bii), in addition to the repetitive one (23bi), as shown by the scenario in (24).

- (23) a. They dug the cave in an hour. After that, the cave was dug.
- b. They dug the cave again.
- i. They did it again. (repetitive)
- ii. There was a cave again. (restitutive)

- (24) Story tellers used to meet every year in a huge natural cave in Mount Ida for a storytelling festival. Ten years ago the cave collapsed. The locals dug the cave again and intend to renew the tradition. (H&S: (29-31))

Examining further the interpretation of *again* in (24), it becomes clear that the adverb here does not even refer to the resultant state of the act of digging. The cave was a natural cave that had never been dug before the mentioned locals dug it. Nonetheless, the adverb can have the restitutive reading. In fact, what the adverb refers to in (24) is the state in which there is some underground space in the mountain large enough for humans to enter. It does not refer to the 'dug state', but to the existence of a cave, and this cannot be the result of modification of the resultant state constituent. In sum, *again* here refers to the recurring state in which there is a cave in Mount Ida⁷, not specifically to the resultant state of the activity of digging.

⁷ Indeed the restitutive reading of (23b) can be paraphrased using the indefinite *a cave*, as in (23ii).

Moreover, the restitutive and repetitive ambiguity is not systematically available. This per se casts doubt on a decompositional analysis of the ambiguity. Thus, for instance, Chierchia and McConnell-Ginet (1990:359) observe that the restitutive reading is not attested with the verb *clean*. In the scenario in (25a), (25b) would not be felicitous, despite the fact that *clean* can certainly have a telic reading, where the activity of cleaning resulted in a clean state of the jacket, as shown by the felicitous addition of the *in*-phrase (25c).

- (25) a. John bought a new jacket in a clean state which had never been cleaned before; when it got dirty with use, he cleaned it.
 b. John cleaned the jacket again.
 c. John cleaned the jacket in an hour.

It is worth noting that a purely decompositional analysis of the ambiguity of *again* seems untenable also independently of the inchoative alternation. Consider the double object construction. The construction gives rise to the repetitive versus restitutive readings, as illustrated with *give* in (26).

- (26) Mary gave John the book again
 i. Mary did it again. Presupposes: Mary had given him the book before. (repetitive)
 ii. John has the book again. Presupposes: John had had the book before. (restitutive)

Since Larson's (1989) work, the construction has been standardly analyzed as involving a layered VP. Following ideas by Green (1974) and Kayne (1984), Beck and Johnson (2004) assume that this layered structure instantiates event decomposition into a CAUSE constituent and a HAVE constituent, which expresses the resulting possession relation between two DPs, *John* and *the book*, as schematized in (27) (irrelevant details omitted). Thus, *Mary gave John the book* is underlyingly 'Mary CAUSE John HAVE the book'. In such a structure, the interpretations that *again* yields can be the result of the different structural positions that *again* can occupy: if it is attached to the lower constituent, modifying HAVE, we get the restitutive meaning (26ii): John has the book again. If it is attached to the higher constituent, modifying CAUSE, then Mary did it (the giving) again (the repetitive reading (26i)).

- (27) a. ..._{[vP-Cause} Mary give [_{HaveP} John the book]]

As explained, the structural account of the interpretations that *again* triggers relies on the assumption that the adverb modifies a syntactic constituent: in this case, the higher, CAUSE constituent (Mary caused/did it again (26i)), or the lower, HAVE (resultant state) constituent, which expresses the possession relation between John (the goal-possessor) and the book (the possessee) (John has the book again (26ii)). However, Potashnik (forthcoming) shows that other verbs describing (some sort of) possession do not lend themselves to a structural analysis of the ambiguity of *again*. Specifically, these verbs allow the restitutive reading although the possessor does not form a syntactic constituent with the possessee. If the two are not part of the same syntactic constituent, then there could be no (*have*-type) constituent there that *again* could modify to yield the restitutive reading. (28) includes examples where the subject is an external argument – as can be easily shown by the fact that these verbs allow passivization – and thus does not form

a constituent with the possessee, which *again* could modify.⁸ Nonetheless the sentences have a restitutive reading, just like the double object construction. (Subject and possessee are boldface.)

- (28) a. **Sandy** grabbed / captured / caught **the ball** again.
b. **The museum** acquired **the painting** again.

(Potashnik (forthcoming): Ch.4 (30a-b))

Finally, it must be noted that the accessibility of the repetitive versus restitutive readings differs sharply and systematically. Across the board, the restitutive reading of *again* is much more difficult for speakers to access, and often can be induced only by providing an explicit explanation of the relevant state of affairs. It is also (at least) hard to find it in corpora. An informal search of *open again* in the Corpus of Contemporary American English has yielded no instance of the restitutive reading. This is quite unexpected under a structural account of the ambiguity of *again*.⁹ In sum, the above observations cast serious doubt on the claim that the repetitive-restitutive ambiguity associated with *again*, and its counterparts in other languages, provides evidence for the syntactic decomposition of lexical verbs.

3.3 Temporal *for*-phrases

Exploration into the interpretation of *for*-phrases raises doubts as to the reliability of the *for*-phrase argument, too. Recall that the ‘decomposition claim’ is that the *for*-phrase detects a resultant state constituent in the structure of change of state verbs, as it can modify it the same way it modifies states denoted by adjectives. A closer investigation reveals that the *for*-phrase in such sentences does not modify a pure resultant state, unlike with adjectives. If so, then it is not the case that its interpretation can be straightforwardly derived from its structural attachment to a resultant state constituent. As will be clear below, its scope is wider than the resultant state; in other words, it does not detect a resultant state constituent, and cannot serve as evidence for its existence. The *for*-phrase is, in fact, lexically ambiguous, depending among other things on the lexical aspect of the predicate.

First, Horvath and Siloni (to appear) observe that the alleged resultant state interpretation of the *for*-phrase imposes a planned, intentionally delimited action on the part of the Agent. That is, the *for*-phrase is not interpreted as straightforwardly describing the temporal duration of the resultant state. Thus, with the accomplishment predicates in (29a,c) an intentional interpretation is odd since it is not normal to clean or dry something with an intention for the cleaned/dried state to end in a certain period of time. Hence, the resultant state reading (of the room being clean, the towel being

⁸ As observed by Potashnik (forthcoming), these structures cannot be covert double object constructions hosting a PRO coindexed with the subject, in the specifier of HaveP (as in (i)). Under such an analysis, double object verbs would be predicted to allow a reflexive reading based on the same structure (specifier of HaveP hosting a PRO coindexed with the subject): ‘*John gave the ball.’ with the intended meaning that John gave himself the ball.

(i) [_{VP-Casue} John_i grabbed [_{HaveP} PRO_i the ball]].

⁹ Beck, Berezovskaya and Pflugfelder (2009) report that the restitutive use of *again* was more common in 19th century English, arguing that English is undergoing a diachronic change. They associate the change with a structural parameter specifying whether a particular adverb can modify phrases headed by a trace or requires an overtly realized predicate. But is such a parameter plausible? Are parameters that regulate adverbial modification in accordance with phonological realization plausible? As noted by H&S, the observed variation would be natural under accounts assuming lexical ambiguity for *again* (e.g. Fabricius-Hansen 2001), or semantic underspecification-based accounts (e.g. Maienborn 2003).

dry) is infelicitous. In contrast, when the corresponding state is denoted by an adjective, its modification is entirely acceptable (29b,d).

- (29) a. *?I cleaned the room for a day.
Intended meaning: I cleaned the room so that it will be clean for a day.
b. The room was clean for a day.
c. *?I dried the towels for a few days.
Intended meaning: I dried the towels so that they will be dry for a few days.
d. The towels were dry for a few days. (H&S: (35-36))

Horvath and Siloni show that in periphrastic causative constructions, modification of the embedded adjective by a *for*-phrase is possible (30b) (in the appropriate context), unlike modification of the resultant state of the corresponding transitive (30a). In (30a) modification of the resultant state is impossible because our world knowledge dictates that it is odd/impossible to plan the period of time for which the towels will remain dry. (30b) is acceptable because here the *for*-phrase specifies the period of time during which the towels were dry, independently of the intention of the Agent.

- (30) a. *I dried the towels for (at least) a few days, by storing/hanging them in a well-ventilated area of the house.
Intended meaning: I dried the towels so that they will be dry for a few days.
b. I caused the towels to be dry for (at least) a few days, by storing/hanging them in a well-ventilated area of the house. (H&S: 37))

According to Horvath and Siloni, the same can be shown also for achievement verbs such as *open* (one of the well-known verbs used for advancing syntactic decomposition). For instance, while (30) is fully acceptable, let us consider it in a context that eliminates the interpretation of the Agent having planned the specified temporal limitation (31). As in the previous examples, it turns out that the sentence permits no pure modification of the resultant state of the *opening* event (32a), in contrast with the corresponding adjective in (32b), and periphrastic causative (32c).

- (31) I opened the box for a few minutes/for a whole day.
- (32) Danny found the big wrapped box that contained the present his parents bought for his birthday. He immediately wanted to see what he was getting, so he opened the box. He took a look at the present, and intended to close the box and wrap it up right away, before anybody noticed. But then he was called to dinner, and later forgot about the open box and went to sleep. He remembered to close it only the following afternoon.
- a. # So Danny opened the box for a whole day (due to his forgetfulness).
b. So the box was open for a whole day (due to Danny's forgetfulness).
c. So Danny caused the box to be open for a whole day (due to his forgetfulness). (H&S: (39-40))

Given that the *for*-phrase describes the intention of the Agent with regard to the resultant state, it is not surprising that the period of time that it specifies does not have to be the actual period of time that the state lasted, although in the default case, it is. (33a) is not judged as contradictory; it

means: They opened the door with the intention of it being open for thirty minutes, but eventually the door was open for a shorter period of time. In contrast, when a periphrastic causative is used as in (33b), the *for*-phrase modifies the adjective (*open*), and thus specifies the actual period of time the state (of the door being open) lasted. Therefore, addition of an adjunct defining a different period of time results in a contradiction.

- (33) a. They opened the door for thirty minutes, but eventually it was open for less than twenty.
b. They caused the door to be open for thirty minutes, (#but eventually it was open for less than twenty).

Moreover, if Horvath and Siloni's observation is on the right track, it is expected that insertion of an inanimate subject in such contexts would be anomalous, as the intentional interpretation of the *for*-phrase when referring to the resultant state is incompatible with the inanimacy of the Causer. This is indeed so in (34), where the subject *wind* cannot have planned an open state lasting for a period of five minutes.

- (34) #The wind opened the door for five minutes.

Note that the 'volitional' participant whose intentions determine the period of time described by the *for*-phrase does not have to be an argument of the verb, as is shown by examples such (35). Here the cream was designed by some (unrealized) Agent to have an effect of lightening that lasts for a month.¹⁰

- (35) This cream lightens your hair for a month.

Moreover, the effect of the subject can also result from its intrinsic nature (whether planned or not), as shown by (36), in the simple past, where it is possible that the effect was not planned but did follow from the intrinsic nature of the cream/product.

- (36) a. This cream lightened my hair for a month.
b. The product reddened his face for a whole day.

A similar state of affairs seems to hold for subjects such as the sun or sunset, which cannot themselves have planned the temporal duration of the relevant state, nor could some implicated Agent do it (37). In these sentences, the event can have an effect predetermined by the nature of these natural forces or phenomena, such as the sun or the sunset. That is, in light of our experience and knowledge of the world, it can be predicted that the lake would remain unfrozen or the sky would remain red for a certain period of time after the sun (set) has brought about the resultant state, because we know that the state gradually fades away or changes back.

- (37) a. (?)The sun melted the frozen lake for three months-
b. (?)The sunset reddened the sky for a whole hour.

¹⁰ The relevant reading in (35-37) is that the *for*-phrase describes the duration of the effect of the completed process, not the duration of the activity.

Speakers tend to judge such predetermined readings as less acceptable than the intentional reading. Readers reluctant to accept the predetermined reading tend to associate the *for*-phrase with an intentional reading, when it refers to the resultant state of eventive verbs. The important observation here is that such examples, to the extent that they are possible, also do not involve pure modification of the resultant state.

In the case of an event of door-opening, it is senseless to attribute to a natural force not only an intention with regard to the resultant state, but also a predetermined effect of a certain temporal duration, which can be predicted. Hence, (34) is anomalous. Its anomalousness shows that the *for*-phrase does not purely modify the resultant state of the decomposed VP. If the resultant state were a syntactic constituent, the *for*-phrase should be able to have scope over the pure state just like it is possible with adjectives (11a, 32b, 33b).

In sum, *for*-phrases are ambiguous. With statives (states or activities) a *for*-phrase describes pure temporal duration, as in (11). When referring to the resultant state of eventive predicates (achievements or accomplishments), the *for*-phrase has an intentional (or a predetermined) reading. The minimal pair in (38) reflects this ambiguity. In (38a) the predicate is an adjective, while in (38b), it is an inchoative (unaccusative) verb. Neither sentence includes a Causer. When the *for*-phrase modifies the adjective (38a), it straightforwardly modifies the temporal duration of the state denoted by the adjective. But when the predicate is eventive as in (38b), we understand that the relevant door is automatic, programmed to be open for a period of ten minutes. That is, the duration of the opening is understood to have a planned basis (in the mechanism of the door). This is why the actual period of time of opening can be different than the period described by the *for*-phrase in the latter case (39b), but not in the former (39a).

- (38) a. The door was open for ten minutes.
 b. The door opened for ten minutes.

- (39) a. The door was open for ten minutes (#but eventually it was open for more than twenty).
 b. The door opened for ten minutes, but eventually it was open for more than twenty.

Finally, in Hebrew, the canonical preposition introducing the pure temporal modification (40) is different than the one introducing the intentional (and predetermined) reading (41). Moreover the pure temporal modification can be bare, without the introducing preposition, while the intentional and predetermined readings cannot. This reinforces the present claim that these are different interpretations. Modification of the resultant state is not pure temporal modification of a state.^{11,12}

- (40) a. ha-xeder haya naki (be-mešex) xameš ša'ot.¹³

¹¹ Notational abbreviations used henceforth: ACC=accusative, CAUS=causative, DEF=definite, DAT=dative, DO=direct object, INSTR=instrumental, INTR=intransitive, NEG=negation, NOM=nominative, PERF=perfective, PL=plural, SG=singular, S=subject, SUBJ=subjunctive, TRANS=transitive, UNACC=unaccusative.

¹² Berit Gehrke (p.c.) points out that in German too the two meanings of the temporal *for*-phrase are expressed by means of two different prepositions: *zwei Stunden lang* 'two hours long' for the pure temporal modification, and *für zwei Stunden* 'for two hours' for the 'resultant state' reading.

¹³ The *be-meshex* 'in-duration' phrase can also modify the activity ingredient of 'clean' in (i):
 (i) hu nika et ha-xeder (be-mešex) xameš ša'ot.

- the-room was clean (in-duration) five hours
 ‘The room was clean (in-duration) five hours.’
- b. hu ca’ad (be-mešex) xameš ša’ot
 he walked (in-duration) five hours
 ‘He walked for five hours.’
- (41) a. hu patax et ha-delet *(le-/le-mešex) xameš ša’ot.
 he opened ACC the door (for-/for-duration) five hours
 ‘He opened the door for five hours.’
- b. ?ha-šemeš hifšira et ha-agam ha-kafu *(le-/le-mešex) šloša xodašim.¹⁴
 the-sun melted ACC the lake the-frozen (for-/for-duration) three months
 ‘The sun melted the frozen lake for three months.’

I conclude that there is no evidence for syntactic decomposition of the members of the inchoative alternation. Section 5.1 will shed more light on the morphological facet of the alternation (briefly discussed in section 2.3). The next section presents new data involving French complex predicates; these data further points to the direction of ‘no decomposition’.

4 French: Overt complex predicates

The members of the inchoative alternation can have overtly complex counterparts. This section shows that the latter differ from the former in ways unexpected under decompositional approaches. Consider the French complex constructions in (42a-b), which are overtly composed of a CAUSE/BECOME constituent and a resultant state constituent. Their simplex counterparts, members of the inchoative alternation, are given in (43a-b), respectively. Note that French morphologically marks the intransitive member (43b) of the inchoative alternation, never the transitive alternate (certain pairs are not marked at all, and for certain intransitives, the marking is optional¹⁵). The marker is the so-called reflexive clitic, which appears also on reflexive verbs, reciprocal verbs, middles and certain passives. I resume discussion of the morphological aspect of the alternation in section 5.1.

- (42) a. Mon livre rend ta valise lourde.

he cleaned ACC the-room (in-duration) five hours
 ‘He cleaned the room for five hours.’

In colloquial Hebrew, *le-/le-meshex* (‘for-/for-duration’) is sometimes (marginally) possible also with states, especially to emphasize that the state held less than expected.

- (i) ha-xeder haya naki le-/le-mešex xameš ša’ot bilvad.
 the-room was clean for-/for-duration five hours only
 ‘The room was clean only for five hours.’

¹⁴ In Hebrew too speakers judge the predetermined reading (41b) as less acceptable than its intentional counterpart (41a).

¹⁵ Labelle (1992) and Labelle and Doron (2010) claim that the presence vs. absence of morphological marking goes along with differences in meaning. Martin and Schäfer (2013), in contrast, argue that most of these meaning differences are either not existent or idiosyncratic, and therefore cannot be generalized to the presence vs. absence of morphological marking, which makes a structural explanation of these meaning differences unfeasible. To the extent that meaning aspects can be robustly associated with either marked or unmarked unaccusatives, this holds only for verbs allowing optional marking.

- my book makes your suitcase heavy
 ‘My book makes your suitcase heavy.’
- b. Ma valise devient lourde.
 my suitcase becomes heavy
 ‘My suitcase becomes heavy.’
- (43)a. Mon livre alourdit ta valise.
 My book makes.heavy your suitcase
 ‘My book makes your suitcase heavy.’
- b. Ma valise s’alourdit.
 my suitcase SE makes.heavy
 ‘My suitcase becomes heavy.’

The resultant state (‘heavy’) in the complex constructions (42) can be easily referred to by a pronominal clitic, *le (l’)* ‘it’ in boldface in (44-45). The simplex versions (members of the inchoative alternation) disallow it (46-47), further reinforcing the doubt as to why assume they involve a resultant state constituent if this constituent is undetectable by syntactic diagnostics.

- (44) A: Mon livre rend ta valise lourde.
 my book makes your suitcase heavy
 ‘My book makes your suitcase heavy.’
- B: Je ne crois pas qu’elle **le** soit.
 I NEG think NEG that she it be.SUBJ
 ‘I don’t think it is.’
- (45) Je crains toujours que ma valise devienne lourde, mais en fait elle ne l’est jamais.
 I fear always that my suitcase becomes.SUBJ heavy but in fact she NEG it is
 never
 ‘I always fear that my suitcase becomes heavy, but in fact it never does.’
- (46) A: Mon livre alourdit ta valise.
 my book makes.heavy your suitcase
 ‘My book makes your suitcase heavy.’
- B: *Je ne crois pas qu’elle **le** soit.
 I NEG think NEG that she it be.SUBJ
 Intended meaning: ‘I don’t think it is.’
- (47) *Je crains toujours que ma valise s’alourdisse, mais en fait elle ne l’est jamais.
 I fear always that my suitcase SE makes.heavy.SUBJ, but in fact she NEG it is
 never
 Intended meaning: ‘I always fear that my suitcase becomes heavy, but in fact it never does.’

Once again there is no positive evidence for the presence of a resultant state constituent.

Moreover, if the transitive member of the inchoative alternation (48a) has the same underlying structure as the ‘*rendre* ADJECTIVE’ (‘make ADJECTIVE’) complex in (49a), it is surprising that only the former participates in the inchoative alternation (48b), but not the latter (49b). In other words, it is unclear why ‘*rendre* ADJECTIVE’ does not have an intransitive, unaccusative (inchoative) version.¹⁶ After all, it satisfies the conditions characterizing the alternation, i.e., having a Cause external role (realizable as Agent, natural force or Instrument), and being a change of state predicate, just like its simplex counterpart. The same is illustrated by an additional pair in (50-51). The simplex form *améliorer* ‘improve/ameliorate’ in (50a) has an intransitive, unaccusative alternate (50b), but its complex counterpart (51a) does not (51b).

- (48) a. Cela alourdit ta valise.
 this makes.heavy your suitcase
 ‘This makes your suitcase heavy.’
 b. Ta valise s'alourdit.
 your suitcase SE makes.heavy
 ‘Your suitcase becomes heavier’
- (49) a. Cela rend ta valise lourde.
 this makes your suitcase heavy.
 ‘This makes your suitcase heavy.’
 b. *Ta valise se rend lourde.
 your suitcase SE make heavy
 Intended meaning: ‘Your suitcase becomes heavy.’
- (50) a. L'engrais améliore la terre arable.
 the fertilizer improves the land arable
 ‘The fertilizer improves the arable land.’
 b. La terre arable s'améliore.
 The land arable SE improves
 ‘The arable land improves.’
- (51) a. L'engrais rend la terre arable meilleure.
 the fertilizer makes the land arable better
 ‘The fertilizer makes the arable land better.’
 b. *La terre arable se rend meilleure.
 the land arable SE makes better
 Intended meaning: ‘The arable land improves.’

Crucially, the complex ‘*rendre* ADJECTIVE’ allows the *se* morphology by means of which it straightforwardly forms reflexive and reciprocal predicates, as in (52b). (51b) and (52b) constitute a minimal pair. (51b) is ungrammatical as (51a) does not have an unaccusative counterpart and a reflexive/reciprocal reading is ruled out by the inanimacy of the subject *la terre* ‘the soil’. (52b)

¹⁶ The overt complex construction in (42b) uses the verb *devenir* ‘become’; it is not the intransitive alternate of *rendre* ‘make’.

does not have an unaccusative reading either (that is, it cannot mean ‘human beings get better’), but it is grammatical owing to the fact that its animate subject allows a reflexive/reciprocal reading.

- (52) a. La situation rend les hommes meilleurs.
 the situation makes the men better
 ‘The situation improves people.’
 b. Les hommes se rendent meilleurs.
 the men SE make better
 ‘Human beings improve themselves/each other.’

Notice that *se* is a morphological marker that forms unaccusative, reflexive, and reciprocal predicates (among others). That is, (52b) undoubtedly involves a reflexive/reciprocal verb morphologically marked by *se*. The clitic is not an anaphoric object of a transitive verb, as shown by abundant evidence (see Dimitriadis 2004, Reinhart and Siloni 2005, Siloni 2012). Thus, for instance, in comparative ellipsis constructions, the comparative remnant (in brackets) in (53) must refer to the subject of the antecedent clause (53i). Interpretation (53ii) is impossible because there is no object in the antecedent, *se* being a morphological marker, not an anaphoric direct object. This contrasts with sentences involving a pronominal object clitic as in (54), which are ambiguous because the remnant can either refer to the subject (54i) or to the object (54ii) of the antecedent clause.

- (53) Jean se rend triste plus souvent que [Marie].
 Jean SE make sad more often than Marie
 (i) ‘Jean makes himself sad more often than Marie makes herself sad.’¹⁷
 (ii) Impossible reading: ‘Jean makes himself sad more often than he makes Marie sad.’
- (54) Jean le rend triste plus souvent que [Marie].
 Jean him make sad more often than Marie
 (i) ‘Jean makes him sad more often than Marie makes him sad.’
 (ii) ‘Jean makes him sad more often than he makes Marie sad.’

In sum, the problem is: Why can the ‘*rendre* ADJECTIVE’ complex form a reflexive or a reciprocal predicate, but not an unaccusative one, although it allows the relevant morphology and fulfils the conditions for unaccusative formation? Why does it behave differently than the simplex verb? Under decompositional approaches, the lack of unaccusative alternate for the ‘*rendre* ADJECTIVE’ complex is entirely unexpected, as they assign the same syntactic structure to both simplex and complex forms. Section 5 is devoted to discussing the inchoative alternation in comparison to additional alternations labeled here the causative alternations. This section will offer a straightforward account of the above French data, an account that does not assume decomposition

¹⁷ In (53i) *Marie* (subject) must be interpreted as the Agent of a reflexive action: Marie makes herself less often sad than Jean makes himself sad. This is the so-called sloppy reading. An additional subject-reading – unavailable here – would be the one in (i) below, where *Marie* (subject) makes *Jean* (not herself) sad; this is the so-called strict reading. (53) disallows this reading for the same reason it disallows (53ii): The reading requires reference to the object (as is clear from the indices in (i) below), which is not present in the structure.
 (i) Jean_i makes himself_i sad more often than Marie makes him_i sad.

(section 5.3). Prior to that, however, a second look at the morphological facet of the inchoative alternation is in order.

5. The Inchoative alternation vs. the Causative alternation

5.1 Morphology

As already noted in section 2.3, in certain languages, e.g., Japanese and Hungarian, the morphological marking of the inchoative alternation tends to be equipollent; the markings thus can be taken to be morphological reflexes of the CAUSE/BECOME head. However, the equipollent morphology is not systematic; the morphological marking of the alternation is, in fact, unpredictable. Alongside the equipollent morphology, the marking in Japanese and Hungarian can also occur on one of the alternates exclusively, as shown in tables (15-16) in section 2.3. Moreover, it is well known that other languages, e.g., the Romance and Slavic families, Hebrew and Arabic, mark the alternation mostly by intransitivizing morphology (which typically also appears on reflexive and reciprocal verbs). This is illustrated by French, where the inchoative tends to be marked, by the clitic *se* (55), and Hebrew, where the inchoative tends to appear in the hiCaCeC (or niCAaC) verbal template (56). (*Labile* morphology means identical marking or no marking on both alternates).

(55) French

| | morphology | transitive | intransitive |
|----|------------------------|-------------------------------|----------------------------------|
| a. | intransitive | <i>alourdir</i> ‘make.heavy’ | <i>s'alourdir</i> ‘become.heavy’ |
| b. | intransitive | <i>développer</i> ‘develop’ | <i>se développer</i> ‘develop’ |
| c. | intransitive | <i>améliorer</i> ‘improve’ | <i>s'améliorer</i> ‘improve’ |
| d. | intransitive, optional | <i>casser</i> ‘break’ | <i>(se) casser</i> ‘break’ |
| e. | labile | <i>descendre</i> ‘bring.down’ | <i>descendre</i> ‘go.down’ |

(56) Hebrew¹⁸

| | morphology | transitive | intransitive |
|----|--------------|-------------------------|---------------------------|
| a. | intransitive | <i>kivec</i> ‘shrink’ | <i>hikavec</i> ‘shrink’ |
| b. | intransitive | <i>pocec</i> ‘explode’ | <i>htipocec</i> ‘explode’ |
| c. | intransitive | <i>motet</i> ‘collapse’ | <i>himotet</i> ‘collapse’ |
| d. | transitive | <i>hikpi</i> ‘freeze’ | <i>kafa</i> ‘freeze’ |
| e. | labile | <i>hišxir</i> ‘blacken’ | <i>hišxir</i> ‘blacken’ |

Haspelmath's (1993) typological study of 31 verb pairs in 21 languages shows how variable the morphology of the alternation is within and across languages. Still, it is worth noting that the most common morphological pattern in his sample is the marking of the intransitive alternate. Following this pattern, one finds the marking of the transitive member, and then the equipollent marking. So, in fact, the morphological facet of the alternation does not provide support for syntactic decomposition.

¹⁸ The citation form of Hebrew verbs is third person singular past tense.

Alongside the inchoative alternation, Japanese and Hungarian (among other languages) show an additional productive causative alternation applying to transitive as well as to intransitive verbs, as illustrated in (57-58), respectively (the set is more limited in Hungarian, see section 5.4). Here the marking appears systematically on the causative alternate: *-(s)ase* in Japanese and *-(t)at/-(t)et* in Hungarian.^{19,20}

- (57) a. Hanako-wa Yoshi-o ik-ase-ta. (Harley 2008)
 Hanako-TOP Yoshi-ACC go-CAUS-PAST
 ‘Hanako made Yoshi go.’
 b. Toru-ga Yoko-ni hon-o yom-ase-ta. Hara (1999)
 Toru-NOM Yoshi-DAT book-ACC read -CAUS-PAST
 ‘Toru made/let Yoko read a book.’
- (58) a. Az edző ugrál-tat-ja Mari-t.
 the coach.NOM jump-CAUS-PRES.DEF.DO Mari-ACC
 ‘The coach makes Mari jump.’
 b. János meg-et-et-te Mari-val az almá-t.
 János.NOM P PERF-eat-CAUS-PAST.DEF.DO Mari-INSTR the apple-ACC
 ‘János made Mari eat the apple.’
 (Horvath and Siloni 2011a: 663 (9), 679 (42a))

Haspelmath (1993) observes that this alternation does not show morphological variation within and across languages. That is, such pairs are never marked by equipollent, intransitive or labile morphology. I refer to this alternation as the causative alternation to distinguish it from the inchoative one. Studies, whether decompositional or not, acknowledge that these are distinct alternations (Horvath and Siloni 2011a, Levin and Rappaport 1995, Pytkänen 2008, Reinhart 2002, to name just a few). The next section further elaborates on the distinction between the two alternations.

5.2 The inchoative alternation vs. the causative alternation

The inchoative alternation seems to be universal, involving pairs whose transitive alternate has a Cause external role. This type of alternation appears with ‘transitive unaccusative’ pairs, but also with the so-called ‘object-Experiencer (59a) and subject-Experiencer’ (59b) pairs. Pesetsky (1995) and Reinhart (2000, 2002) show that the subject-Experiencer alternates (59b) map their Experiencer role externally, unlike their object-Experiencer counterparts. In this respect, they differ from unaccusatives, which map their subject as an internal argument.

¹⁹ *-(s)ase* has an allomorph *-(s)as*. Hara (1999) claims that the difference between *-(s)ase* and *-(s)as* is sociolinguistic; *-(s)ase* is considered more formal. Miyagawa (1989) points out that the difference is regional. The initial [s] in both is deleted if the last segment of the base is a consonant.

²⁰ As noted by Horvath and Siloni (2011a), the vowel alternation, *a* vs. *e*, in the Hungarian causative affix is a manifestation of the vowel harmony rule of Hungarian. The allomorphy involving the presence vs. absence of the initial segment [t] in the affix, on the other hand, is not fully predictable based on properties of the base. Although there is no known productive phonological process that can determine the choice of the allomorph for each verb, some strong tendencies are detectable: for instance, monosyllabic base verbs tend to take the *-at/-et* allomorph, while polysyllabic ones mostly take *-tat/-tet*.

- (59) a. Le docteur / la tempête/ la lettre a irrité Marie. (French)
 the doctor/ the tempest / the letter has irritated Marie
 ‘The doctor/tempest/letter irritated Mary.’
 b. Marie s’est irritée.
 Marie SE is irritated
 ‘Marie got irritated.’

The causative alternation, in contrast, is not universal. French, for instance, does not have causative verbs of the Hungarian or Japanese type. French uses periphrastic causative constructions instead (60).

- (60) a. Ils font courir Marie.
 they make run Marie
 ‘They make Marie run.’
 b. Ils font signer le contrat à Marie.
 They make sign the contract to Marie
 ‘They make Marie sign the contract.’

Further, the causative alternation splits into two distinct types. In Japanese, (productive) causative verbs are composed of two predicates realized as syntactic heads, and correspondingly have two subjects, as shown by a battery of diagnostics of the type mentioned in (62). The syntactic structure of these causatives is depicted in (61) in rough lines (VP stands for verbal projection, abstracting away from its precise ‘size’; S for subject).

(61) ...[CauseP S V_{Cause} [VP S V]

- (62) Diagnostics for decomposition of Japanese causatives
 a. Sentential negation is ambiguous, having scope either on CauseP or on the embedded verbal projection (Hara 1999).
 b. Agent oriented adverbs induce ambiguity: They can refer either to the higher Agent or to the embedded one (Shibatani 1972, Matsumoto 1998, Horvath and Siloni 2011a).
 c. Subject control: Adjuncts requiring subject control detect two subjects: the causer and the causee (Dubinsky 1994; Harley 2008; Terada 1991).
 d. Condition B: Pronouns in the object position of the embedded VP can be co-referential with the subject of CauseP because the latter constitutes a distinct binding domain (headed by a distinct predicate) than their own (Miyagawa 1984, Hara 1999).

In sum, there is robust evidence that Japanese causatives are composed syntactically. Harley (2008) and Horvath and Siloni (2011a) show that applying these diagnostics to the transitive member of the inchoative alternation in Japanese detects neither two predicates nor two subjects.

Horvath and Siloni (2011a) show that the same diagnostics also fail to detect two predicates and two subjects in Hungarian causatives (see op. cit. for the data). Nonetheless the split into a causative alternation and an inchoative one is real in Hungarian too, as shown by Horvath and

Siloni (2011a) (the same split is found in Finnish, as described by Pylkkänen 2008²¹). Thus, for example, the causative member of the causative alternation in Hungarian has an Agent external role, while the transitive member of the inchoative one has a Cause. Further, the set of pairs appearing in the causative alternation is different from the set of pairs appearing in the inchoative one, as roughly summarized in (63); α represents the member of the alternation having fewer roles.

- (63) a. Causative alternation: α can be a transitive or an agentive intransitive.
b. Inchoative alternation: α can be an unaccusative or subject-Experiencer intransitive.

We observe then a three-way split within the set of verbal pairs whose two members differ mainly in that one of them has one more θ -role than the other. In addition to the inchoative alternation, there are two types of causative alternations: the Japanese type and the Hungarian (Finnish) type (Pylkkänen 2008, Horvath and Siloni 2011a, among others). The question is how these alternations are to be derived.

Pylkkänen (2008) suggests deriving the distinctions between the three alternations by structural means. Thus, according to her, the causative member of the alternation in each case embeds a projection of a different ‘size’. In the inchoative alternation, a resultant state root is the embedded projection. In Japanese causatives, the embedded projection is a verbal projection including the external argument (a phase). And in Finnish and Hungarian, it is a verb-selecting head, that is, the embedded projection is a verbal projection lacking an external argument. The proposal that the inchoative alternation involves a resultant state constituent has already been discussed in detail and rejected in section 3. Section 5.3 examines alternative analyses. The proposal that Japanese causatives involve syntactic decomposition (and two subjects) receives strong support, as just mentioned (62), and is commonly assumed. The remaining question is then how the Hungarian (Finnish) causative alternation should be analyzed. This is discussed in section 5.4.

5.3 The inchoative alternation

It has already been argued here that the members of the inchoative alternation are not syntactically composed. If the transitive member of the alternation included a (verbal) projection of its intransitive member, then syntactic tests would detect this projection, but they do not (section 2). If both members included a resultant state constituent, syntactic diagnostics would detect a resultant state constituent, but they do not (section 3). As decomposition cannot be detected by empirical tests, there is no reason to assume it.

What are the other options suggested in the literature for grasping the relationship between the members of the inchoative alternation? It has been proposed that the intransitive member is derived from its transitive alternate by a lexical operation eliminating the external argument (Levin and Rappaport Hovav (1995), Chierchia (2004), Koontz-Garboden (2009), Reinhart 2002, Horvath and Siloni 2011a, among others).²² There seems to be consensus that parallel reduction of the external

²¹ Indeed, Horvath and Siloni (2011a) report that Finnish causatives behave on a par with their Hungarian counterparts, acknowledging Aviad Eilam (p.c.) for the data.

²² Levin and Rappaport Hovav (1995) suggest an operation of lexical binding of the external role (which changes argument structure), Chierchia 2004, Koontz-Garboden (2009) suggest a reflexivization operation which reduces a syntactic argument but preserves a Cause operator in the lexical semantic representation, and Reinhart (2002) and Horvath and Siloni (2011a) suggest a lexical operation of decausativization, which reduces the Cause role altogether.

argument is impossible in syntax, as this component is standardly assumed to preserve thematic information. There is thus no proposal along these lines. It has also been proposed that both alternates are lexically derived from a common root. The question then is whether this base involves the complete argument structure (two roles, corresponding to the transitive member) or a minimal argument structure (one role, corresponding to the argument structure of the intransitive alternate). Let us refer to the former option as the ‘full base’ option. Note that under this option, the derivation of the intransitive alternate would involve reduction of the external role, while under the latter option, the derivation of the transitive would involve addition of that role.²³ Piñón (2001) puts forward a proposal along the former lines. Finally, it could also be suggested that the transitive alternate is derived by a lexical operation of addition of a role to its intransitive alternate (not to the base).

The questions then to be answered are the following: (i) Does the operation involve addition or reduction of a role? (ii) Is the input the base or one of the members of the alternation?

I believe reduction should be preferred to addition in the case of the inchoative alternation for the following reason. Recall the alternation is limited to pairs where the transitive alternate has a Cause role (indifferent with regard to mental state); it does not involve pairs where the external role of the transitive is an Agent. Horvath and Siloni (2011a) argue that there are good reasons to believe that this follows from a general cognitive principle (ban) that makes it impossible for the language faculty to disregard the feature [+human]. As a consequence of this cognitive ban, the formation of lexical entries cannot eliminate participants whose mental state is relevant to the eventuality. This means that if the inchoative alternation involves lexical reduction, it is straightforwardly explained why it can apply only to entries with a Cause role, and not to entries with an Agent.^{24,25}

The additional question is whether the input for lexical reduction is the transitive member or the full base. Piñón (2001) points out that a model assuming derivation from the full base succeeds in accommodating the variety of morphological reflexes of the inchoative alternation without

See Horvath and Siloni (2011b, 2013) and Beavers and Koontz-Garboden (2013a, 2013b) for a debate as to the nature of the lexical operation deriving the intransitive form.

²³ It is also possible that the base is bare and the derivation of the intransitive involves addition of the internal role and the derivation of the transitive involves addition of the internal and external roles. As will become clear shortly, I believe assuming reduction not addition is advantageous. Hence, I do not discuss this option.

²⁴ Horvath and Siloni (to appear) argue that independent evidence in support of this general ban can be found in the domain of idioms. The ban helps resolve the puzzle as to why human-denoting arguments are largely unattested in idioms. As observed by Nunberg, Sag and Wasow (1994): (i) Idioms describe abstract situations. (ii) Animates, more precisely, according to Horvath and Siloni, humans, being concrete entities, can hardly refer to abstract situations. It follows that human arguments do not participate in idioms, since on the one hand, they cannot describe abstract situations (which is required by idioms), and on the other hand, due to the proposed cognitive ban, their [+human] nature cannot be disregarded (deleted).

²⁵ Rappaport and Levin (2012), and Rappaport Hovav (2014) argue that a parallel effect can be obtained by arguing that the Cause role is added in syntax, limiting the addition of roles in the syntactic component to unspecified roles, in other terms, roles whose content is not lexically specified, such as the Cause, which can be interpreted as an Agent, natural force, or instrument. They are not explicit as to the precise syntactic structure to which this role is added. However, first and foremost, we have seen evidence against syntactic decomposition, whether the structure involves a Cause head embedding the intransitive verb or a resultant state constituent. Retreating to addition of a Cause role in the lexicon would pull the rug from under their account, as it will not explain why the transitive member must have a Cause role. As will be discussed in section 5.4, an Agent role can be added in the lexicon, as in the case of the Hungarian causative alternation.

outright contradicting any of the reflexes: Since both the transitive and intransitive involve derivation from the base, the appearance of a variety of reflexes is less surprising than it would be if the input were the transitive. Moreover, it is known that there are sporadic gaps in the alternation. Piñón notes that if the inchoative is not derived directly from the transitive verb, no air of paradox arises when the latter is missing, as there is no need to assume the derivation of (existing) verbs from nonexistent ones. Fadlon (2014), in contrast, reports a psycholinguistic study that provides support for the claim that the intransitive member is derived from its transitive alternate. This evidence, however, may be reconcilable with the full base approach. Due to space limitations, I will not elaborate on that any further here.

Under a lexical derivation of the intransitive member of the inchoative alternation, the French data presented in section 4 immediately follow. Thus, not only is there no test detecting the syntactic constituents assumed under decomposition, but more than that, there is positive evidence in favor of a lexical account because the latter, as is shown directly, can explain data that are unaccounted for under syntactic decomposition. Recall the ‘*rendre* ADJECTIVE’ complex does not have an intransitive alternate ((51) repeated in (64) below), unlike its simplex counterpart, which does ((50) repeated in (65)). This is straightforward under the present approach: Since the intransitive member of the alternation is derived in the lexicon, there is no way for the complex ‘*rendre* ADJECTIVE’ to have an intransitive (unaccusative) alternate, because this complex is formed in the syntax; it is not present in the lexicon and cannot undergo lexical operations.

- (64) a. L’engrais rend la terre arable meilleure.
 the fertilizer makes the land arable better
 ‘The fertilizer makes the arable land better.’
 b. *La terre arable se rend meilleure.
 the land arable SE makes better
 Intended meaning: ‘The arable land improves.’

- (65) a. L’engrais améliore la terre arable.
 the fertilizer improves the land arable
 ‘The fertilizer improves the arable land.’
 b. La terre arable s’améliore.
 The land arable SE improves
 ‘The arable land improves.’

Further, Reinhart and Siloni (2004, 2005), Siloni (2008, 2012), and Hron (2012) argue that reflexive and reciprocal verbs are formed in the syntactic component. If so, then the complex ‘*rendre* ADJECTIVE’ is expected to have a reflexive/reciprocal counterpart. This expectation is indeed borne out, as illustrated in section 4 by (52) (repeated as (66) below): (66b) has a reflexive/reciprocal reading.

- (66) a. La situation rend les hommes meilleurs.
 the situation makes the men better
 ‘The situation improves people.’
 b. Les hommes se rendent meilleurs.
 the men SE make better

‘Human beings improve themselves/each other.’

In short, not only does no diagnostic detect decomposition for the members of the inchoative alternation, but in addition a lexical derivation of the intransitive member of the alternation is advantageous because it can explain why the transitive member must have a Cause role, and why the ‘*rendre* ADJECTIVE’ (‘make ADJECTIVE’) construction does not have an unaccusative alternate. The next section discusses the two types of the causative alternation.

5.4 The Causative alternation

As mentioned in section 5.2, across languages, two types of productive causative verbs are attested. In Japanese, causative verbs include two predicates (the cause head and the base verb) in their syntactic structure and correspondingly two subjects (the causer and the causee), by a battery of diagnostics (see (62)). These very same diagnostics fail to detect two predicates in Hungarian and Finnish causatives. A straightforward conclusion seems to be that the latter causative verbs are not syntactically composed, unlike their Japanese counterparts. Indeed, Horvath and Siloni (2011a) suggest that they are formed by a lexical operation of causativization, which affects the argument structure of the causativized (base) verb: it adds an Agent, deagentivizing the Agent role of the base verb (when the latter has one).²⁶

However, it is also possible that Hungarian and Finnish fail the above diagnostics on different grounds. Let us go through the diagnostics mentioned in (62) and examine whether they can be derived in a different manner. First, negation in Hungarian and Finnish, unlike in Japanese (62a), disallows scope over the lower VP (Horvath and Siloni 2011a). Negation in these languages appears in a verb-external position; it is not an affix. It is thus possible that this is the reason why it is forced to have wide scope, over the whole causative verb, and cannot have narrow scope, over the base verb. Thus, the failure of Hungarian and Finnish causative verbs to exhibit ambiguity under negation is not an argument against decomposition.

Further, recall Pylkkänen (2008) suggests that Finnish causatives involve a cause head embedding a verbal projection that lacks an external argument, unlike Japanese. The causee, according to Pylkkänen, is not the subject of the embedded VP; rather, it is less agentive and introduced by a distinct head into the structure. It is then possible that Hungarian and Finnish causatives fail the other diagnostics in (62) due to the fact that the embedded verbal projection lacks a subject. This could be a possible translation of Horvath and Siloni’s account to a framework of syntactic decomposition. In other words, the phenomena that show that Japanese causatives are composed syntactically fail to appear with Hungarian and Finnish causatives just because the embedded verbal projection is subjectless (unlike in Japanese), not because it is not there at all.

Let us see whether this can indeed be an alternative account. Starting with Agent oriented adverbs, which cannot refer to the causee (unlike in Japanese (62b)). This can straightforwardly be attributed to the less agentive nature of the causee. Second, adjuncts requiring subject control detect only the causer, not the causee (unlike in Japanese (62c)). This can be so because the causee

²⁶ Following Reinhart (2002), Horvath and Siloni assume θ -roles are not atoms, but rather composed of two features: $\pm c$, i.e., \pm cause the event that the verb denotes, and $\pm m$, i.e., \pm mental state relevant to the event the verb denotes. Under such a framework, the agentive nature of a role can be straightforwardly modified via feature revaluation.

is not the subject of the lower VP, but introduced by a distinct head. Third, pronouns in the object position of the embedded VP are unable to corefer with the causer (unlike in Japanese (62d)). This again can result from the absence of a subject in the lower VP, which therefore does not constitute a binding domain for condition B; the whole sentence is the minimal domain where the pronoun must be free.

Thus, based on the above phenomena, it is impossible to decide between the two accounts: the lexical account, which rejects decomposition for Hungarian and Finnish causative verbs, and the decompositional account, which derives the above failures by severing the external argument from the lower VP. However, the interpretation of the adverb *again* (*megint* in Hungarian) with causative verbs does offer evidence against a decompositional account. Horvath and Siloni (2011a) observe that sentences of the types in (67) and (68) are unambiguous: each can only mean that János caused it again (call it the cause-repetitive reading). In both (67) and (68) the adverb *again* must have scope over the causing event, and cannot directly modify the writing of the letter and the singing, respectively. The scope of the adverb is unambiguous irrespective of whether it follows the verb as in (67) or precedes it as in (68).²⁷

(67) János ír-at-ott megint egy level-et a titkár-nő-vel.
 János.NOM write-CAUS-PAST.3SG again a letter-ACC the secretary-INSTR
 ‘János made the secretary write a letter again.’

(i) János did it again. (cause-repetitive)

(68) János megint énekel-tet-i az osztály-t.
 János.NOM again sing-CAUS-PRES.DEF.DO the class-ACC
 ‘János is making the class sing again.’

(i) János did it again. (cause-repetitive)

(Horvath and Siloni 2011a: 697 (75-76))

The reading where ‘again’ modifies the base verb is generally unavailable in Hungarian morphological causatives.²⁸ This is a state of affairs completely different from cases of structural ambiguity, where there are uncontroversially two distinct syntactic domains. Indeed, periphrastic (permissive) causatives in Hungarian allow an additional repetitive interpretation of *again*, as in (69), where either János did it again (i) or the secretary (ii).

²⁷ The sentences disallow a repetitive reading with regard to the lexical verb (‘write’, ‘sign’) independently of whether the causee is understood to be the one who repeated the action or previously it had been done by someone else.

²⁸ Horvath and Siloni (2011a) report that there can be found sporadic cases where presentation of a particular context seems to induce a repetitive interpretation for the base verb, such as for instance (i) used in the following context: The students read out their essays in class last Tuesday.

(i) Másnap új tanár tart-ot-ta az órá-t, és az megint
 next.day new teacher.NOM hold-PAST.DEF.DO the class-ACC and that.one again
 fel-olvas-tat-ta vel-ük a fogalmazás-uk-at.
 up-read-CAUS-PAST.DEF.DO INSTR-3PL the composition-POSS.3PL-ACC

‘The next day a new teacher taught the class, and he made them read out their essays again.’

Reading: The students did it again. (repetitive-reading out their essays)

- (69) János enged-ett a titkárnő-nek megint ír-ni egy level-et.
 János.NOM let-PAST.3SG the secretary-DAT again write-INF a letter-ACC
 ‘János let the secretary write a letter again.’
- (i) János did it again. (permissive causative-repetitive)
 (ii) The secretary did it again. (repetitive-writing)
 (Horvath and Siloni 2011a: 697 (77))

Likewise, Japanese productive causatives also freely allow the two repetitive readings, as they involve two syntactic predicates/domains.

- (70) sono bengosi-wa {thutatabi/ mata} John-ni keiyakusyo-ni
 The lawyer-TOP {again(formal)/again(colloquial)} John-DAT contract-DAT
 sain s-ase-ta.
 sign do-CAUS-PAST
 ‘The lawyer made John sign the contract again.’
- (i) The lawyer did it again. (cause-repetitive)
 (ii) John did it again. (repetitive-signing)

Horvath and Siloni (2011a) also show that the definition of the set of verbs that feed causative verb formation in Hungarian provides further support to the view that their formation is lexical. Roughly, causative verbs in Hungarian can be formed from transitive and unergative verbs (63a). In other words, verbs that have an external argument allow causativization. However, under closer inspection, it turns out that there is a subset of unergative verbs that cannot serve as input to causative verb formation. This subset cannot be defined in syntactic terms, as explained directly.

Unergative subject-Experiencer verbs such as *meglep-őd(-ik)* ‘get surprised’, *megije-d* ‘get scared’ or *felvid-ul* ‘cheer up’ fail to causativize, as illustrated in (71), although (i) unergatives causativize and (ii) other psych verbs, e.g., *megszeret* ‘PERF-love’ and *megutál* ‘PERF-hate’ do so, too. The set of subject-Experiencer verbs failing causativization have an external argument, as shown by Pesetsky (1995) and Reinhart (2000, 2002), based on diagnostics of internal arguments. Under decomposition, it is unclear what could prevent this set of unergatives from being embedded under a Cause head in syntax, in contrast with other unergatives, psych verbs and transitive verbs.

- (71) a. A vendégek meg-lep-őd-tek.
 the guests.NOM PERF-surprise-INTR-PAST.3PL
 ‘The guests got surprised.’
- b. *Mari {**meg-lep-őd-(t)et-te** a vendégek-et/
 Mari.NOM PERF-surprise-INTR-CAUS-PAST.DEF.DO the guests-ACC/
meglep-őd-(t)et-ett a vendégek-kel}.
 surprise-INTR-CAUS-PAST the guests-INSTR
 Intended: ‘Mari made the guests get surprised.’
 (Horvath and Siloni 2011a: 688 (56a), 689 (57a))

Importantly, these subject-Experiencer verbs have object-Experiencer alternates. The former merge the Experiencer role externally, while the latter map it internally. In contrast, the external role of psych verbs such as ‘love’ or ‘hate’, which do causativize, always merges externally, just like the external role of transitive verbs and Agentive unergatives. The syntactic component cannot single out the Experiencer role of the set of alternating subject-Experiencer verbs: In the syntactic component, it is external on par with the subject of transitive verbs and Agentive unergatives.

This distinction, however, between roles that are always external and those that alternate between external and internal mapping is grasped, independently of our concern, by the mapping system of Reinhart (2002) known as the Theta-system. Under the Theta-system, θ -roles are not atomic, but composed of features, which determine their interpretation and mapping onto syntactic structures. Roles that are always external are marked in the lexicon as such based on their feature composition. These are precisely the roles that make verbs eligible to feed causative verb formation in Hungarian. Other roles, such as the Experiencer role of the alternating subject-Experiencer verbs are not external by definition, they merge externally only in the absence of a role marked as external. Verbs with such a role fail to feed causativization.²⁹ The set, thus, is independently defined in lexical terms. This is straightforward under a lexical account of Hungarian causatives. The syntax, in contrast, does not see into the content of θ -roles: This lexical-semantic information is relevant for mapping and at the semantics. The content of roles (their feature composition) is standardly assumed to be illegible in the syntax, as there do not seem to be syntactic operations that are sensitive to it. If so, then, the input set cannot be defined in syntactic terms.

6. Conclusion

The paper deals with the syntactic representation of event structure. It reviews arguments presented in the literature for syntactic decomposition of events into their meaning ingredients, focusing on the members of the inchoative alternation. Step by step, the paper shows that none of the arguments for decomposition seem to genuinely detect the presence of the syntactic constituents assumed by decomposition. Further, the paper shows that not only does no diagnostic detect the assumed constituents, but in addition a lexical derivation of the intransitive member of the alternation is advantageous because it suggests an explanation as to why the transitive member must have a Cause role, and why the French ‘*rendre* ADJECTIVE’ (‘make ADJECTIVE’) construction does not have an unaccusative alternate. Finally, the paper discusses the distinctions between the inchoative alternation and the causative alternations exhibited by Hungarian and Japanese, and the distinctions between the latter two, concluding that only Japanese causatives deserve a decompositional account involving a cause constituent and an embedded verbal projection. Japanese causative verbs, then, are built in the syntax, but their Hungarian counterparts as well as the intransitive members of the inchoative alternation are lexical outputs. In other words, there is empirical evidence that the derivational load is not restricted to one component, but divided between the lexicon and the syntax. Readers may be uncomfortable with this conclusion, since it may seem that a model with a single derivational component for all types of predicates is preferable on simplicity grounds. Simplicity, of course, would play a role, if the competing theories were

²⁹ As mentioned in note 26, Reinhart (2002) suggests θ -roles are composed of two features: $\pm c$, i.e., \pm cause the event that the verb denotes, and $\pm m$, i.e., \pm mental state relevant to the event the verb denotes. Roles whose features are positively valued are always external and are lexically marked as such; roles whose features are negatively valued are internal and marked as such, and roles with both values can merge externally only if there is no role marked as external.

equally empirically adequate, but they are not. The decision regarding the component of formation of predicates is first and foremost an empirical issue, as Marantz (1997: 223), who defends a single generative engine model, also emphasizes: “the question is not which theory is simpler or more pleasing; the question is which theory is right.”

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