

Representing Causatives

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1. Introduction

Any theory about the basic elements of argument structure must take a stand on how the semantic and syntactic composition of causative predicates, such as the one in (1a), relates to that of their noncausative counterparts, (1b).

- (1) a. John melted the ice.
- b. The ice melted.

In this paper I consider three different approaches to this question and defend one of them. The approaches I discuss are all variations of the basic idea that causative predicates involve a causative head that is absent from the structure of the corresponding noncausative.¹ My aim here is to make a proposal about the argument structure of this causative head. Ideally, the argument structure would be uniform crosslinguistically. This in mind, I will first make a proposal for Japanese and Finnish, where empirical evidence distinguishing between the three positions is clear, and then extend the analysis to English. But to show what the data to be presented bear on, I will start by laying out three possible trees for (1a).

2. Three trees

To propose an argument structure for the causative head, we must decide what the linguistic elements are that stand in the CAUSE relation to each other. The three positions that I'll discuss only differ in what is syntactically and/or semantically considered the causer. With respect to the other argument of CAUSE, i.e. what is caused, I'll assume that it is an event, as in Parsons 1990, and not a proposition, as in Dowty 1979. I won't defend this position here but refer the reader to Parsons's book (1990:107-109).

A question intimately connected with determining the nature of the causer is whether causative constructions assert the existence of one or two events. A bivalent analysis of causatives follows traditional analyses in philosophy and holds that causation, i.e. the *linguistic* relation CAUSE, is a relation between two events (Parsons 1990). An opposing view denies the existence of two event arguments in structures such as (1a) and relates the causer to the caused event via a Causer theta role (e.g. Doron 1999). My purpose in this section is to spell out

the details of these positions and to compare their predictions. I first lay out two syntactic executions of the bieventive analysis, then discuss the view where CAUSE is a theta-role and finally show how we can distinguish between the three positions.

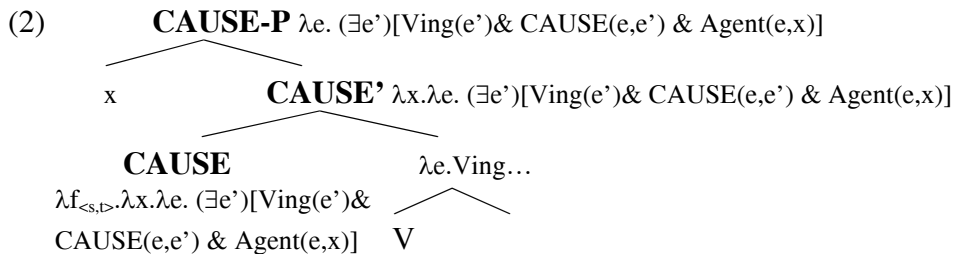
2.1 Bieventive analyses

In a bieventive analysis of causatives, the meaning of (1a) is roughly as in (1a'):

- (1) a. John melted the ice.
 a'. *John was an agent of some event that caused a melting of the ice.*

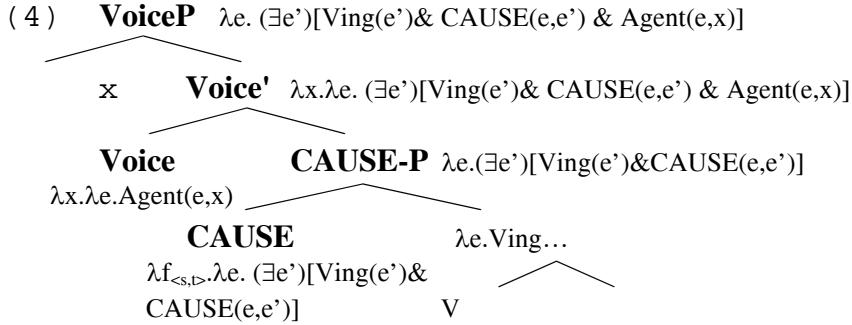
Here a causative sentence has two relations that the corresponding noncausative does not have: a causation relation relating the causing event to the caused event and a thematic relation between the causing event and the individual expressed as the external argument (Parsons 1990).

This meaning can be spelled out in two different ways in the syntax, depending on our assumptions about the introduction of external arguments. If we assume that external arguments are arguments of verbs, then the causative head, which I assume to be of verbal category, introduces both the causing event and the external argument, as in (2).



If, however, we assume that external arguments are not argument of verbs, but rather arguments of a separate functional element, as in Kratzer 1994 and much subsequent work, the causing event and its agent would be introduced by two different heads. In the tree in (4) I take the external argument introducing head to be Kratzer's Voice, whose denotation is the thematic relation between the external argument and the event described by the verb. This meaning then combines with its complement via Event Identification, which is a conjunction operation allowing us to relate a participant to the event described by the complement of Voice.

- (3) a. Event Identification
 $\langle e, \langle s, t \rangle \rangle \quad \langle s, t \rangle \rightarrow \langle e, \langle s, t \rangle \rangle$



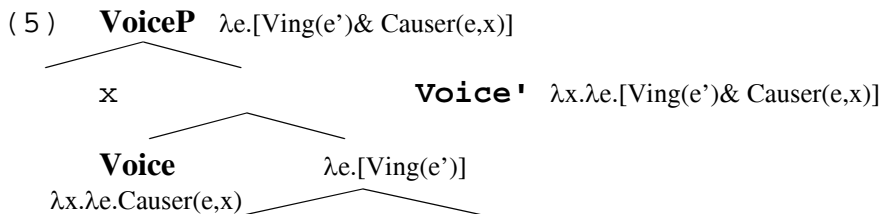
In other words, we can treat causation and the external theta-role as forming a lexical unit, i.e. a morpheme, or we can have the two relations enter the syntax separately. In what follows I will refer to these two analyses as the one-headed and the two-headed bieventive analysis, respectively.

2.2 A monoeventive analysis

In a monoeventive analysis of causatives, the meaning of (1a) is roughly as in (1a'')

- (1) a. John melted the ice.
 a''. *John was the causer of a melting of the ice.*

Here the causative sentence only has one relation that the corresponding noncausative does not have, i.e. the Causer theta-role. This view yields the tree in (5), where the Causer-relation between the caused event and the external argument is treated as one possible interpretation of Voice (Doron 1999):

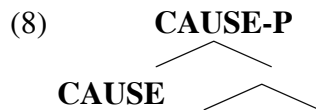


This structure asserts that there is some individual that stands in the Cause-relation to the event described by the complement of Voice. The DP argument in the specifier of Voice could describe an event, as in *The rain flooded the house*, but, crucially, the head introducing the causative meaning, i.e. Voice, introduces no new event argument.² Rather, the event argument of Voice is identified with the event argument of its complement. Causativization in this view thus equals the introduction of an external argument.

be an unaccusative causative. In this paper I argue that the structure in (7) is indeed attested but before doing so I will point to another place where the analyses under discussion can be teased apart.

2.3.1 Possible interpretations of CAUSE-P

The two-headed bieventive analysis differs from the other proposals also with respect to the possible interpretations of a CAUSE-P without a syntactic specifier. In particular, I am interested in the possible interpretations of the implicit cause in a structure such as the one in (8).



Under the theta-role view, the causative head in (8) would implicitly introduce an external argument. This implicit argument should have all the possible interpretations that an active version of the predicate would have. In other words, we should be able to interpret the implicit argument either as an event participant, as in *John melted the ice*, or as an event, as in *The rain flooded the house*. The structure would be a passive and would simply say that there is somebody or something that stands in a causal relation to the event described by the complement of the causative Voice-head. Thus there should not be any restrictions with respect to the nature of this implicit cause, contextual considerations aside.

The two-headed bieventive analysis, on the other hand, predicts the implicit cause in a structure such as (8) to necessarily be an event. Interpretations where there is an implicit event *participant* should not be possible since this would require an external thematic relation and hence the presence of Voice. This analysis thus predicts the existence of causatives which assert the existence of a causing event without relating any participant to it. Hence any context requiring the existence of such a participant, such as a purpose-clause, should be incompatible with (8).

As regards the predictions of the one-headed bieventive analysis, a straightforward version of it would seem to predict that the implicit argument of a structure such as (8) should always be an event participant, rather than an event. However, as I. Heim points out (p.c.), there is a possible version of this theory where one of the external thematic relations is more or less identificational, such as the external theta-role of a verb such as *occur*, which would allow us to interpret the implicit argument as an event. If we assume such a version of this theory, it, once again, makes the same predictions as the theta-role view: we should be able to interpret an implicit cause either as an event or as an event participant.

In the rest of this paper I show that Japanese adversity causatives and Finnish desiderative causatives are both causatives which (a) lack an external argument and (b) imply a cause which is necessarily interpreted as an event. Thus these data provide an argument for a two-headed bieventive treatment of causatives. I first discuss the Japanese, then the Finnish, and finally show how the core of the analysis can be maintained also in a language, such as English, where causatives without an external argument are not possible.

3. Japanese adversity causatives

In Japanese, a causativized unaccusative is ambiguous between a regular causative interpretation, (9a), and the so-called adversity interpretation where the nominative argument is interpreted as an affected possessor-argument, rather than as a causer, (9b) (Oehrle and Nishio 1981, Miyagawa 1989, Kuroda 1979, 1993, Shibatani 1994, Harley 1995, Pytkänen 2000a,b):

- (9) Taroo-ga musuko-o sin-ase-ta.
 Taro-NOM son-ACC die-CAUSE-PAST
 (a) ‘Taro caused his son to die’
 (b) ‘Taro’s son died on him’ (the adversity causative)

The adversity causative is puzzling because it displays causative morphology but does not have an obviously causative meaning. However, what I wish to show here is that it does, in fact, have a causative meaning and that its causative meaning is exactly of the kind predicted to exist by the two-headed bieventive analysis and not by the others. In other words, I will show that the adversity causative asserts the existence of a causing event without relating any participant to it. To do this, I will first show that the nominative argument of the adversity causative is not an external argument. Then, I will give evidence for the existence of a causing event in the meaning of the structure. And finally, I will show that the structure does not have an implicit external argument, i.e. that it is not a passive.

If the nominative, affected argument was an external argument, we would expect to be able to passivize the structure and get a meaning where there is an implicit affected argument. However, passivization makes the adversity reading of a causative disappear, (10, ii):

- (10) Musuko-ga sin-ase-rare-ta.
 son-NOM die-CAUSE-PASS-PAST
 (i) ‘The son was caused to die’
 (ii) *‘Somebody’s son died on them’ (implicit affected argument)

Thus there is evidence that the nominative argument is not an external argument but rather a derived subject.

Even though the adversity causative lacks an external argument, it has a causative meaning. The clearest way to demonstrate this is by contrasting it to a similar construction which, however, lacks the causative morphology. This construction is the so-called adversity passive, shown in (11) (Oehrle and Nishio 1981, Miyagawa 1989, Kubo 1992, Pylkkänen 2000a,b):

- (11) Taroo-ga musuko-ni sin-are-ta.
 Taroo-NOM son-DAT die-PASS-PAST
 ‘Taro’s son died on him’

The meaning of the adversity passive seems similar to that of the adversity causative but its morphological spell-out is different. In what follows, I show that this semantic similarity is superficial only and that the adversity causative is, in fact, causative in meaning while the adversity passive is not. Thus the difference in their morphological realization is expected.

The clearest indication of the semantic difference is the fact that the adversity causative combines with a *ni-yotte* by-phrase naming the causing event while the adversity passive does not:

- (12) a. Adversity causative + by-phrase naming a causing event
 Taroo-ga sensoo-ni-yotte musuko-o sin-ase-ta
 Taroo-ga war-by son-ACC die-CAUSE-PAST
 ‘Taro’s son was caused to die on him by the war’
 b. Adversity passive + by-phrase naming a causing event
 *Taroo-ga sensoo-ni-yotte musuko-ni sin-are-ta
 Taroo-ga war-by son-DAT die-PASS-PAST
 ‘Taro’s son died on him by the war’

A *ni-yotte* by-phrase is a modifier that can be used to specify an implicit argument, as is shown by the passive in (13a). If the structure does not have an implicit argument, such as in an unaccusative, a *ni-yotte*-phrase is impossible, (13b):

- (13) a. Passive:
 Nikki-ga Hanako-ni-yotte yom-are-ta.
 diary-NOM Hanako-BY read-PASS-PAST
 ‘The diary was read by Hanako’
 b. Unaccusative:
 *Yasai-ga Hanako-ni-yotte kusa-tta.
 Vegetable-NOM Hanako-BY rot-PAST
 ‘*The vegetable rotted by Hanako’

Importantly for my present purposes, a *ni-yotte* phrase can also modify event arguments, as is shown in (14). Thus it is similar to the English by-phrase, as indicated by the translation of (14):⁴

- (14) Taro-wa kawa-wo oyogu koto ni-yotte mukougisi-ni watatta.
 Taro-TOP river-acc swim C by the-other-side-dat got
 ‘Taro got to the other side by swimming across the river’

Thus there is evidence that the adversity causative has an implicit event argument which the adversity passive lacks. What remains to be shown is that this implicit argument is not an external argument. If it was an external argument, we would expect the by-phrase in (12a) to be able to specify not only the causing event, but also a participant of that event. However, if we replace the by-phrase in (12a) with one that specifies an agent rather than the causing event itself, the example becomes ungrammatical:

- (15) Adversity causative + by-phrase naming an agent
 *Taroo-ga Hanako-ni-yotte musuko-o sin-ase-ta
 Taroo-ga Hanako-by son-ACC die-CAUSE-PAST
 ‘Taro’s son was caused to die on him by Hanako’

The contrast between (12a) and (15) can only be accounted for under the two-headed bieventive analysis: the adversity causative involves a causative head introducing the causing event but no external argument. Since there is no Voice-head relating a participant to the causing event, a *ni-yotte* phrase cannot specify an implicit event participant. This state of affairs is impossible both under the monoeventive and under the one-headed bieventive analysis: in neither account could the interpretation of an implicit causer argument be limited to events only (see section 2.3.1).

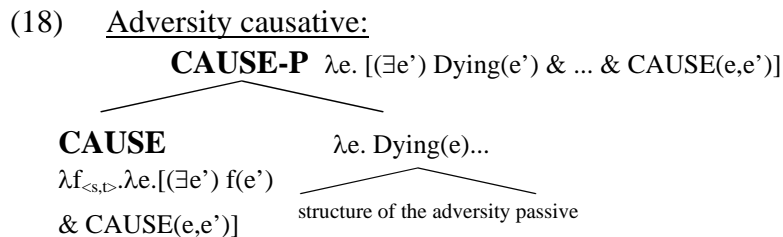
The causativity of the adversity causative can be revealed in other ways as well. For example, in a situation where there is no obvious cause, such as one where Taro’s old father passes away, only the adversity passive, and not the adversity causative is natural:

- (16) a. Adversity passive:
 Taroo-ga titioya-ni sin-are-ta.
 Taro-NOM father-DAT die-PASS-PAST
 ‘Taro was affected by his father dying’
 Context: Taro’s father dies of natural causes.
- b. Adversity causative:
 #Taroo-ga titioya-o sin-ase-ta.
 Taro-NOM father-ACC die-CAUSE-PAST
 ‘Taro was affected by his father dying’
 Context: Taro’s father dies of natural causes.

Also, if we combine these constructions with a phrase such as *katteni*, ‘by itself/on one’s own’, the adversity passive is grammatical, and thus patterns with unaccusatives, while the adversity causative is contradictory.

- (17) a. Adversity causative + ‘by itself’:
 ??Taroo-ga musuko-o katteni korob-ase-ta
 Taro-NOM son-ACC by.self fall.down-CAUSE-PAST
 ‘Something caused Taro’s son to fall down on him all by himself’
- b. Adversity passive + ‘by itself’:
 Taroo-ga musuko-ni katteni korob-are-ta
 Taro-NOM son-DAT by.self fall.down-PASS-PAST
 ‘Taro’s son fell down on him all by himself’
- c. Unaccusative + ‘by itself’:
 Taroo-ga katteni koronda.
 Taro-NOM by.self fell.down
 ‘Taro fell down all by himself’

Thus Japanese proves the existence of the type of unaccusative causative structure predicted by a theory where the causative relation is syntactically separate from the external argument relation. The evidence discussed so far suggests that the structure of the adversity causative involves a causative head introducing a causing event and taking the structure of the adversity passive as its complement:⁵



In the next section I show that the properties of desiderative causatives in Finnish also require a separation of causation from the external theta-role.

4. Finnish desiderative causatives

In Finnish, it is possible to causativize an unergative verb without introducing a new argument in the syntax. The result is a causative construction with a preverbal partitive argument and a desiderative meaning. The translations in the examples in (19) reflect the way a native speaker would be likely to translate the constructions into English.

- (19) a. Maija-a laula-tta-a.
 Maija-PAR sing-CAUSE-3SG
 ‘Maija feels like singing’
- b. Maija-a naura-tta-a.
 Maija-PAR laugh-CAUSE-3SG
 ‘Maija feels like laughing’

The desiderative causative is similar to the adversity causative in that it is realized with causative morphology even though it does not have an obviously causative meaning.⁶ However, in what follows I show that the relationship between the morphology we see and the meaning we get in (19) is, in fact, fully transparent. The desiderative causative is causative in meaning in exactly the same way that the Japanese adversity causative is: it involves a causative head without a Voice head. To show this I will make a parallel argument to the one made in the previous section. First, I show that the preverbal partitive argument is not an external argument. Then, I provide evidence for the causativity of the desiderative causative and finally show that the construction does not involve an implicit external argument.

The clearest indication of the fact that the partitive argument is not an external argument but a derived subject is its partitive case. In Finnish object case is partitive, rather than accusative, when the event described by the verb is atelic (for discussion, see e.g. Kiparsky 1997). Aspectual tests reveal that the desiderative causative is atelic, in fact, stative. The best evidence for its stativity comes from its present tense interpretation. As in English, only stative verbs in Finnish have a non-habitual interpretation in the present tense, as is illustrated in (19a-b). (19c) shows that in this respect the desiderative causative clearly patterns with statives: it has a “true” present tense interpretation in the present tense, i.e. it is not necessarily interpreted habitually.

- (20) a. Eventive:
 Maija aja-a avoauto-a.
 Maija.NOM drive-3SG convertible-PAR
 ‘Maija drives a convertible (habitually)’
- b. Stative:
 Jussi osa-a ranska-a.
 Jussi-NOM know-3SG French-PAR
 ‘Jussi knows French (at present)’
- c. Desiderative:
 Maija-a laula-tta-a.
 Maija-PAR sing-CAUSE-3SG
 ‘Maija feels like singing (at present)’

Given that the desiderative causative is stative, partitive case on the preverbal argument is expected if it is an underlying object. This is because partitive object case is always retained by a derived subject as is shown by the passive of a stative verb in (21) (AGR stands for impersonal agreement):

- (21) Pekka-a rakaste-ta-an.
 Pekka-PAR love-PASS-AGR
 ‘Pekka is loved’

The partitive argument thus exhibits the properties of a derived subject of a stative verb. It is, however, worth mentioning that in Finnish also external arguments can appear in the partitive case. Importantly, though, this is only possible with plural and mass nouns: a singular external argument in the partitive is ungrammatical, as (22c) shows.

- (22) a. Mass:
 Karja-a juoksi kedo-lla.
 cattle-PAR ran field-ADE
 ‘Cattle was running in the field’
- b. Plural:
 Miehi-ä lauloi kato-lla.
 men-PAR sang roof-ADE
 ‘Some men were singing on the roof’
- c. Singular:
 *Miestä lauloi kato-lla
 man-PAR sang roof-ADE
 ‘A (part of a) man was singing on the roof’

Since with the desiderative causative, partitive case is grammatical also in the singular, we know that the argument it appears on is not the external argument.

Despite the lack of an external argument, the desiderative causative is causative in meaning. In other words, we can show that it is semantically distinct from a construction that simply asserts the existence of a desire, such as (23):

- (23) Halua-isi-n naura-a.
 want-COND-1SG laugh-INF
 ‘I would like to laugh’

The evidence for the causativity of the desiderative causative comes from the fact that the causing event introduced by its causative morpheme can be questioned, (24a). This, naturally, is not possible with the purely desiderative construction, (24b):

- (24) a. Minu-a naura-tta-a mutt-en tiedä mikä.

However, since English, for example, does not seem to have structures such as the one in (26b), something more needs to be said. In the final section of this paper I propose a way to rule out the structure in (26b) in languages such as English while maintaining the argument structure in (27) universally.

5. English causatives

In English, causativization seems to always bring an external argument with it. Thus either the English causative head is some wholly different element from (27), or the lack of causatives without an external argument follows from something else. In this section I will pursue the latter line of thinking.

My proposal builds on the assumption that one source of crosslinguistic variation is the way universal functional elements are mapped into the syntactic heads of a particular language. This idea has been extensively researched in the domain of tense and agreement, where it has been proposed that some languages realize these two elements in one functional head while others realize them in two (Iatridou 1990, Speas 1991, Ouhalla 1991, Bobaljik 1995, Bobaljik and Thráinsson 1998).

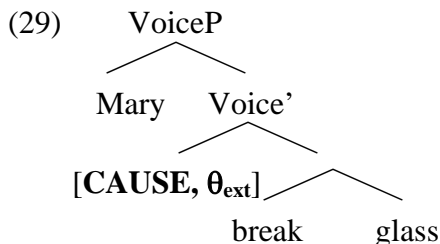
Here I would like to extend this type of explanation into the verbal domain. In other words, I would like to propose that the reason why English does not have unaccusative causatives is that in the English lexicon CAUSE and the external thematic relation form a unit and that this is why CAUSE cannot be merged into the syntax without the external theta-role.⁷ In other words, in English the causative relation and the external theta-role are “packaged” into one morpheme:

(28) The English zero causative morpheme: [CAUSE, θ_{EXT}], where

CAUSE: $\lambda f_{\langle s,t \rangle} . \lambda e. [(\exists e') f(e') \ \& \ \text{CAUSE}(e, e')]$ and

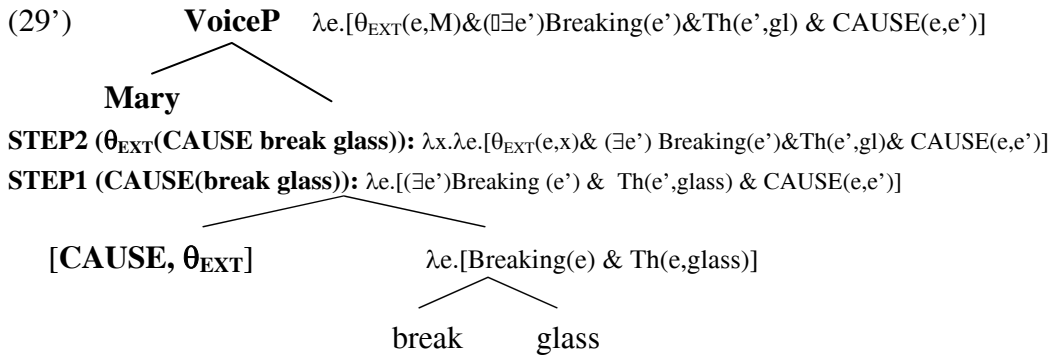
θ_{EXT} : $\lambda x. \lambda e. \theta_{EXT}(e, x)$

The proposal here is in line with the Distributed Morphology assumption that morphemes are bundles of features and that it is these feature bundles that occur in the terminal nodes of syntax (Halle and Marantz 1993 and subsequent work). There is, however, something new about the present proposal, and that is that (28) maps two *interpretable* features into one morpheme, and hence into one syntactic head. Thus we are faced with a question about how to interpret the structure that this gives us, i.e. (29).



The meaning that we want for the Voice' node is the same one as the two-headed version of (29) would yield, i.e. we want the causative meaning to apply first so that the external argument can then be related to the *causing*, rather than the caused, event (see (4)). However, **CAUSE** and θ_{EXT} cannot combine with each other by Functional Application or by Event Identification to produce a meaning that would introduce both a causing event and an external argument. This is because both **CAUSE** and θ_{EXT} need to combine with a function from events to truth values and neither of them is of that type. Hence **CAUSE** and θ_{EXT} are a unit syntactically only and this is how the present proposal differs from the one-headed bivalent analysis in (2) where these two meanings are a unit also semantically.

Since having **CAUSE** and θ_{EXT} combine with each other is not a possibility, they must apply to the complement of Voice one at a time. I will assume that this is done in whatever order is possible. In the case at hand, only one order is possible, i.e. **CAUSE** must apply before θ_{EXT} . The other order would result in a type mismatch since **CAUSE** could not combine with a constituent that has an unsaturated e-type argument, i.e. the external argument. Thus I will assume that the interpretation of (29) proceeds as in (29'), where the contents of the semantically complex Voice-head are interpreted in two steps:⁸



5. Summary

In this paper I have examined the argument structure of the functional element that allows the derivation of causative predicates from noncausative ones. Specifically, the question I investigated was the following: if there were only one such element crosslinguistically available, what would its properties have to be? The evidence I brought to bear on this question were causative constructions in Japanese and in Finnish where we could show the existence of a causative meaning while tests pertaining to the existence of an external argument failed. Given the properties of these constructions, I argued that any account where causativization either is equated with the introduction of an external argument (i.e. the theta-role view) or entails the introduction of an external argument (i.e. the one-headed bieventive view) is not crosslinguistically tenable. Rather, what the Japanese and Finnish data show, is that a causative meaning that is separate from the external argument relation must be one of the basic elements of argument structure (see Baker and Stewart 1999 for recent work arriving at the same conclusion).

Given the necessity of the separation, I then made a proposal about how it could be maintained even in a language where causativization does, in fact, entail introducing an external argument. I did this by making the syntactic assumption that in these languages the causative relation is expressed in the same syntactic head with the external argument relation, rather than by modifying the semantics of CAUSE. Since in these languages CAUSE and θ_{EXT} are a syntactic unit, we do not expect them to have unaccusative causatives, which is the correct result.

Endnotes

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¹ I won't consider lexicalist approaches to causativization here nor theories where the unaccusative alternant of the alternating pair is considered to assert the existence of a cause (e.g. Levin and Rappaport 1995), but see e.g. Marantz 1997 and Pylkkänen 1999a for discussion.

² It is, however, important to keep in mind that the monoeventive view is not incompatible with the notion that causation is a relation between two events. We could define a semantics for the Causer-relation such that to be a Causer of some event *e* means to participate in some other event *e'* which causes *e*. This analysis, however, crucially differs from the bieventive analyses discussed in section 2.2 in that the causing event which is part of the meaning of the Causer-role would not be available for modification in the syntax.

³ For arguments for this particular analysis of passives, see Embick 1997.

⁴ Thanks to J. Higginbotham for pointing out the relevance of this type of data to me and to K. Hiraiwa for this example. It should be noted though, that the Japanese *ni-yotte* phrase is more limited in its ability to modify event arguments than the English by-phrase. For example, while (14) is perfectly natural, a sentence such as *I went there by walking* cannot be expressed with a *ni-yotte* phrase. What is relevant for my purposes here, is that a *ni-yotte* phrase *can* modify an event argument even if at present I do not understand all its restrictions.

⁵ The structure of adversity passives is analyzed in more detail in Pykkänen 2000a,b.

⁶ Another puzzle about the desiderative causative is, of course, the source of its desiderative meaning. However, similar constructions with overt desiderative morphology exist in other languages, such as Tohono O’Odham (see Zepeda 1987), and therefore we can make the plausible assumption that in the Finnish construction the same desiderative morphology is present although unpronounced.

⁷ The external theta-role is of course available independently of CAUSE since not every transitive verb is a causative.

⁸ The same result could of course be achieved by combining CAUSE and θ_{EXT} with each other by Function Composition. However, at this point I do not have any evidence to distinguish between these two alternatives. I hypothesize (29’) since it makes the interpretation of the one-headed tree proceed in exactly the same way as the interpretation of the corresponding two-headed tree. In this proposal the bundling of CAUSE and θ_{EXT} is in every way syntactic only, which is what I intend to propose here.

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