

Causation and External Arguments*

Liina Pykkänen, Massachusetts Institute of Technology

1. Introduction

In the realm of causativization, the traditional tension between explaining crosslinguistic variation while maintaining that a phenomenon has a common universal source can be stated specifically as follows: how can we explain the fact that if a certain type of verb causativizes in both languages A and B, the derived predicate usually has the same syntactic and semantic properties, while also accounting for the fact that the distribution of causativization in A and B can differ radically. The data in (1) and (2) illustrate the problem. The causativized unaccusatives in (1) pull us towards saying that causative predicates are derived in a unified way crosslinguistically: the forms in (1a-c) have essentially the same syntactic and semantic properties. However, when we examine causativization outside unaccusatives, a unified account becomes hard to maintain since in English causativization is limited to unaccusatives while in Finnish and in Japanese agentive verbs causativize as well, as is shown in (2):¹

- (1) a. English: John froze the meat.
b. Finnish: Jussi jäädy-tti liha-n.
Jussi.NOM freeze-CAUSE.PAST meat-ACC
'Jussi froze the meat'
c. Japanese: Taroo-ga niku-o koor-ase-ta
Taro-NOM meat-ACC freeze-CAUSE-PAST
'Taro froze the meat'

* I wish to thank Alec Marantz and Shigeru Miyagawa for extensive discussions on these materials and Shigeru for all his help with the Japanese data. Thanks also to David Embick, Ken Hale, Irene Heim, Sabine Iatridou, David Pesetsky, Kai von Stechow and the audience of the Lexicon Roundtable for comments and criticisms at various stages of this work. I am grateful to Ken Hiraiwa, Shigeru Miyagawa, Shogo Suzuki and especially to Shinichiro Ishihara for the Japanese judgments. The usual disclaimers apply.

¹ Throughout this paper, I use the term 'causativized' in following sense: a causativized predicate P is P embedded under CAUSE. Thus, 'causativized unergative', for example, refers to a predicate where an unergative verb has been causativized (such as *laula-tta* 'sing-CAUSE') and 'causativized unaccusative' to a predicate where an unaccusative verb has been causativized (such as *hajo-tta* 'break-CAUSE').

Liina Pylkkänen

- (2) a. English: *John laughed Mary.
- b. Finnish: Jussi naura-tti Maija-a
Jussi.NOM laugh-CAUSE Maija-PAR
'Jussi caused Maija to laugh'
- c. Japanese: Taroo-ga Hanako-o waraw-ase-ta
Taro-NOM Hanako-ACC laugh-CAUSE-PAST
'Taro caused Hanako to laugh'

A common approach to the contrast in (2) has been to say that the English type of causativization takes place at a different *level* of grammar from the type of “productive” causativization illustrated by the Finnish and the Japanese examples. For example, Levin and Rappaport (1995) propose that the English causative alternation takes place in the lexicon while the Finnish and the Japanese type of causativization happens in the syntax. Hale and Keyser (1993, 1998), on the other hand, have a more structural explanation relying on a difference between l(exical)-syntax and s-syntax (syntax proper). For them, the English data exemplify *transitivization*, which takes place in l-syntax, while the Finnish and Japanese data are examples of a distinct process of *causativization*, taking place in s-syntax.

Since these types of theories attribute the two kinds of causativization to different components of the grammar, they have no trouble accounting for differences between them. The problem, however, is that their similarities are left accidental: there is no universal core to causativization. Hence there is no account for the fact that “causativized” and “transitivized” unaccusatives (in Hale and Keyser’s terms) behave essentially in the same way nor is there an account of the fact that the semantic effect of causativization (in a general sense, abstracting away from Hale and Keyser’s terminology) in all of the examples in (1) and (2) is to introduce causation and an external argument. Given that causativization does have these unified semantic effects, it seems unsatisfying to propose that the ingredients that make up the structure of (1a) are wholly different from those making up (1b-c) and (2b-c).

In this paper I explore a different approach, based on new empirical data which sheds light on the properties of so-called “productive” causatives. Specifically, I show that Finnish and Japanese do not differ from English only in that they have causativized agentives, but also in that they have causatives without an external argument. This fact shows that in Finnish and in Japanese causation can occur independently of the external argument in a way that in English it cannot. I propose that while the interpretation of CAUSE is the same in all languages, languages differ in whether they express this causative meaning in the same syntactic head that introduces the external argument or whether causation and the external argument are introduced in two separate syntactic heads. I argue that Finnish and Japanese have “two-headed” causatives, while English causatives are derived by the merge of only one

Causation and External Arguments

functional head.² If a language introduces causation (i.e. the causing event) and the external argument in the same syntactic head, it directly follows that nothing can intervene between the two. I will argue that causativized unergatives involve exactly such a structure, i.e. a structure where something intervenes between CAUSE and the external argument, and that this is why unergatives in English do not causativize.

This paper is organized as follows: In section 2 I introduce the semantic decomposition of causative predicates that my analysis crucially hinges on. In section 3 I show that both Finnish and Japanese have unaccusative causatives, which necessitates a separation of CAUSE from the external θ -role and in section 4 I make specific the way English differs from these two languages. Section 5 gives an analysis of causatives with an agentive base and shows that the syntax of English causatives is incompatible with these structures. Section 6 concludes the paper.

2. The Pieces

The main claim of this paper is that while causative predicates have the same semantic decomposition across languages, the syntactic realization of the universal pieces of meaning can differ. Specifically, I propose that Universal Grammar makes the meanings in (3) available for selection (in the sense of Chomsky 1998) by a particular language and that parametric variation arises from the way these meanings are packaged into units entering the syntactic computation, i.e. morphemes.

(3) Universal meanings (to be selected by a language and realized in functional heads):

(a) θ_{EXT} : $\lambda x.\lambda e.[\theta_{\text{EXT}}(e,x)]$

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

Let us consider (3a) and (3b) in turn. (3a) makes clear my assumption that external arguments are not arguments of verbs but are introduced by a functional head above the VP (or RootP, depending on one's assumptions about category, Kratzer 1994, 1996; Marantz 1997, Chomsky 1998 and others). Since this head bears a verbal category feature, I will call it v , following others. In this paper I simply take it for granted that external arguments are introduced in this way although in Section 6 we will see that my analysis of causatives with an agentive base also crucially hinges on this assumption. Following Kratzer, I take the external argument introducing head to be interpreted as the thematic relation that holds between the individual that is merged into its specifier position and the event described by its complement. Thus, in the lexical entry in (3a), θ_{EXT} should be understood as a variable ranging over different thematic relations that are possible with external arguments. I also follow Kratzer's work in assuming that θ_{EXT} combines with its syntactic complement by Event Identification. The

² See Bobaljik and Thráinsson 1998 for a similar proposal accounting for cross-linguistic variation in verb raising in terms of a Split -Infl parameter.

rule of Event Identification is stated in (4a) and illustrated in (4b) for a simple (noncausative) transitive sentence. Event Identification is a conjunction operation that allows us to relate a participant to the event described by the complement of v . Hence it is a solution to the interpretive problem that we are faced with when introducing external arguments outside the V/RootP (see discussion in Kratzer 1994: Ch 1).

- (4) a. Event Identification
 $\langle e, \langle s, t \rangle \rangle \quad \langle s, t \rangle \rightarrow \langle e, \langle s, t \rangle \rangle$
- b. Mary read the Times.
 $\lambda e. [\text{Reading}(e) \& \theta_{\text{EXT}}(e, x) \& \text{Theme}(e, \text{the Times})]$
 vP
- Mary v' $\lambda x. \lambda e. [\text{Reading}(e) \& \theta_{\text{EXT}}(e, x) \& \text{Theme}(e, \text{the Times})]$
- θ_{EXT} (By Event Identification)
 $\lambda x. \lambda e. [\theta_{\text{EXT}}(e, x)]$ $\lambda e. [\text{Reading}(e) \& \text{Theme}(e, \text{the Times})]$
- read** **the Times**
 $\lambda x. \lambda e. [\text{Reading}(e) \& \text{Theme}(e, x)]$

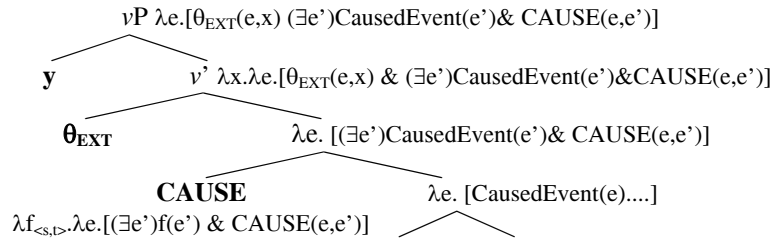
Thus, when we introduce the external argument, we merge a head describing a thematic relation between an individual and an event and identify this event with the event described in the complement of v . This is why *Mary* in (4b) ends up being the agent of the reading event and not some other event, just as it would if it was a “true” argument of *read*.

The news of the proposal in (3) does not, however, have to do with the introduction of external arguments but with the introduction of causation. Specifically, I claim that CAUSE introduces a causing event but does not relate an individual to it, i.e. does not introduce the external argument.³ Thus the present proposal is in sharp contrast with theories which take CAUSE to be a θ -role (e.g. Grimshaw 1990, Pesetsky 1995, and many others). In these theories introducing causation always means introducing a Causer argument. In my proposal this is not necessarily so: both of the structures in (5) are possibilities. In (5a) we have a causative with an external argument. This means merging θ_{EXT} above CAUSE and relating the external argument to the causing event. Since CAUSE existentially closes off the event variable of its complement, θ_{EXT} cannot relate the external argument to the caused event. In (5b), on the other hand, no external argument is introduced, only a causing event is. Hence (5b) illustrates the structure of an unaccusative causative.

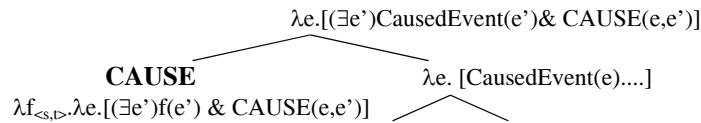
³ See also Baker and Stewart (1999) for recent work arriving at the same conclusion.

Causation and External Arguments

(5) a. Causative with an external argument



b. Causative without an external argument



The rest of this paper is devoted to motivating the separation of CAUSE from the external argument and to explaining why external argument introducing causative heads, nevertheless, seem to exist.

3. Causatives without an External Argument

In this section I examine two causative constructions which lack an external argument. The first is the Japanese adversity causative and the second the desiderative causative in Finnish.

3.1 Japanese Adversity Causatives

In Japanese, a causativized unaccusative is ambiguous between a regular causative interpretation and an interpretation where the nominative argument is not interpreted as an agent of the causing event, but as an affected argument of the caused event (see e.g. Oehrle and Nishio 1981, Kuroda, 1993 and references therein).

- (6) Taroo-ga musuko-o korob-ase-ta.
 Taro-NOM son-ACC fall.down-CAUSE-PAST
 (a) 'Taro caused his son to fall down'
 (b) 'Taro was affected by his son falling down'

An obvious question that (6b) raises is in what sense is this adversity construction a causative, i.e. what is the semantic contribution of the causative morpheme *sase*. Relevant to the investigation of this question is the fact that a similar meaning to (6b) can also be attained by the so-called adversity passive,

Liina Pylkkänen

which is identical to the adversity causative in form except that the verb occurs with passive, rather than with causative morphology:

- (7) Taroo-ga musuko-ni korob-are-ta.
Taroo-NOM son-DAT fall.down-PASS-PAST
'Taroo was adversely affected by his son falling down.'

The purpose of this section is to show that the Japanese adversity causative illustrated in (6b) has the structure in (5b) and hence supports the present proposal that CAUSE is independent of θ_{EXT} . To show this we need to show three things: (i) that the nominative argument is not an external argument, (ii) that the structure is causative in meaning (i.e. a causing event is introduced) and (iii) that no *implicit* external argument is related to this causing event.

To show that the nominative argument is not an external argument is straightforward since the adversity causative does not passivize. In other words, passivization makes the adversity reading of a causative disappear, as is shown in (8a). Hence the adversity causative is like the adversity passive and unaccusatives, which do not passivize either, as (8b-c) show.

- (8) Adversity causative:
a. Musuko-ga korob-ase-rare-ta.
son-NOM fall.down-CAUSE-PASS-PAST
'The son was caused to fall down'
*'Somebody was adversely affected by their son falling down'

Adversity passive:

- b. *Musuko-ga korob-are-rare-ta.
son-NOM fall.down-PASS-PASS-PAST
'Somebody was adversely affected their son falling down'

Unaccusative:

- c. *Korob-are-ta.
rot-PASS-PAST
'There was falling down going on'

Hence passivization draws no difference between adversity causatives and adversity passives. There is, however, evidence that the interpretations of these two constructions are different and that this difference is precisely the one made transparent by their morphology. In other words, the adversity causative is causative in meaning while the adversity passive is not. One indication of this is that only the adversity passive, and not the adversity causative, is compatible with situations where there is no cause. The examples in (9) show this type of a contrast. In a situation where Taro's father is very old and dies of natural causes, only the adversity passive in (9a), and not the adversity causative in (9b), is felicitous:

Causation and External Arguments

- (9) a. Taroo-ga titioya-o sin-are-ta.
 Taro-NOM father-ACC die-PASS-PAST
 ‘Taro was affected by his father dying’
 Context: Taro’s father dies of natural causes.
- b. #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.

Similarly, the adversity passive is compatible with a phrase such as *katteni* ‘by itself/on one’s own’. Thus it patterns with the unaccusative in (10a). The adversity causative, on the other hand, does not combine with *katteni*, as (10c) shows:

- (10) Unaccusative:
- a. Taroo-ga katteni koronda.
 Taro-NOM by.self fell.down
 ‘Taro fell down all by himself’
- Adversity passive:
- b. Taroo-ga musuko-ni katteni korob-are-ta
 Taro-NOM son-DAT by.self fall.down-PASS-PAST
 ‘Taro was affected by his son falling down all by himself’
- Adversity causative:
- c. ??Taroo-ga musuko-o katteni korob-ase-ta
 Taro-NOM son-ACC by.self fall.down-CAUSE-PAST
 ‘Taro was affected by his son falling down all by himself’

If the difference between adversity causatives and adversity passives is that the adversity causative asserts the existence of a causing event while the adversity passive does not, the data in (9) and (10) are predicted. This analysis is further supported by the fact that the adversity causative combines with a by-phrase naming the causing event while this is impossible with the adversity passive:⁴

- (11) a. Adversity causative + by-phrase (naming a causing event)
 Taroo-ga ame-ni-yotte yasai-o kusar-ase-ta
 Taroo-ga rain-by vegetable-ACC rot-CAUSE-PAST
 ‘The vegetable was caused to rot on Taro by the rain’

⁴ It is worth noting that there is one type of by-phrase, namely the *de*-phrase, that combines with the adversity passive. However, a *de*-phrase also combines with unaccusatives and hence it does not specify an implicit argument but rather *adds* a cause. Hence its compatibility with the adversity passive is irrelevant for my present purposes.

<p><i>Adversity Passive:</i></p> <p>(i) Taroo-ga hune-ni taihuu-de sizum-are-ta. Taro-NOM ship-DAT typhoon-by sink-PASS-PAST ‘Taro was affected by the ship sinking due to typhoon’</p>	<p><i>Unaccusative:</i></p> <p>(ii) Yasai-ga ame-de kusatta. vegetable-NOM rain-by rotted ‘The vegetable rotted due to the rain’</p>
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------

Liina Pylkkänen

- b. *Adversity passive + by-phrase (naming a causing event)
 *Taroo-ga taihuu-ni-yotte hune-ni sizum-are-ta.
 Taro-NOM typhoon-by ship-DAT sink_{intr}-PASS-PAST
 ‘The ship was sank on Taro by the typhoon’

Hence the data point to the conclusion that Japanese adversity causatives involve causation without an external argument. However, we still haven’t shown that CAUSE in these constructions does not *implicitly* introduce an external argument. If this was the case, the construction would not be evidence for my proposal that CAUSE is separate from θ_{EXT} . It could be the case that CAUSE always introduces an external argument and that in the adversity causative this individual is simply existentially closed off. This would make the adversity causative a type of passive, i.e. it would have an implicit external argument. The adversity causative does not, however, behave as do passives. For example, if we minimally change the by-phrase in (11a) to name an individual participating in the causing event rather than the causing event itself, the sentence becomes unacceptable, as is shown in (12a). A passive, on the other hand, is of course compatible with such a by-phrase, (12b):

- (12) a. *Adversity causative + by-phrase (naming an individual)
 *Taroo-ga Hanako-ni-yotte yasai-o kusar-ase-ta
 Taroo-ga Hanako-by vegetable-ACC rot-CAUSE-PAST
 ‘Taroo was adversely affected by the vegetable’s being caused to rot by Hanako’
- b. A passive + by-phrase (naming an individual)
 Taroo-ga Hanako-ni-yotte korob-ase-rare-ta.
 Taro-NOM Hanako-by fall.down-CAUSE-PASS-PAST
 ‘Taro was caused to fall down by Hanako’

Similarly, we can modify the implicit agentivity present in a passive with a purpose-clause, while this is impossible with an adversity causative:

- (13) a. *Taroo-ga yasai-o wazato kusar-ase-ta.
 Taro-NOM vegetable-ACC on.purpose rot-CAUSE-PAST
 ‘Somebody, on purpose, caused the vegetable to rot on Taro’
- b. Taroo-ga wazato korob-ase-rare-ta.
 Taro-NOM on.purpose fall.down-CAUSE-PASS-PAST
 ‘Taro was caused, on purpose, to fall down’

Thus it seems uncontroversial that in the Japanese adversity causative, a causing event is introduced without the introduction of any type of external argument, implicit or explicit. Clearly these types of structures can only be described by a theory that separates causation from θ_{EXT} . This exact same

Liina Pylkkänen

Thus I will assume that the Finnish desiderative-causative is exactly like the O’odham construction except that the desiderative morphology is null:

- (16) Maija-a laula-Ø-tta-a.
Maija-PAR sing-DES-CAUSE-3SG
‘Maija feels like singing’

More relevant for my present purposes is, however, the semantic contribution of the causative morphology. Above I have translated the desiderative causative as meaning ‘x feels like Ving’, reflecting the way a native speaker might translate these sentences into English. On a closer look, this translation does not, however, accurately describe the interpretations of these structures. In what follows I show that the Finnish desiderative causative *is* causative in meaning even though it does not have a causer argument. Thus its structure parallels that of the Japanese adversity causative. As in my discussion of the Japanese data, I will first show that the Finnish desiderative causative lacks an external argument, then argue that its interpretation does, however, involve a causing event and finally show that there is no implicit participant related to this causing event.

Showing that the preverbal argument appearing in (16) is not the external argument is straightforward: its partitive case is a clear indication of the fact that it is an underlying object. 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). It can indeed be shown that the desiderative causative is atelic, in fact, stative.⁶ 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 (17a-b). (17c) 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.

- (17) 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:

⁶ Stativity and causativity may seem contradictory notions but see Pylkkänen 1999 for arguments why they are not.

Causation and External Arguments

Maija-a laula-Ø-tta-a.
Maija-PAR sing-DES-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 (18) (AGR stands for impersonal agreement):

(18) Pekka-a rakaste-ta-an.
Pekka-PAR love-PASS-AGR
'Pekka is loved'

Thus the preverbal argument of the desiderative causative 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. Significantly, though, this is only possible with plural and mass nouns: a singular external argument in the partitive is ungrammatical, as (19c) shows.⁷

- (19) 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.

However, even though the causative morphology in these constructions does not introduce an external argument, it does introduce a causing event. In other words, we can show that the desiderative causative is semantically distinct from a sentence that simply expresses a desire, such as (20):

(20) Halua-isi-n laula-a.

⁷ This is actually a simplification: in fact what licenses partitive subjects is the property of being quantized or homogenous (thus, e.g., '30 men' cannot not appear as a partitive subject while 'many men' can). See Kiparsky 1997.

Liina Pylkkänen

want-COND-1SG sing-INF
'I would like to sing'

One type of evidence for the semantic causativity of the desiderative causative is the fact that the causing event can be questioned, as is shown in (21a). This is not possible with the noncausative sentence in (20), as the ungrammaticality of (21b) shows:

- (21) a. Minu-a laula-tta-a mutt-en tiedä mikä.
I-PAR sing-CAUSE-3SG but-not.1SG know what.NOM
'Something makes me feel like singing but I don't know what
(makes me feel like singing)'
- b. *Halua-isi-n laulaa mutt-en tiedä mikä.
want-COND-1SG sing but-not.1SG know what.NOM
'I would like to sing but I don't know what (makes me want to
sing)'

Thus it appears that there is a component in the meaning of the desiderative causative that is absent in the meaning of the noncausative desiderative sentence, namely a causing event.

But, as already mentioned, for the properties of this construction to provide an argument for the separation of CAUSE from θ_{EXT} , we also need to show that it does not involve an implicit external argument, i.e. that it is not a passive. If this is the case, the desiderative causative should not combine with a purpose phrase or with a by-phrase of the sort that a passive would. The desiderative causative is, indeed, ungrammatical with a purpose phrase, as is shown by (22a). Thus it contrasts with the passive in (22b):

- (22) a. *Maija-a laula-tta-a tarkoituksella.
Maija-PAR sing-CAUSE-3SG on.purpose
'Something causes Maija to feel like singing on purpose'
- b. Maija-a laula-te-ta-an tarkoituksella
Maija-PAR sing-CAUSE-PASS-AGR on.purpose
'Maija is caused to sing on purpose'

However, while the ungrammaticality of (22a) shows that the desiderative causative involves no implicit agent, it does not show a lack of a nonagentive implicit argument. One way to test this would be see whether the desiderative causative can occur with a by-phrase that combines with nonagentive passives. While Finnish does not have the type of by-phrase that English and Japanese do, it has two periphrastic ways to specify an implicit external argument, both of which are shown in (23). (23a) illustrates a "by" phrase which combines with agentive passives and in (23b) a "by" phrase which combines with nonagentive passives:

- (23) a. Rakennus pure-tti-in kaupungi-n toime-sta.

Causation and External Arguments

building tear-PASS-AGR city-GEN action-ELA
 ‘The building was torn down by the city’ (lit: from the action of the city)

- b. Ministeri-ä viha-ta-an työväenluoka-n taho-lta.
 miniter-PAR hate-PASS-AGR working.class-GEN direction-ABL
 ‘The minister is hated by the working class’ (lit: from the direction of the working class)

These “by” phrases are impossible if there is no implicit external argument, as is shown in (24), and therefore they can indeed be used to diagnose the existence of an implicit external argument both for agentive and nonagentive predicates.

- (24) a. *Laiva upposi vihollise-n toime-sta.
 ship.NOM sank_{INTR} enemy-GEN action-ELA
 ‘*The ship sank by the enemy’
- b. *Minna viha-stu-i Liisa-n taho-lta.
 Minna.NOM angry-BECOME-PAST Liisa-GEN direction-ABL
 ‘*Minna became angry by Liisa’

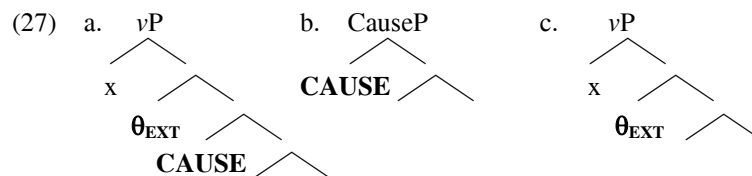
The desiderative causative patterns with the unaccusative and the noncausative psych predicate in (24) rather than with the passives in (23), as is shown by the ungrammaticality of (25).

- (25) *Maija-a laula-tta-a Liisa-n toime-sta/taho-lta.
 Maija-PAR sing-CAUSE-3SG Liisa-GEN action-ELA/ direction-ABL
 ‘Maija is caused to feel like singing by Liisa’ (lit: from the direction of Liisa)

Thus the data support the conclusion that the desiderative causative involves *no* implicit external argument, agentive or non-agentive. Further support for this analysis is provided by the fact that if we change the *wh*-element in the construction in (21a), repeated below, to *who*, as in (26b), the example becomes ungrammatical. This shows that the *wh*-element can only question the causing event and not a participant of that causing event.

- (26) a. (=21a)
 Minu-a laula-tta-a mutt-en tiedä mikä.
 I-PAR sing-CAUSE-3SG but-not.1SG know what.NOM
 ‘Something makes me feel like singing but I don’t know what (makes me feel like singing)’
- b. *Minu-a laula-tta-a mutt-en tiedä kuka.
 I-PAR sing-CAUSE-3SG but-not.1SG know who.NOM
 ‘Something makes me feel like singing but I don’t know who (makes me feel like singing)’

Thus we can conclude that in Finnish, just as in Japanese, a verb can have a causative meaning without having a causer argument. To capture this, I propose that in these two languages CAUSE and θ_{EXT} are realized in two separate syntactic heads. Because they are separate, each can occur independently of the other. Hence in a Japanese/Finnish type of language, all of the structures in (27) are possible, the adversity and desiderative causatives exemplifying (27b):

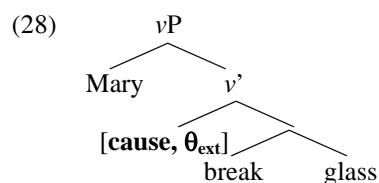


However, not all languages have structures such as the one in (27b). In the next section I suggest how these languages differ from Finnish and Japanese.

4. Cause and the External θ -Role as a Feature Bundle

The proposal that CAUSE is universally separate from θ_{EXT} raises a question about the analysis of causative constructions which do not show evidence for this separation. For example, the types of desiderative and adversity constructions examined in the previous section do not seem to exist in English: in English causation always brings an external argument with it. Hence positing the structures in (27) for English would make the wrong predictions.

What I would like to propose is that the English zero-causative differs from the Finnish TTA-causative and the Japanese SASE-causative in that in English the feature CAUSE is pre-syntactically bundled together with θ_{EXT} . This is to say that in English these two meanings are a unit for syntactic purposes and that therefore, CAUSE cannot be merged into a syntactic structure without also merging θ_{EXT} .⁸ This means that causatives in English can only have structure in (28):



What (28) claims is that while CAUSE and θ_{EXT} are separate pieces in Universal Grammar, they can form a unit in the grammar of a particular language. The obvious question that this proposal raises is how a structure of

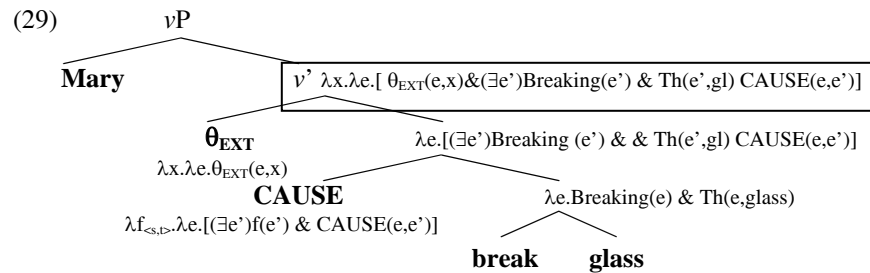
⁸ The reverse of course doesn't hold: it must be possible to merge θ_{EXT} without merging CAUSE.

Causation and External Arguments

the sort in (28) is interpreted. Recall from (3) that CAUSE takes a function from events to truth values as its argument and introduces a causing event and that θ_{EXT} adds the external argument to the meaning of its complement by Event Identification:

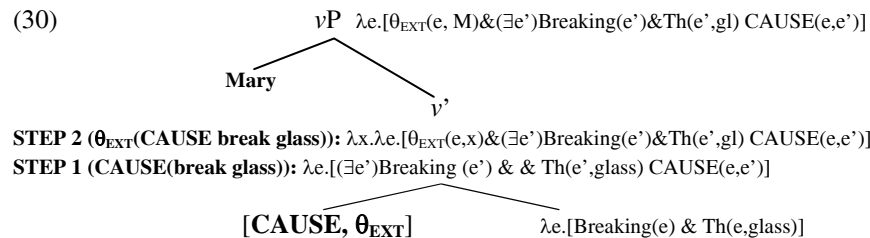
- (3) Universal meanings (to be selected by a language and realized in functional heads):
- (a) θ_{EXT} : $\lambda x.\lambda e.[\theta_{EXT}(e,x)]$
 - (b) **CAUSE**: $\lambda f_{\langle s,t \rangle}.\lambda e.[(\exists e')f(e') \& CAUSE(e,e')]$

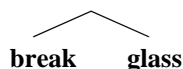
It is clear that the meaning we want for the v' node in (28) is the same meaning that a two-headed structure, such as the pseudo-English one in (29), would yield. We want the external argument to be a participant of the causing and not of the caused event:



But it is also clear that θ_{EXT} cannot combine with CAUSE in the real English v to yield an interpretation that would introduce both the causing event and the external argument. Both θ_{EXT} and CAUSE need a function from events to truth values as their argument but neither of them is of that type. Hence even though CAUSE and θ_{EXT} are a feature bundle in the syntax, they are not a unit semantically.

I would like to propose that this dissociation of structure and meaning is real. Even though CAUSE and θ_{EXT} are realized in the same syntactic head, they are interpreted one at a time rather than as a unit. In other words, CAUSE applies first, and then θ_{EXT} . The other order would be impossible: combining θ_{EXT} with **break glass** would give us a meaning of the type $\langle e, st \rangle$, which is not a possible argument for CAUSE. Hence the interpretation has to proceed as in (30):



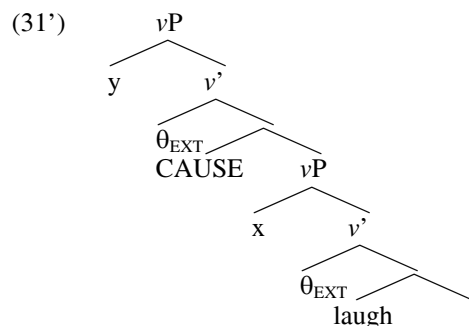


Thus the structure proposed for English causatives is interpretable and unambiguous. Importantly, it rules out the possibility of causatives without an external argument. In the next section I show that the English type of causative head cannot be used for causativizing unergatives, either.

5. Causativized Unergatives

In this section I argue that treating causativized unergatives as derived in the same way as causativized unaccusatives makes false predictions and that the structures of these two types of causatives are therefore different. To see why, let us first consider an analysis where causativized unergatives are derived in essentially the same way as causativized unaccusatives: i.e. the causative predicate embeds the structure of its noncausative correspondent. Under this proposal the structure of causativized unergatives would be as in (31'):

- (31) Finnish:
 a. Jussi naura-tti Mari-a.
 Jussi.NOM laugh-CAUSE Mari-PAR
 ‘Jussi caused Mari to laugh’
 Japanese:
 b. Taroo-ga Hanako-o waraw-ase-ta
 Taro-NOM Hanako-ACC laugh-CAUSE-PAST
 ‘Taro caused Hanako to laugh’



The important claim made here is that causativized unergatives involve two external arguments: one that is the agent of the laughing event (i.e. x above) and another that is the agent of the causing event (i.e. y above). Thus (31') is essentially the type of biclausal analysis that has traditionally been held for “productive” morphological causatives (Baker 1988 and subsequent work). One prediction of this proposal, which to my knowledge has not been explored in previous literature, is that agent-oriented adverbs should be able to modify either of the agent-relations present in this structure. This, however, turns out not to be the case: a purpose phrase can only modify the higher agentivity in both the Finnish and the Japanese examples in (31):

Causation and External Arguments

(32) Finnish:

- a. Jussi naura- tti Mari-a tarkoitukse-lla.
Jussi.NOM laugh- CAUSE Mari-PAR purpose-on
'Jussi, on purpose, caused Mari to laugh'
≠'Jussi caused [Mari to laugh on purpose]'

Japanese:

- b. Taroo-ga wazato Hanako-o waraw-ase-ta
Taro-NOM on.purpose Hanako-ACC laugh-CAUSE-PAST
'Taro, on purpose, caused Hanako to laugh'
≠'Taro caused [Hanako to laugh on purpose]'

The data in (32) are evidence against two *v*-heads in the structure of a causativized unergative. If the participant of the caused event was a structurally introduced agent, and hence parallel to the participant of the causing event, we would expect to be able to modify its agentivity in the same way that we are able to modify the agentivity of the higher agent. But since this is impossible, there must be an important difference between the Finnish and the Japanese morphological causatives and structures such as the English make-causative, exemplified in (33), where the scope of a purpose phrase *is* ambiguous.

(33) John made Mary laugh on purpose.

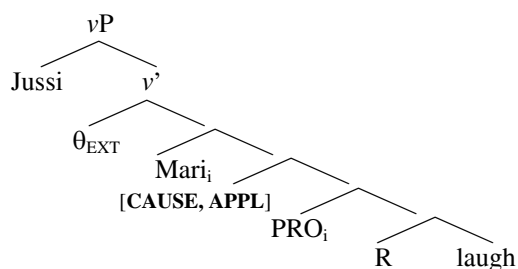
The difference is that in (33) *Mary* exhibits just the same agent properties as it does in the sentence *Mary laughed*. With the Japanese and Finnish examples, however, while the argument bearing object-case is interpreted as an agent-participant of the caused event, its agentivity cannot be diagnosed by the usual purpose-phrase test for agentivity. The question then is, what type of participant is the object of causativized agentives?

The proposal I would like to make follows the insight of Alsina (1992) in analyzing this object participant as an affected argument of CAUSE which is also thematically related to the caused event. The intuition behind this analysis is that causativized agentives are crosslinguistically interpreted as involving indirect causation: i.e. the higher agent does not directly cause the caused event but rather affects the lower agent in such a way that the lower agent ends up participating in some activity. In the rest of this section I will try to show that an analysis along the lines of Alsina's proposal not only captures this intuition but also makes the right crosslinguistic prediction about the distribution of causativized agentives.

Let us start by considering the proposal that the object of causativized agentives is an affected argument of CAUSE. Since the crosslinguistic meaning that we have assigned for CAUSE, repeated below, does not take any such argument, it is clear that something needs to be added to our current system.

given the data in (32), we know that the controlled position cannot be the specifier position of v . Rather, it must be the specifier position of a head that allows us to relate this participant to the caused event without making it the type of agent that an agent introduced by v is. Nothing in what follows hinges on the specific formulation of this idea, but as a plausible possibility I would like to put forth the idea that the relationship between the lower participant and the caused event is much like the possessor relation (cf. **John's laughter on purpose*). Under this proposal, the structure of the Finnish causativized agentive in (39) would be as in (39'), where the possessor relation is simply labeled as R.

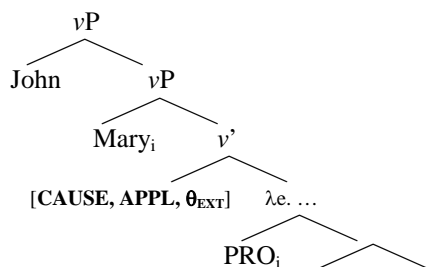
(39') Causativized agentive:



Now that we have an analysis of causativized unergatives we can proceed to ask the question why they are impossible in English. The answer will be straightforward after we consider what it would mean for English to form an applicative causative morpheme.

Recall that the structural difference proposed to exist between the Japanese/Finnish type of causatives and the English type of causatives is that in English CAUSE and θ_{EXT} are realized in one syntactic head while in Japanese and Finnish they both have a head of their own. One immediate consequence of this is that in English nothing can be interpreted after CAUSE and before θ_{EXT} without also being realized in v . In the structure proposed for causativized agentives in (39'), APPL, however, crucially scopes over CAUSE but not over θ_{EXT} . In Finnish and Japanese this is possible since θ_{EXT} is not realized in the same head with CAUSE. The closest that English can get to (39') is the structure in (40), which, however, is uninterpretable:

(40) *John laughed Mary.



Causation and External Arguments

R laugh

To interpret the v head in (40) and for the right meaning to fall out (i.e. the one corresponding to the interpretations of grammatical causativized unergatives), we would have to combine all of the meanings in (41) with the complement of v in the order given below:

- (41) 1. **CAUSE**: $\lambda f_{\langle s,t \rangle} . \lambda e. [(\exists e') f(e') \ \& \ \text{CAUSE}(e, e')]$
2. **APPL**: $\lambda x. \lambda e. [\theta_{\text{APPL}}(e, x)]$
3. **θ_{EXT}** : $\lambda x. \lambda e. [\theta_{\text{EXT}}(e, x)]$

After Step 2 the interpretation could not, however, proceed: θ_{EXT} needs to combine with a function of the type $\langle s, t \rangle$ but the result of applying APPL would still have an unsaturated e-type argument, i.e. it would be of type $\langle e, \langle s, t \rangle \rangle$. This is because APPL introduces an argument, and before this argument is saturated, it cannot combine with θ_{EXT} . In other words, the problem with the structure in (40) is that too many arguments are introduced in one head. Both θ_{EXT} and APPL need a function from events to truth values. Since both of them, however, introduce an e-type argument, they cannot apply one after the other without at least one of these arguments first being saturated.

In sum, the problem with causativized unergatives in English is that the structure that it would take to build their meanings cannot be realized in English. Since in English, CAUSE and θ_{EXT} are always realized in the same head, nothing can intervene between them in the structure, and if we try to introduce yet another argument in this same head, uninterpretability results. Thus the inability of English to form an applicative causative head points to a natural constraint on the type of feature bundling that I have discussed in this paper, namely interpretability.

6. Conclusion

In this paper I have proposed that important differences between so-called “lexical” and “productive” causatives can be attributed to differences in the syntactic realization of a limited set of universal meanings. Specifically, I have proposed that the crosslinguistic components of causation are a CAUSE, introducing a causing event, θ_{EXT} , introducing an external argument and APPL, introducing an argument affected by the causing event. This decomposition allowed me to treat causative constructions in Finnish, Japanese and English as the syntactic expression of the same universal causative meaning while deriving differences between them from the ways these three features come together in the syntax. Importantly, I proposed a correlation between causative morphemes which can occur without an external argument, and causative morphemes which can be used to causativize unergatives. If the present paper is on the right track, these should be the same morphemes.

Liina Pylkkänen

References

- Alsina, Alex (1992). On the Argument Structure of Causatives. *Linguistic Inquiry*. Vol 23, No 4: 517-557.
- Baker, Mark and Osamuyimen T. Stewart (1999). On Double-Headedness and the Anatomy of the Clause. Rutgers University Ms.
- Bobaljik, Jonathan, D. and Höskuldur Thráinsson (1998). Two Heads aren't Always Better than One. *Syntax* 1:1, 37-71.
- Bresnan, Joan & Lioba Moshi (1993). Object Asymmetries in Comparative Bantu Syntax. In Sam A. Mchombo, ed., *Theoretical Aspects of Bantu Grammar 1*. CSLI Publications, Stanford, CA, 50-93.
- Chomsky, Noam (1998). Minimalist Inquiries. *MIT Occasional Papers in Linguistics*, Number 15. MITWPL, Cambridge, MA.
- Grimshaw, Jane (1990). *Argument Structure*. MIT Press, Cambridge, MA.
- Hale, Kenneth & Jay Keyser (1994). On argument structure and the lexical expression of syntactic relations. In Kenneth Hale and Jay Keyser *The View from Building 20*, MIT Press: Cambridge, MA.
- (1998). Basic Elements of Argument Structure. Ms., MIT.
- Kiparsky, Paul 1997. Partitive Case and Aspect. Ms. Stanford.
- Kratzer, Angelika (1994) *The Event Argument and the Semantics of Voice*. Ms. University of Massachusetts, Amherst.
- (1996). Severing the external argument from its verb. In Johan Rooryck & Laurie Zaring, eds., *Phrase structure and the lexicon*, 109–137. Dordrecht: Kluwer.
- Kuroda, S. -Y. (1993). Lexical and Productive Causatives in Japanese: an examination of the theory of paradigmatic structure. *Journal of Japanese Linguistics*. Vol 15:1-83.
- Levin, Beth & Malka Rappaport (1995). *Unaccusativity*. MIT Press, Cambridge, MA.
- Marantz, Alec (1993). Implications of Asymmetries in Double Object Constructions. In Sam A. Mchombo, ed., *Theoretical Aspects of Bantu Grammar 1*. CSLI Publications, Stanford, CA, 113-151.
- (1997). No escape from syntax: Don't try morphological analysis in the privacy of your own lexicon. In Alexis Dimitriadis et al., eds., *U. Penn Working Papers in Linguistics 4.2: Proceedings of the 21st annual Penn Linguistics Colloquium*. Department of Linguistics, University of Pennsylvania.
- Oehrle, Richard, T. and Hiroko Nishio (1981). Adversity. In Farmer, Ann, K. and Chisato Kitagawa, eds., *Coyote Papers, Proceedings of the Arizona Conference on Japanese Linguistics* Volume 2. 163-187.
- Pesetsky, David (1995). *Zero Syntax*. MIT Press, Cambridge.
- Pylkkänen, Liina (1999). On Stativity and Causation. In Carol Tenny and James Pustejovsky (eds.), *Events as Grammatical Objects: The Converging Perspectives of Lexical Semantics, Logical Semantics and Syntax*. CSLI Lecture Notes 100. CSLI, Stanford, CA.
- (in prep.). What Applicative Heads Apply To. Ms., MIT.
- Zepeda, Ofelia (1987). Desiderative-Causatives in Tohono O'Odham. *International Journal of American Linguistics*, Vol. 53, No.3.

Causation and External Arguments

Department of Linguistics and Philosophy
E39-229, MIT
Cambridge, MA 02139
USA

liina@mit.edu