

A uniform syntax for non-valency-increasing causatives*

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Abstract. I propose that non-valency-increasing causatives, cross-linguistically, have a uniform syntactic and semantic characterization. Syntactically, the causative head selects an ‘incomplete’ projection of Voice, which is still waiting to merge with an external argument. I implement this using the selectional system of Bruening (2013), wherein selectional features project, and can themselves be selected. Thus, the Voice head is prevented from introducing an argument, the causative head introduces its *own* argument, and the number of arguments remains constant, despite the addition of the causative head. Semantically, the subject of the clause gets identified with two thematic roles associated with the same event, both of which are subcomponents of agentivity, though the exact subcomponents involved are not consistent across languages and constructions. The semantic effect of the NVI causative is therefore to associate the subject with more characteristics of agentivity than with the base verb. This leads to the interpretations common to NVI causatives, in some cases via conventionalized implicature.

1 Introduction

The term ‘causative’ typically describes a morphosyntactic construction wherein a predicate (the non-causative base) is supplemented with an additional argument. This additional argument is the subject of the clause, and is interpreted as somehow causing the eventuality described by the base. The would-be subject of the base predicate occupies a less prominent syntactic role, such as an object or oblique role. An example from Choctaw (Muskogean) is given in (1) – here, the morphosyntactic change from the base to the causative involves the addition of the suffix *-chi*, and the would-be subject of the base (*hattak* ‘man’) is made an object of the causative.

- (1) a. Hattak-at taloowa-tok
man-NOM sing-PST
‘The man sang.’

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- b. Abanopoli-yat hattak taloowa-**chi**-tok
 preacher-NOM man sing-**CAUS**-PST
 ‘The preacher made the man sing.’ (Choctaw, Broadwell 2006:128)

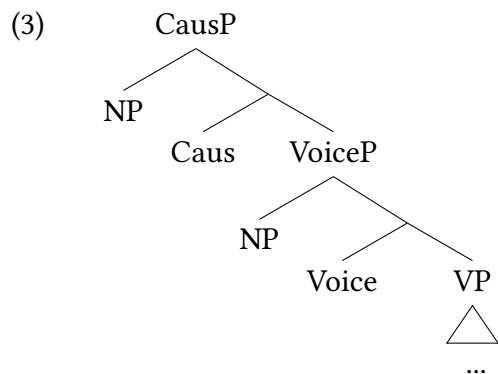
In this article, I examine the phenomenon whereby ‘causative’ morphology as in (1) appears, but with no additional argument – hence the descriptor ‘non-valency-increasing’. Instead, the causative morphology seems to alter the interpretation of the base predicate in some way. Another Choctaw example is given in (2). Here, the causative suffix *-chi* does not add an argument, but instead adds a sense that the action was difficult and required extra effort.

- (2) a. Iti kobaffi-h.
 stick break.TR-NFUT
 ‘He broke the stick.’
 b. Iti kobaffi-**chi**-h.
 stick break.TR-**CAUS**-NFUT
 ‘He broke the stick (perhaps after some difficulty).’ (Choctaw, Broadwell 2006:131)

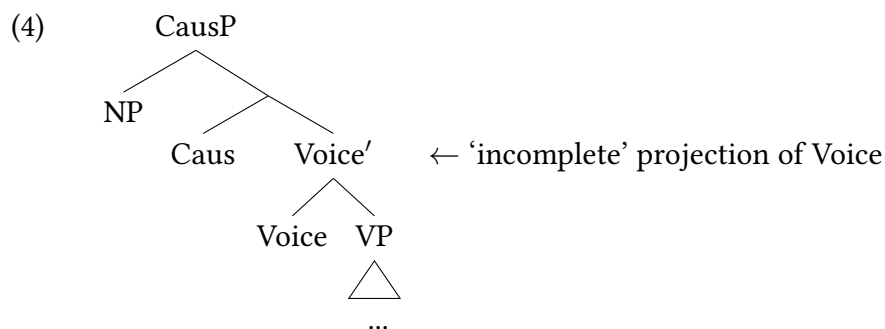
Non-valency-increasing causatives (henceforth NVI causatives) have attracted some attention in the typological literature (most comprehensively Aikhenvald 2011, but also Kulikov 1993, Kittilä 2009, among others). However, they have largely escaped the attention of generative syntacticians.¹ Here I propose a syntactic analysis of NVI causatives cross-linguistically, which is couched within contemporary Minimalist and Distributed-Morphological thinking about the makeup of the tradition VP (e.g. Harley 2013, 2017), and which accounts for (a) the restricted distribution of NVI causatives in languages that have them, and (b) the restricted set of contributions they make to the meaning of the clause.

Essentially, I follow Pytkänen (2008), Harley (2008), Legate (2014), Nie (2020b), and many others, in assuming that the causative morpheme (e.g. *-chi* in (1b) and (2b)) is a functional head that introduces the causer argument in its specifier, and can take various other argument-structure-related functional projections (e.g. VoiceP, vP, RootP) as its complement. Selecting complements of different ‘sizes’ will generate different kinds of causative, which then may be classified as lexical causatives, productive (‘syntactic’) causatives, indirect causatives, and others (the terminology is not fully consistent across languages and analyses). In (3) the causative functional head is labelled ‘Caus’, and it takes VoiceP as its complement (which would make it a productive or ‘syntactic’ causative). For the rest of this article, I use the term ‘canonical’ causatives for valency-increasing, productive ‘syntactic’ causatives.

¹I am aware of two generative syntactic treatments of NVI causatives – Lyutikova and Tatevosov 2018 and Medeiros 2022 – though other authors have touched on them peripherally.



In the analysis presented here, a NVI causative has a similar structure to the canonical causative in (3). However, the functional head (Caus) is merged, but it takes as its complement an ‘incomplete’ projection of Voice. Specifically, it selects for a projection of Voice which needs to host an argument in its specifier, but which has not yet done so. This could also be termed a ‘bar-level’ projection of Voice, to borrow an intuition from X'-theory. This kind of structure was formalized and popularized by Bruening (2013), with his analysis of passives. To couch the analysis within Bruening’s selectional system, Caus would select for a projection of Voice that has unchecked selectional features. The non-valency-increasing equivalent of (3) is given in (4). I use the ‘bar’ notation for the incomplete projection of Voice throughout this paper.



This article is organized as follows. Section 2 gives some background on NVI causatives. Section 3 then describes a restriction on the distribution of NVI causative, cross-linguistically: they are only possible where the base predicate would have an external argument. Section 4 fleshes out the syntactic analysis in (4), and section 5 describes how the structure semantically composes. Finally, in section 6 I speculate that the range of meanings that NVI causatives have in the languages of the world might derive from their compositional semantics, enriched via (conventionalised) pragmatic inference. Section 7 concludes.

2 Background on non-valency-increasing causatives

In order for a particular use of a causative morpheme to count as ‘non-valency-increasing’, the base (‘un-causativized’) verb needs to be independently available, and it must have the same valency as the verb that has undergone NVI-causativization, as in (2). Similarly, the causative morpheme needs to appear in typical, valency-increasing contexts as well (a morpheme whose *only* function is ‘non-valency-increasing causative’ would get labelled something different, like

‘intensive’). Ideally, the language in question would allow NVI causatives with a large number of base verbs, to show that the pattern is general in the language, and not a quirk of a handful of lexical items. But this is not always easy to ascertain from the source materials I have consulted.

Aikhenvald 2011 is the most detailed description and analysis of non-valency-increasing uses of causative morphemes in the languages of the world, couched in a functional-typological framework. She notes that NVI causatives tend to have three kinds of meaning (p. 101). First, they may affect the properties of the agent, increasing ‘manipulative effort, intentionality, volitionality and control’. An example from Hawaiian (Austronesian) is given in (5). The causative prefix *ho‘o-* leaves the valency of the verb unchanged, but adds the meaning that the agent acted intentionally.

- (5) a. Ua peku ‘o Kale i ke kinipōpō.
 PERF kick SUBJ Kale OBJ the ball
 ‘Kale kicked the ball.’
- b. Ua **ho‘o-**peku ‘o Kale i ke kinipōpō.
 PERF **CAUS**-kick SUBJ Kale OBJ the ball
 ‘Kale deliberately kicked the ball.’ (Hawaiian, Hawkins 1979:24)

Second, they may affect the properties of the action itself, making it ‘intensive and/or iterative’. An example from Choctaw (Muskogean) is given in (6).

- (6) a. A-bahta tiwwi-h.
 1SG.POSS-bag open.TR-TNS
 ‘She opened my bag.’
- b. A-bahta tiwwi-**chi**-h.
 1SG.POSS-bag open.TR-**CAUS**-TNS
 ‘She opened up my bag (and made a big mess of it).’ (Choctaw, Tyler 2020:142)

Third, they may affect the properties of the object, making it ‘complete[ly] affected’ or ‘large or multiple’. An example from Periquitos Tariana (Arawakan) is given in (7).

- (7) a. emite-nuku nu-a nu-pita-i-de
 child.SG-TOP.NON.A/S 1SG-go 1SG-bathe-CAUS1-FUT.CERT
 ‘I will bathe the child.’
- b. emipeni-nuku nu-a nu-pita-i-**ta**-de
 child.PL-TOP.NON.A/S 1SG-go 1SG-bathe-CAUS1-**CAUS2**-FUT.CERT
 ‘I will bathe the children.’ (Periquitos Tariana, Aikhenvald 2011:112-118)

2.1 Some notes on the definition of ‘non-valency-increasing’

There are complexities in defining and identifying NVI causatives. I address three complexities here.

The first issue comes from indirect causatives. They are like canonical causatives, in that they introduce a causing event and supply an argument to serve as the agent of that causing event,

but they are different in that the causee is implicit. In Harley's (2013, 2017) analysis of indirect causatives in Hiaki, a causee role is introduced, as in a canonical causative, but it is existentially bound rather than being discharged to a syntactic argument. Example (8) provides an example of an indirect causative in Hiaki.²

- (8) Inepo Santoh-ta hitto-tevo-k.
 I Santos-ACC treat.medically-CAUS-PRF
 'I had Santos treated (by someone).' (Hiaki, Harley 2013:51)

Descriptively we might say that *-tevo* forms non-valency-increasing causatives, since the the *syntactic* valency of the suffixed verb is the same as the base. However, indirect causatives do still introduce a causing event and a causee role, and thus they are *semantically* valency-increasing, and distinct from the class of NVI causatives discussed here. I thus exclude indirect causatives from the present discussion, since they are not covered by the analysis that I present in this article. In section 4, indirect causatives are situated within a selection-based typology of causative constructions, which includes canonical causatives and NVI causatives.

A second difficulty in defining and identifying NVI causatives comes from changes in argument coding that may co-occur with causative morphology. Consider the Tatar sentences in (9). By one definition, the causative suffix in the Tatar sentence in (9b) would count as 'non-valency-increasing', since both sentences have the same number of arguments, and the semantic effect of the causative morpheme (increased volitionality) falls into one of the categories identified by Aikhenvald (2011). However, by another definition, it *does* increase the valency of the base (from intransitive to transitive), since an argument that was coded as oblique (*Marat*, with dative case) becomes coded as a core argument (with unmarked nominative case).

- (9) a. marat-ka samat yčyra-dy
 Marat-DAT Samat meet-PST
 'Marat met Samat (accidentally)'
 b. marat samat-ny yčyra-t-ty
 Marat Samat-ACC meet-CAUS-PST
 'Marat met Samat (deliberately).' (Tatar, Kittilä 2009:81)

In this article I set aside NVI causatives that involve changes in argument-coding, for the simple reason that they are harder to identify and classify. Knowing whether a particular NP is an argument is a necessary precondition of knowing how many arguments a verb has, and when NPs are coded as oblique, it becomes difficult to determine their argument vs. adjunct status without deeper investigation. But although I do not discuss them here, it's worth noting that NVI causatives with argument-coding changes are fully compatible with the analysis of NVI causatives that I present in this article. We might assume, for instance, that the additional causative head that distinguishes (9b) from (9a) has case and/or agreement-related properties which alter the way arguments are coded, relative to the base. By contrast, in the other

²It is interesting to note that *-tevo* can *only* form indirect causatives. It is not 'multifunctional' like the causative suffixes I discuss elsewhere in this article, which can form both canonical and NVI causatives. However, I suspect that this apparent asymmetry is an artefact of language description. 'Causative' morphology with only a NVI usage would likely not be termed causative, and would be termed something like 'intensive' instead.

A third point is that I constrain my attention only to *morphological* causatives – i.e. those causative constructions where a single causative morpheme, which is morphophonologically bound to the base verb, can be identified. I exclude periphrastic causatives (such as English *make* or *let* causatives) and lexical causatives (such as English words like *kill*, which under some analyses may be derived by causativizing *die*).

In all the examples of NVI causatives presented so far, the base is transitive. In this section, I propose a novel generalization about NVI causatives: they are possible with transitive bases, derived causative bases and unergative bases – i.e. bases which would have an external argument – but they are impossible with unaccusative bases. This generalization follows from the syntax I propose in section 4.

(10) a. tit t=wonga maliling ya
 1PL.INCL 1PL.INCL=stay.awake.all.night night up
 ‘We stayed awake all last night.’

b. tit t=**ha**-wonga maliling ya
 1PL.INCL 1PL.INCL=**CAUS**-stay.awake.all.night night up
 ‘We stayed awake all last night.’

(11) a. mwana'yū w-a-dy-a
child.this he-TENSE-eat-INDIC
'The child has eaten.'

b. mwana'yū w-a-dy-**ets**-a
child.this he-TENSE-eat-**CAUS**-INDIC
'The child has eaten too much.'

In the Semitic languages, some so-called ‘intensive’ templates can be analysed as morphological causatives, with both valency-increasing and non-valency-increasing uses. The intensive use of one such Arabic template with an unergative intransitive verb is exemplified in (12).

- (12) a. jaala r-rajul-u
 took.walks the-man-NOM
 ‘The man took walks.’
 b. jawwala r-rajul-u
 took.walks.**INTENS** the-man-NOM
 ‘The man took a lot of walks.’ (Arabic, Fassi Fehri 2003:151–2)

In addition to transitive and unergative bases, the typological literature is replete with examples of NVI causatives which have causative bases. This creates verbs forms with doubled-up causative morphemes, but whose valency is increased only by one, and not the expected two (Kulikov 1993 discusses ‘second causatives’ in depth). An example from Hunzib (Northeast Caucasian) is given in (13). Sentence (13a) shows the base, and (13b) shows the causativized form, with a causer argument added. In (13c), a second causative suffix is added, but this one does not increase the valency of the predicate, and instead alters the nature of the causation.

- (13) a. abu-l si b-iʔe-r
 father-ERG bear.CL.4 CL.4-kill-PRET
 ‘Father killed the bear.’
 b. maduhan-li-l abu-g si b-iʔe-k’-er
 neighbour-OBL-ERG father-ADESS bear.CL.4 CL.4-kill-CAUS-PRET
 ‘The neighbour made father kill the bear.’
 c. maduhan-li-l abu-g si b-iʔe-k’e-**k**’-er
 neighbour-OBL-ERG father-ADESS bear.CL.4 CL.4-kill-CAUS-**CAUS**-PRET
 ‘The neighbour forced father to kill the bear.’
 (Hunzib, van den Berg 1995:107–8, cited in Aikhenvald 2011:121)

Example (14) is another NVI causative with a causative base, from Oromo (Cushitic).

- (14) a. terfaa-n gurbaa raff-is-e
 Terfaa-NOM boy sleep-CAUS-AGR
 ‘Terfaa put the boy to sleep (e.g. by rocking him).’
 b. terfaa-n gurbaa raff-is-**iis**-e
 Terfaa-NOM boy sleep-CAUS-**CAUS**-AGR
 ‘Terfaa put the boy to sleep (e.g. by giving him a sleeping pill).’
 (Oromo, Kittilä 2009:84)

So NVI causatives can be formed from transitives, unergatives, and causatives – all classes of verbs with *external* arguments. I contend that, by contrast, there are *no* clear examples of NVI causatives with unaccusative bases. This is significant, as unaccusative verbs do not have external arguments.

My evidence for this claim is the absence of evidence to the contrary. That is: in the typological literature on NVI causatives, I have not found any examples of unaccusative intransitive verbs

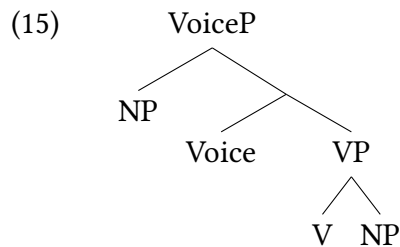
that can combine with a *clear* causative affix, without increasing their valency.³ I appreciate that this is not the strongest evidence, but I hope to have provided a claim that is straightforwardly falsifiable.

4 Analysis

I propose an analysis of NVI causatives that employs very similar machinery to Bruening’s (2013) analysis of passives. Conceptually, they both make use of the same idea: that a head X can select as its complement an *incomplete* projection of another head Y, which would ordinarily take an obligatory specifier. Formally, this involves Y having unchecked selectional features, and X selecting for a projection of Y which has those unchecked features.

4.1 Background: Bruening 2013 on passives

Bruening assumes that the subjects of most transitive and unergative verbs in the active voice are merged as the specifier of a functional head Voice (following Kratzer 1996, among others). Voice takes as its complement a constituent containing the verbal root and the internal argument (if present), as shown in (15).⁴



Bruening assumes that in a passive, the external argument is not syntactically present – so the structure in (15) must be manipulated in some way to get rid of the NP in Spec-VoiceP. I don’t recapitulate Bruening’s arguments here, but he determines existing ways of doing this to be unsatisfactory. Instead, he proposes that in a passive, a special functional head Pass selects as its

³It is possible to find examples of unaccusative bases combining with an affix which, under some analyses, *might* be causative, but these generally turn out to be doing something different. For instance, Kittilä (2009) notes that in Cora (Uto-Aztecan), stative bases can combine with a ‘causative’ suffix *-re*, as in (i). This, at first glance, appears to be an instance of a NVI causative with an unaccusative base. However, if we look more closely at the distribution of *-re*, we find that it combines with stative bases to produce inchoative verbs or labile verbs, and is not best classified as a causative affix (indeed, Vázquez Soto 2002 classifies it as an inchoative suffix).

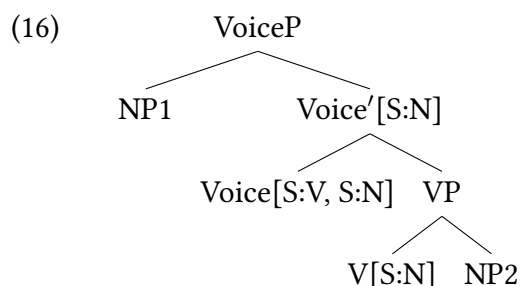
- (i) a. *í hám^weʔi t,ízi-ceʔi*
 DET tortilla PL-hard
 ‘The tortillas are hard.’
- b. *í hám^weʔi t,ízi-u-ceʔi-re-kaʔa*
 DET tortilla PL-CMP-hard-CAUS-PST
 ‘The tortillas got hard.’

(Cora, Vázquez Soto 2002:212 in Kittilä 2009)

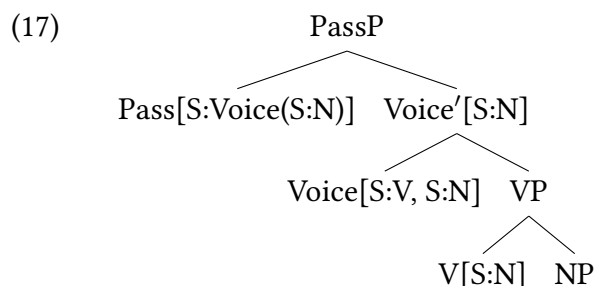
⁴I am not concerned with the internal structure of the constituent under Voice. The tree in (15) is Bruening’s, but the idea is compatible with any arrangement of the root, the internal argument, and other functional material.

complement ‘a projection of Voice that has not yet projected its external argument’ (p. 22). He implements this through his selectional system, wherein heads carry selectional features that determine, in order, what they will take as their complement, followed by what they will take as their specifier.

To illustrate the system, in (16) I repeat the tree in (15), but now with the selectional features of each node notated. V has a feature [S:N], which means it selects something of category N. It discharges (i.e. satisfies or checks) this feature by merging with NP2, leaving the resulting constituent ‘VP’ without any selectional features. Voice has a feature [S:V, S:N], which means it first selects something of category V, then something of category N. It checks the first of these by merging with VP, and the resulting constituent Voice’ has only the selectional feature [S:N]. This feature then gets checked by merging with NP1. The highest projection of Voice, ‘VoiceP’, does not have any selectional features left.



Turning now to Bruening’s analysis of passives, in (17) I have (mostly) replicated Bruening’s tree (p. 22).⁵ The Pass head has a complex selectional feature [S:Voice(S:N)], which means that it selects for a projection of Voice which is still waiting to select a projection of N. That is, in Bruening’s system, selectional features can themselves be selected for.



In this way, the Voice head found in actives and passives is the same functional head, but in passives it is ‘robbed’ of its ability to take a specifier (the external argument) by the particular selectional properties of the Pass head.

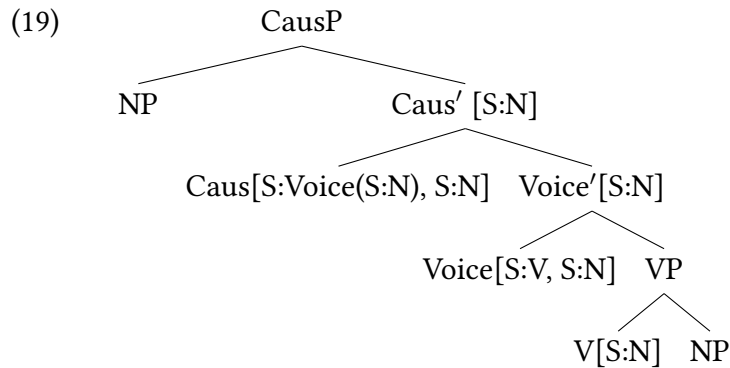
4.2 Extending the analysis to NVI causatives

My analysis of NVI causatives is that the causative head (‘Caus’ for now) can enter the derivation with two different sets of selectional features, shown in (18).

⁵Unlike Bruening I retain like X’-theoretic labels like X’ and XP, for convenience.

- (18) a. [S:Voice, S:N]
 b. [S:Voice(S:N), S:N]

If Caus has the pair [S:Voice, S:N], it first merges with a full VoiceP (as its complement), and then with a NP (as its specifier). This derives the canonical causative structure shown in (3). However, if Caus has the pair [S:Voice(S:N), S:N], then it behaves in a manner akin to Pass, at least at first. First, it selects for a projection of Voice with an unchecked selectional feature [S:N], thus checking its own selectional feature [S:Voice(S:N)]. Caus' then checks its remaining [S:N] feature by merging with an NP. In this way, the Caus head and the Voice head both enter the derivation 'wanting' to take an NP in their specifier, but Voice is prevented from doing so. The tree in (4) is repeated in (19), with selectional features added.



Note that there is reason to think that, at least in some languages, there might be no syntactic distinction between a Caus head and a Voice head (Harley 2008, 2013, Nie 2020b). This is especially justified in languages where the same morpheme is used to form both lexical causatives and syntactic causatives (e.g. Miyagawa 1984 on Japanese *-sase*, Tyler 2020 on Choctaw *-chi*). In such a language, we might remove 'Caus' from the menu of available functional heads, and allow that Voice can have the complex selectional feature in (18b).

The analysis presented here straightforwardly captures the generalization in section 3: that NVI causatives can be added only to bases with external arguments, and cannot combine with unaccusative bases. This is because the selectional feature that makes NVI causative derivations possible, [S:Voice(S:N)], will never be able to select an unaccusative predicate – unaccusative predicates either have specifierless Voice heads (which lack a [S:N] feature), or they have no Voice head at all (Alexiadou et al. 2015).⁶

⁶Schäfer (2008, 2017) has proposed that there is an additional way of forming an unaccusative: VP is selected by a transitive Voice head, which takes an expletive pronoun in its specifier (e.g. *se*-type pronouns in Romance). It is interesting to speculate about how this kind 'unaccusative' might interact with a Caus head that has the [S:Voice(S:N)] selectional feature. We would predict that Caus *could* select these kinds of unaccusatives (since they involve a transitive Voice head), but that the expletive pronoun would disappear. This is reminiscent of what we find in Italian causatives-of-anticausatives, where the *si* pronoun of the anticausative is suppressed under *fare*-causativization, while the anticausative interpretation remains available (Burzio 1981:384). However, this fascinating connection is beyond the scope of this article. I thank an anonymous reviewer for bringing this connection to my attention.

4.3 Expanding Harley's typology of causatives

Harley (2013) proposes a typology of causative constructions, based on the selectional properties of the causative head (Harley identifies this head as *v*; I have suggested that there may be two causative head(s) in a language: Voice and, optionally, Caus). For her, where the causative head selects the constituent containing the verbal root and an optional internal argument (i.e. VP), the result is a lexical causative – like the structure in (16). And where the causative head selects Voice, the result is a productive or syntactic causative – see the structure in (3). Harley (2013, 2017) also assumes that, in some languages, the head that introduces the causee *role* (*v*) is separate from the head which introduces the syntactic causee *argument* (Voice). If the causative head in a language can select for the role-introducing head *v*, then the result may be an indirect causative construction with an implicit causee, as discussed in Section 2.1. The present analysis can be construed as simply augmenting Harley's typology by one: the causative head (be it Caus or Voice) can select Voice[S:N] – a projection of Voice that is still waiting to select a projection of N. (20) provides an incomplete taxonomy of the possible selectional features of the causative head.

- | | | | |
|------|----|---------------------|-----------------------------------|
| (20) | a. | [S:V, S:N] | lexical causative |
| | b. | [S:Voice, S:N] | productive or syntactic causative |
| | c. | [S:v, S:N] | indirect causative |
| | d. | [S:Voice(S:N), S:N] | non-valency-increasing causative |

Additionally, this taxonomy predicts that, absent further restrictions, it should be possible to 'stack' NVI causative morphemes. And indeed, Kulikov (1999:50) shows that this is found in Tuvan (Turkic). (21a) has just one NVI causative morpheme (stacked on top of a canonical causative); (21b) has an additional NVI causative on top of that.

- | | | |
|------|----|---|
| (21) | a. | ašak Bajır-ga inek-ti dile-t-tir-ken
old.man Bajır-DAT cow-ACC look.for-CAUS-CAUS-PST
'The old man caused Bajır to look for the cow (several times).' |
| | b. | ašak Bajır-ga inek-ti dile-t-tir-t-ken
old.man Bajır-DAT cow-ACC look.for-CAUS-CAUS-CAUS-PST
'The old man caused Bajır to look for the cow (many times).' |

(Tuvan, Kulikov 1999:50)

More work is required to study the availability and interpretation of NVI causative recursion across languages (see also Key 2013:222ff for examples from Turkish and Hungarian, and Aikhenvald 2011:117 for an example from Tariana).

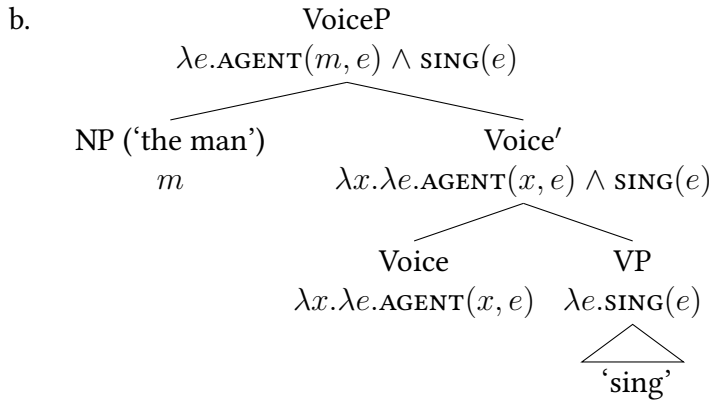
5 Compositional semantics of the structure

How is the syntactic structure in (19) interpreted at the semantic interface? I first discuss the composition of canonical causatives, before turning to NVI causatives. The basic intuition that I formalize here is that two separate thematic roles, one introduced by Voice and one introduced

by Caus, both get discharged to the same NP, in Spec-CausP. Unlike in canonical causatives, Caus in NVI causatives does not introduce a new event argument.

The analysis is couched in the ‘realizational’ approach to thematic roles found in Heim and Kratzer (1998), Schäfer (2008), Wood (2015), Myler (2016) among others, in which thematic roles have no syntactic status. Rather, they are introduced only at the interface with semantics, in the denotations of particular terminal nodes, as ways of relating individuals and eventualities. So for instance, following Kratzer (1996), a functional head like Voice may introduce an *agent* role, which is yet to be related to particular event or a particular individual. A potential denotation is given in (22a).⁷ By composing Voice with its complement (VP), the role gets related to an event; and then by composing the resulting constituent with Voice’s specifier, the role is related to an individual (note that the event variable itself remains unsaturated, so that other things may be predicated of it). (22b) is a simplified composition tree for the syntax tree in (16), based on the Choctaw sentence in (1a). Once the structure has composed up to VoiceP, two properties have been predicated of one event variable: that the event is a singing event, and that its agent is ‘the man’.⁸

(22) a. $\llbracket \text{Voice} \rrbracket = \lambda x. \lambda e. \text{AGENT}(x, e)$

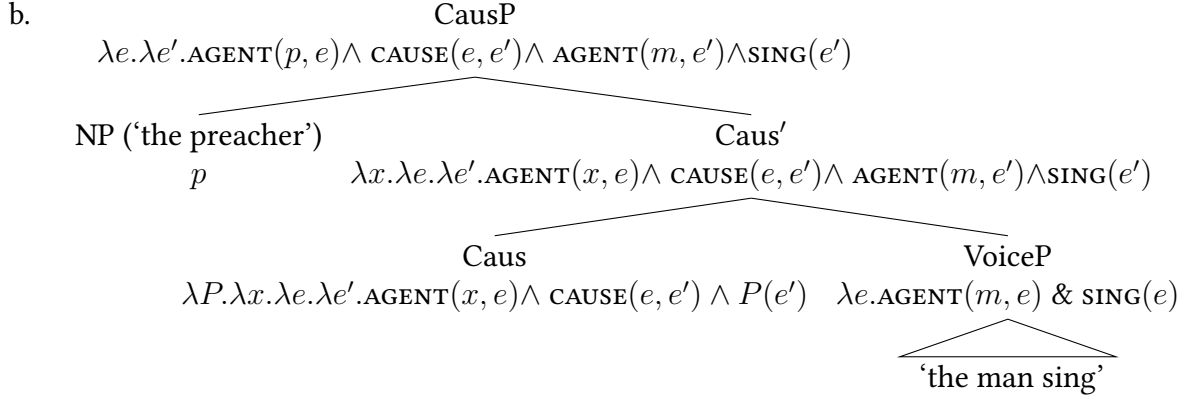


The denotation of Caus may, in some cases, be more complex than that of Voice in (22). This is because, in canonical causatives, Caus not only introduces a new role for the argument in Spec-CausP, but it *also* introduces a new event argument (Harley 2013, Nie 2020a). The new event is related to the embedded event as a ‘cause’. One way of formalising this in the denotation of Caus is given in (23a). A composition tree based on the Choctaw sentence in (1b), wherein Caus takes a full VoiceP as its complement, is given in (23b).

(23) a. $\llbracket \text{Caus} \rrbracket = \lambda P. \lambda x. \lambda e. \lambda e'. \text{AGENT}(x, e) \wedge \text{CAUSE}(e, e') \wedge P(e')$

⁷I assume that the denotation of Voice may vary depending on context; I pick the agentive denotation here for illustrative purposes.

⁸Two composition rules are needed to compose (22b). Voice and VP compose by *Event Identification* (Kratzer 1996); Voice’ and NP compose by *Functional Application* (Heim and Kratzer 1998).



So what is the semantic contribution of Caus in NVI causatives? It is clear from the descriptive literature that NVI causatives do not have a separately-modifiable event which ‘causes’ the embedded event – and indeed, they can be contrasted with indirect causatives (see section 2.1) which have just that. I therefore propose that Caus in NVI causatives does *not* introduce a new event argument.⁹ However, Caus here is not totally semantically inert. I propose that Caus in NVI causatives has a denotation similar to that of a Voice head, as in (22a): it introduces an unsaturated thematic role, which is discharged to the subject. That Caus has a different denotation across the two environments (canonical vs. NVI causative) is not necessarily a problem. For one thing, if we assume *Late Insertion* at the syntax-semantics interface, then we expect that some terminals will have context-dependent interpretations (Marantz 2013, Wood 2016, 2015, Myler 2016, Wood and Marantz 2017). Additionally, as noted in section 4.2, there are reasons to think that (at least in some languages) there is no syntactic distinction between a Caus head and a (transitive/unergative) Voice head. It is therefore not surprising that a ‘Caus’ head should, in some environments, behave like a Voice head and *not* introduce an event.¹⁰

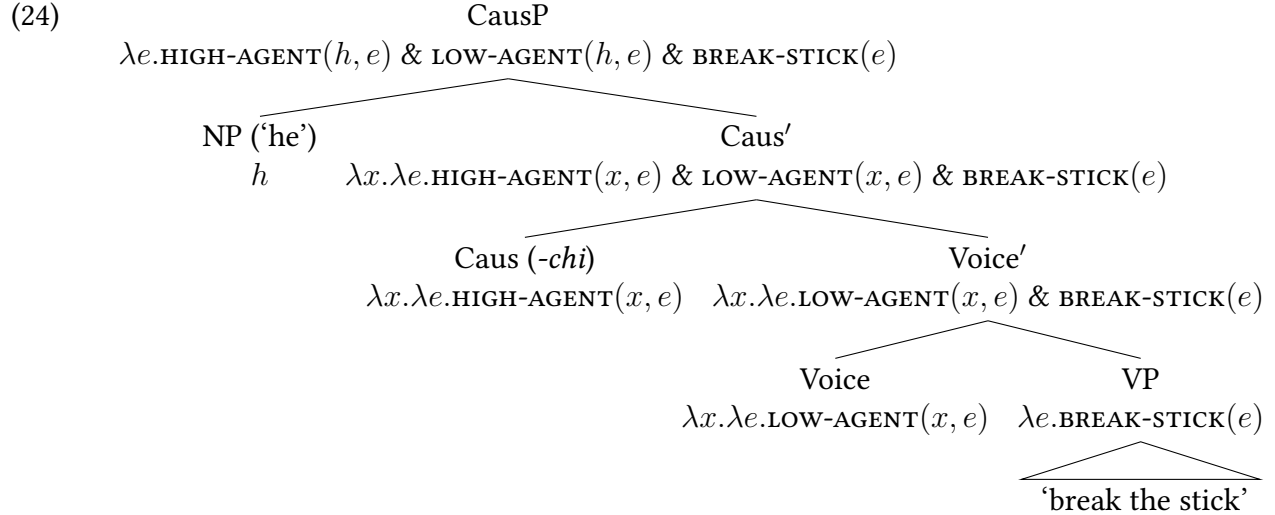
Finally we can turn to the identity of the thematic role introduced by Caus. This issue needs to be considered alongside the role introduced by Voice, since the two heads ultimately discharge their roles to the same individual. I propose that the roles introduced by Caus and Voice, in a NVI causative, are each associated with a different *component* of agentivity – a notion that has long been argued to be decomposable (Cruse 1973, Jackendoff 1985). However, the particular components involved are not fixed, and may vary by language and by construction. What is *consistent*, across NVI causatives across languages, is that the subject necessarily takes on more of the properties associated with agentivity than does a regular agentive subject – or to put it another way, it occupies more of the available ‘space’ of agentivity. I argue that, ultimately, this is what leads to the range of interpretations we see for NVI causatives, discussed in section 6.

⁹An anonymous reviewer suggests that NVI causatives might be like canonical causatives in introducing a new event, but that the causation relation is absent. Instead the base event and the new event would be related by a temporal overlap relation (as in Martin 2020). This is an intriguing possibility, though I do not pursue it here.

¹⁰An anonymous reviewer questions whether this analysis involves sacrificing the alleged ‘uniformity’ of the Caus head across canonical causative and NVI causative environments. If the denotation of Caus differs in a predictable way across the two environments, are we really dealing with the same head, as claimed? While I agree that it does pose a cost to the analysis, this predictable, context-dependent variability in the meaning of a head is part and parcel of all Late Insertion approaches to semantic interpretation. The flexibility permitted by Late Insertion approaches additionally prevents redundancy in other areas, by *not* forcing us to posit arrays of homophonous, syntactically-indistinguishable heads with minimally different denotations.

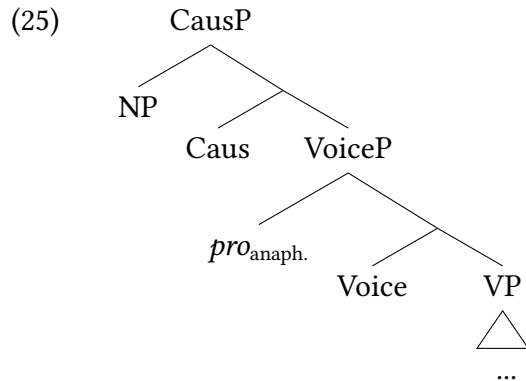
For now, I simply notate the role introduced by Caus as HIGH-AGENT and the role introduced by Voice as LOW-AGENT.

A composition tree for the syntax tree in (19) is given in (24) (it is based on the Choctaw sentence in (2b)). As noted at the top of this section, the result of composing up to CausP is that the thematic roles introduced by Voice and by Caus are both predicated of the same individual. This requires an additional composition rule of *Predicate Conjunction*, which allows two unsaturated predicates to combine into one, with the two terms joined by conjunction (on which see Pyllkkänen 2002, Kratzer 2009, Wood and Sigurðsson 2014, Wood 2015).



5.1 Against a null anaphor analysis

In this section I briefly describe an alternative analysis, and provide an argument against it. The idea would be that NVI causatives are in fact regular valency-increasing causatives, but have a 'concealed' causee which is anaphoric on the subject.¹¹ The structure would be like (25), where '*pro_{anaph.}*' is the null anaphoric causee.



I raise two objections to this analysis. Firstly, it gives the wrong interpretation. If NVI causatives have the same syntax as canonical causatives (as in (3), (23b)), then we would expect that they have the same semantics – so the subject of the clause should be associated with an event that is

¹¹This idea is fleshed out in detail in Medeiros 2022. I thank David Medeiros for discussion.

separate from event introduced by the base verb, as its agent or cause. The two events would additionally be causally related. The interpretation might be akin to the English sentence ‘she made herself do something’. However NVI causatives do not introduce two causally-related events in this way.

Second, anaphoric elements in argument positions typically require overt reflexive morphosyntax. But to my knowledge, NVI causatives do *not* obligatorily co-occur with reflexive morphosyntax, in any of the languages mentioned here. Thus the ‘non-reflexive’ anaphoric pronoun is a fairly *ad hoc* creation, with the function of a reflexive but without the morphosyntactic signature.

6 Deriving the interpretations of NVI causatives

In section 5 I proposed a compositional semantics for NVI causatives: the external argument gets linked to two roles that are associated with the same event. Each of the two roles is a different component of ‘agentivity’ – in (24) I labelled the roles HIGH-AGENT and LOW-AGENT, since it is not clear that the roles are fixed across languages and constructions. I argue that what *is* consistent is that the subject of a NVI causative takes on more of the properties of agentivity than the subject of the base verb, as a necessary consequence of the subject being associated with two external-argument thematic roles. I argue that this ‘expansion’ in the agency of the subject then yields the range of interpretations of NVI causatives documented by Aikhenvald (2011) (see section 2), in some cases by way of pragmatic inference and conventionalization.

As noted in section 2, Aikhenvald proposed that NVI causatives can make the following three kinds of semantic contribution:

- (26) a. Increased intentionality or volitionality
b. Increased intensity of action, or iteration
c. More affected, larger or multiple object(s)

Contribution (26a) can be derived straightforwardly from the compositional semantics: volitionality is one potential component of agentivity (Cruse 1973, Dowty 1991), and so the subject's association with an additional component of agentivity may lead to the subject being interpreted as necessarily volitional. It's worth noting that the base (un-causativized) verb is still *compatible* with volitionality, but volitionality is only *required* in the NVI causative. This is shown in the pair in (27), from Purépecha (a.k.a. Tarascan).

- (27) a. eratzini misitu-ni t'wá-rhi-s-ø-ti
Eratzin cat-OBJ spit-LOC-PERF-PRES-3.IND
'Eratzin spat towards the cat.'
- b. eratzini misitu-ni t'wá-rhi-**ta**-s-ø-ti
Eratzin cat-OBJ spit-LOC-**CAUS**-PERF-PRES-3.IND
'Eratzin spat aiming at the cat.'

(Purépecha, Maldonado and Nava 2002:175 cited in Kittilä 2009:80)

However, it is *not* the case that NVI-causativization necessarily adds volitionality. In the examples (28) the subject is ‘the rain’ – something that cannot act volitionally.

- (28) a. iya nu-na di-pusa-i-ka
rain 1SG-OBJ 3SG.NF-be.wet-CAUS1-REC.P.VIS
‘The rain made me (partly) wet.’
- b. iya nu-na di-pusa-i-**ta**-ka
rain 1SG-OBJ 3SG.NF-be.wet-CAUS1-**CAUS2**-REC.P.VIS
‘The rain made me (fully) wet.’ (Santa Rosa Tariana, Aikhenvald 2011:117)

For the other meanings of NVI causatives that Aikhenvald discusses – iteration, intensity and larger or more-affected objects – I propose that NVI-causativization foists a different subcomponent of agentivity onto the subject, which is then augmented by conventionalized pragmatic inference. Specifically, the subject is ascribed *continuous involvement* in the event – a property assumed by the subjects of activity and accomplishment predicates.¹² Arguments assigned this sub-role have continuous control over the progress of the event in question. One immediate consequence of the subject of an NVI causative having this role is that it forces the event in question to have a duration (you can’t be continuously involved in a durationless event). Various interpretations of NVI causatives then follow from this, via different (conventionalized) pragmatic inferences.¹³

One such inference is that the event is iterated. An example in which a NVI causative takes a punctual base and returns an iterated version of it is given in (29), from Tuvan (Turkic).

- (29) a. ašak Baïr-ga inek-ti dile-t-ken
old.man Bajır-DAT cow-ACC look.for-CAUS-PST
‘The old man caused Bajır to look for the cow (one time).’
- b. ašak Baïr-ga inek-ti dile-t-**tir**-ken
old.man Bajır-DAT cow-ACC look.for-CAUS-**CAUS**-PST
‘The old man caused Bajır to look for the cow (several times).’
(Tuvan, Kulikov 1999:50)

The example from Periquitos Tariana in (7) also exemplified this (though with a non-punctual base, ‘bathe’). I assume that the iteration meaning of NVI causatives is a conventionalized implicature (itself an extension of the ‘increased duration’ implicature triggered by the continuous involvement sub-role), but more work is required.

Other meanings contributed by NVI causatives can be derived as further pragmatic inferences,

¹²This notion has various antecedents in the literature on agency and causation. It can be thought of as corresponding to Cruse’s (1973) *agentive* or *effective* property. Various syntactic decompositions of verb meanings additionally posit a functional or light verb whose subject has some continuous control in the progress of the event: Ramchand’s (2008) Process head, or v_{DO} in the systems of Hale and Keyser (1993), Harley (2005) and Cuervo (2003, 2015).

¹³An anonymous reviewer suggests an alternative route to the iterative interpretation. They suggest that NVI causatives *do* introduce a new event, as in canonical causatives, but that the causation relation between the new event and the base event is absent. Instead, the base event and the new event are related by a temporal overlap relation (an ‘ambiguous’ denotation for the causative head is independently proposed in Martin 2020). This is an intriguing possibility, but I leave a fuller exploration for future work.

triggered by the continuous involvement role. One such inference is increased intensity of the action (Aikhenvald’s property (26b)), illustrated in (30), from the Santa Rosa dialect of Tariana.¹⁴

- (30) a. emite-nuku nu-a nu-pita-i-de
 child.SG-TOP.NON.A/s 1SG-go 1SG-bathe-CAUS1-FUT.CERT
 ‘I will bathe the child.’
- b. emite-nuku nu-a nu-pita-i-**ta**-de
 child.SG-TOP.NON.A/s 1SG-go 1SG-bathe-CAUS1-**CAUS2**-FUT.CERT
 ‘I will bathe the child (all over and a lot).’

(Santa Rosa Tariana, Aikhenvald 2011:112-116)

Another such inference is increased affectedness of the object (property (26c)), exemplified in (31), from Gayo (Austronesian). As Aikhenvald points out, these factors often pattern together, and can be hard to tease apart – both of these examples could well involve increased intensity, as well as increased affectedness.

- (31) i-tipak-**ni** akang asu, mu-belah ulu=é
 UP-kick-**CAUS** deer dog AO-split head=3POSS
 ‘The deer kicked the dog, splitting its head’

(Gayo, Eades 2005:186-191 cited in Aikhenvald 2011:126)

Aikhenvald (2011) also discusses how NVI causatives in certain languages (she provides evidence from Manambu) contribute the meaning that the object is large – also plausibly an inference drawn from increased duration.

In this section I have suggested that the meanings we find for NVI causatives in the languages of the world can be derived from their compositional semantics, which may foist (at least) *volitionality* or *continuous involvement* onto the subject. Different conventionalised inferences across languages lead to the range of meanings that Aikhenvald discusses. This proposal remains in sketchy form for now, and merits further work.

7 Conclusion

I have proposed that NVI causatives, cross-linguistically, can be given a uniform syntactic and semantic characterization. Syntactically, the causative head selects an ‘incomplete’ projection of Voice – i.e. one which has unchecked selectional features – which is still waiting to merge with an external argument. Thus the Voice head is prevented from introducing an argument, the causative head introduces its *own* argument, and the number of arguments remains constant, despite the addition of the causative head. Semantically, the subject of the clause is forced to take on two (sub)roles, corresponding to different components of agentivity. While these need not be the same roles across constructions and across languages, these roles may impose *volitionality* or *continuous involvement* on the subject. This forcible expansion in the range of agentive properties held by the subject can have variety of pragmatic consequences, which get conventionalized into

¹⁴Note that sentence (30a) is the same as (7a) – Aikhenvald (2011) provides the sentences from the two varieties of Tariana to illustrate that the meaning of this NVI causative differs across two very closely-related varieties.

the meanings that are typically associated with NVI causatives, including iteration, increased intensity and increased affectedness.

I hope this fairly exploratory article does two things more broadly. Firstly, I hope it brings NVI causatives to the attention of generative syntacticians, particularly those who work on argument structure. This is especially pertinent given the existence of non-valency-increasing applicatives (Zúñiga 2013, Pacchiarotti and Zúñiga 2022) – it would be an interesting to see whether they are amenable to the kind of analysis proposed here. Secondly, I hope this article shows that Bruening’s (2013) proposal that selectional features project, and can themselves be selected for, can be put to work in domains beyond the passive.

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