

# **A uniform syntax for non-valency-increasing causatives**

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BCGL 15, 7 October 2022

# 1 Introduction

Canonical causative morphology:

- The verb is morphologically augmented.
- An additional argument is added to the clause as the subject; the old subject is demoted.
- The added argument is interpreted as a causer of the event.

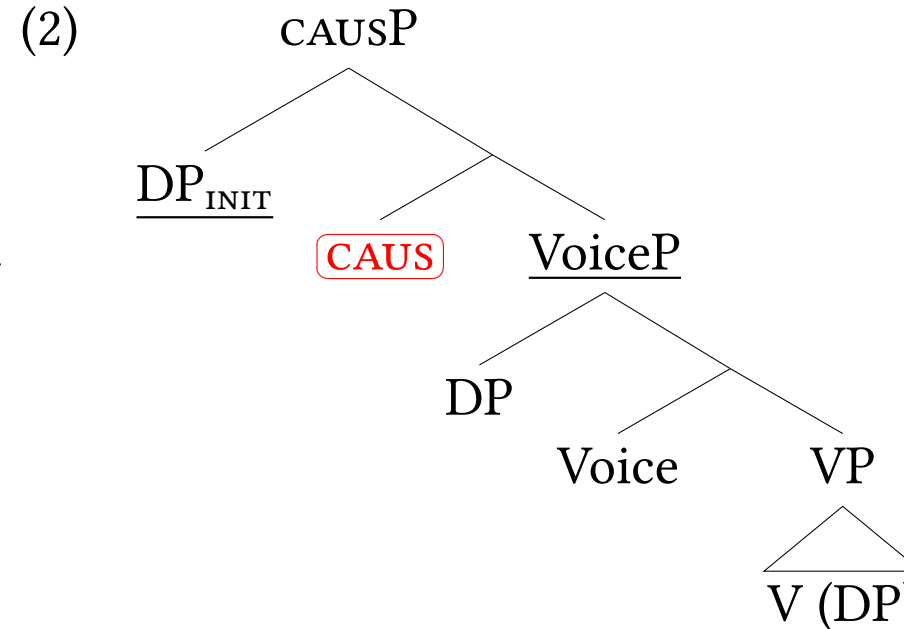
## (1) Choctaw

- a. *Pam-at kobaffi-tok*  
Pam-NOM break.TR-PST  
'Pam broke it.'
- b. *Peggy-at Pam kobaffi-**chi**-tok*  
Peggy-NOM Pam break.TR-CAUS-PST  
'Peggy made Pam break it.'

## Modelling causatives in Distributed Morphology

A common analysis:<sup>1</sup>

- The CAUS morpheme realizes a **CAUS** head.
- CAUS is transitive: a DP must merge in Spec-CAUSP.
- CAUS has an unsaturated INITIATOR  $\theta$ -role, which it discharges to DP.
- CAUS can take a variety of complements (VoiceP, vP,  $\sqrt{\text{ROOTP}}$ , ...)



<sup>1</sup>E.g. Miyagawa (1984); Harley (2008); Key (2013). I ignore for now the common assumption that CAUS is a Voice head; it doesn't affect the analysis at hand.

## Today: a problem for the ‘naive’ DM approach

### (3) Choctaw

a. *Iti kobaffi-li-h.*

stick break.TR-1SG.ERG-NFUT

‘I broke the stick.’

b. *Iti kobaffi-chii-li-h.*

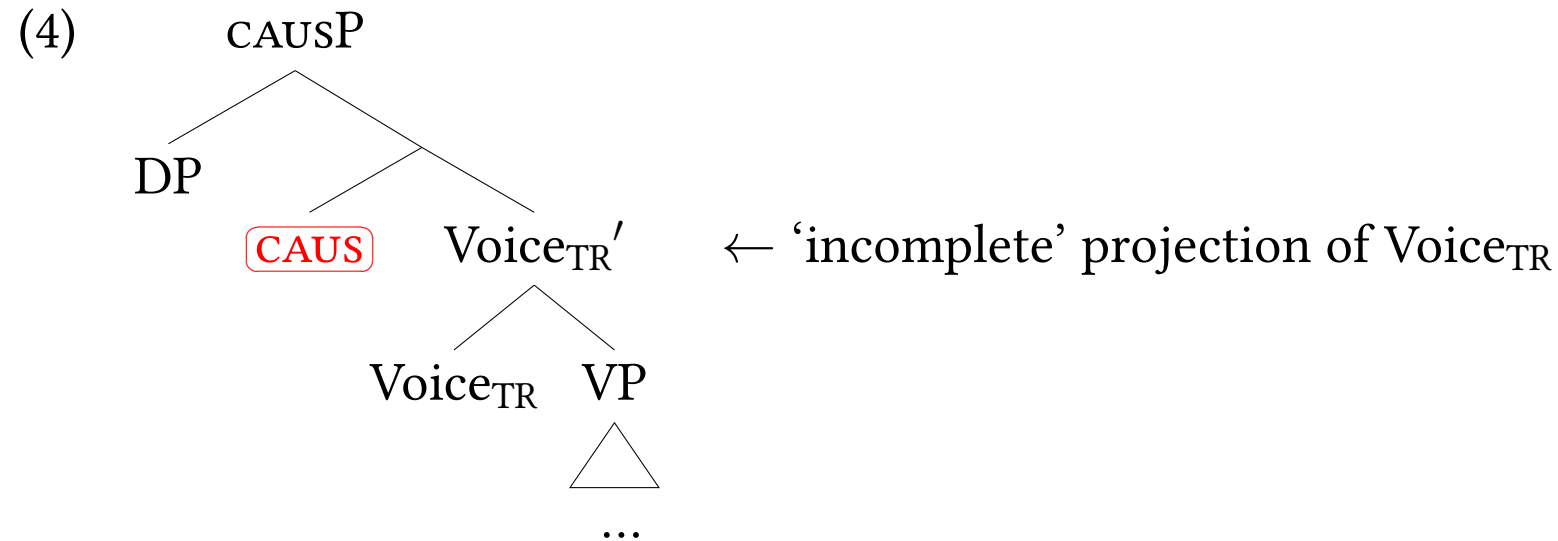
stick break.TR-CAUS-1SG.ERG-NFUT

‘I broke the stick (perhaps with some difficulty).’

- CAUS here does not add an argument, i.e. it is **non-valency-increasing**.
  - CAUS instead affects the **interpretation** of the event.
- Question: can this CAUS be *the same head* as valency-increasing CAUS?

## Proposal

- Answer: canonical CAUS and non-valency-increasing CAUS **are the same head**.



- Syntax: CAUS selects a **bar-level projection** of Voice<sub>TR</sub>.<sup>2</sup>
- Compositional semantics: the  $\theta$ -roles of Voice<sub>TR</sub> and CAUS combine and discharge to Spec-CAUSP.
- Deriving the interpretations of NVI causatives: they are (partly grammaticalised) pragmatic consequences of these semantics.

<sup>2</sup>The analysis draws heavily on Bruening’s (2013) analysis of passives.

## Outline

1. Introduction
2. What are non-valency-increasing causatives?
3. The syntax of non-valency-increasing causatives
4. The semantics non-valency-increasing causatives
5. Deriving the interpretations of non-valency-increasing causatives
6. Conclusion

## 2 What are non-valency-increasing (NVI) causatives?

### (5) Hawaiian: canonical causative

a. *Ua 'ike ke koa i ka ihe.*  
 PERF see the warrior OBJ the spear

‘The warrior saw the spear.’

b. *Ua hō-'ike ke koa i ka ihe i kona 'enemi.*  
 PERF CAUS-see warrior OBJ the spear OBJ his enemy

‘The warrior showed the spear to his enemy.’ (Elbert and Pukui 1979, in Medeiros 2015)

### (6) Hawaiian: NVI causative

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.’

(Hawkins 1979:24)

## The typology of NVI causatives

- They have long been of interest to typologists.
    - e.g. Kulikov (1993); Kittilä (2009); Aikhenvald (2011).
    - But they have *mostly* escaped the attention of generative syntacticians.<sup>3</sup>
  - An interesting syntactic regularity:
    - [unaccusative + CAUS] will never be non-valency-increasing.<sup>4</sup>
  - A restricted set of semantic contributions (Aikhenvald 2011):
    - Increased volitionality of the subject.
    - Increased intensity or affectedness of object.
    - Large object or multiple objects.
- My analysis captures both syntactic and semantic properties of NVI causatives.

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<sup>3</sup>See Lyutikova and Tatevosov (2018) for an exception.

<sup>4</sup>See Appendix A for a possible exception.



## Caveats

Caveat #1: NVI causatives *do not have implicit causees*.

- (7-8) *do* increase semantic valency, so they aren't NVI in the current sense.

(7) *Inepo Santoh-ta hitto-tevo-k.*

I Santos-ACC treat.medically-CAUS-PRF

'I had Santos treated (by someone).'

(Hiaki, Harley 2013:(33))

(8) *keti-m iat'ak'-i ga=a-c'mend-in-a*

keti-ERG floor-NOM PREV=CAUS-clean-NACT-AOR.3SG

'Keti had the floor cleaned (by someone/him/her/...).'

(Georgian, Nash 2020:370)

Caveat #2: We are considering only **morphological** causatives.

- e.g. *eat* → *eat-CAUS*
- ...excluding syntactic causatives (e.g. *eat* → *make eat*) & lexical causatives (e.g. *die* → *kill*).

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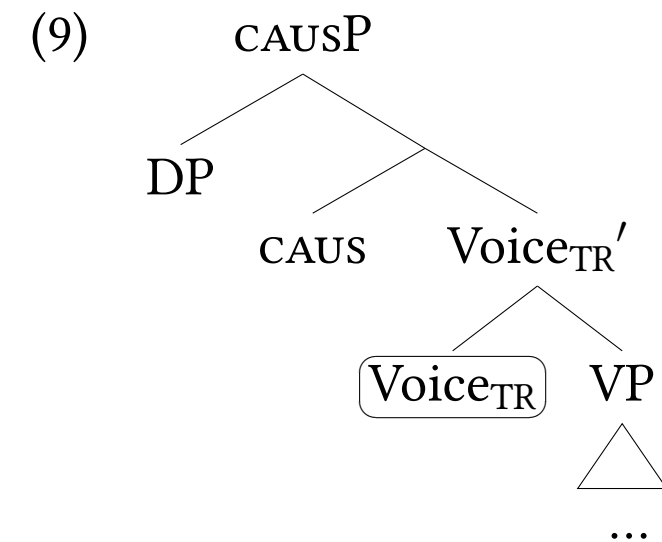
### 3 The syntax of NVI causatives

In this section, we illustrate that NVI causative morphemes...

- ...*can* be added **transitive, causative** and **unergative** verbs.
- ...*cannot* be added to **unaccusative** verbs.

What do transitive/causative/unergative verbs have that unaccusative verbs lack?

→ A Voice head that ‘wants’ to introduce an external argument:  $\text{Voice}_{\text{TR}}$ .



**Transitive base + CAUS = NVI causative****(10) Mangap-Mbula**

a. *aŋ-kaaga kataama*  
 1SG-open door  
 ‘I open the door.’

b. *aŋ-pa-kaaga kataama*  
 1SG-CAUS-open door  
 ‘I managed to get the door open.’

(Aikhenvald 2011:132)

**(11) Godoberi**

a. *mak'i-di leni çibi*  
 child-ERG water splash.PST  
 ‘the child splashed the water (perhaps involuntarily)’

b. *mak'i-di leni çib-ali*  
 child-ERG water splash-CAUS.PST  
 ‘the child splashed the water (purposefully and repeatedly)’

(Kibrik 1996:128)

**CAUS base + CAUS = NVI causative****(12) Oromo (Cushitic)**

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).’

(Kittilä 2009:84)

(13) **Hunzib (Northeast Caucasian)**

a. *abu-l*      *sɨ*      *b-iʎe-r*  
 father-ERG bear.CL.4 CL.4-kill-PRET  
 ‘Father killed the bear.’

b. *maduhan-li-l*      *abu-g*      *sɨ*      *b-iʎe-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*      *sɨ*      *b-iʎe-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.’

(van den Berg 1995:107–8, in Aikhenvald 2011:121)

## Unergative base + CAUS = NVI causative

### (14) Taba (Austronesian)

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.’

(Bowden 2001:198–202, in Aikhenvald 2011:131)

- Example (14b) “emphasizes the intensity of the staying awake: it may be used to brag about how much fun was had at a big party for instance” (Aikhenvald 2011:131).

(15) **Chichewa**

- a. *mwana'yu w-a-dy-a*  
 child.this he-TENSE-eat-INDIC  
 'The child has eaten.'
- b. *mwana'yu w-a-dy-ETS-a*  
 child.this he-TENSE-eat-CAUS-INDIC  
 'The child has eaten too much.'
- c. *mai a-ku-dy-ETS-a mwana*  
 woman she-TENSE-eat-CAUS-INDIC child  
 'The woman is feeding the child.'

(Hopper and Thompson 1980:264, in Aikhenvald 2011:132)



## Unaccusative base + CAUS $\neq$ NVI causative

- In Choctaw, it's impossible to form NVI causatives from an unaccusative base.<sup>5</sup>

(16) a. *Itii-yat kobaafa-h*  
stick-NOM break.INTR-NFUT

‘The stick broke.’

b. #*Itii-yat kobaafa-chi-h*  
stick-NOM break.INTR-CAUS-NFUT

Intended: ‘The stick broke (hard/with a lot of difficulty/...).’

Actual: ‘The stick made it break.’

- I believe this incompatibility is quite general: Aikhenvald (2011) does not mention this as an option.<sup>6</sup>

<sup>5</sup>Additionally, the list of verbs in Broadwell (2006) where CAUS can have an NVI effect seems to exclude unaccusatives.

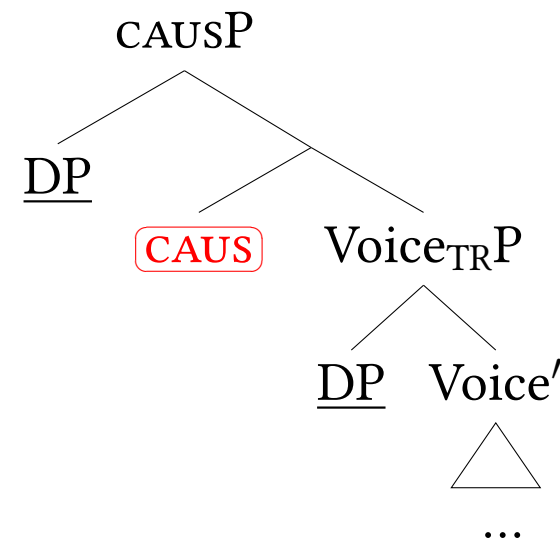
<sup>6</sup>Though see Appendix B for a potential counterexample.

## Summary: where are NVI causatives possible?

(17) Base verb	CAUS selects... <sup>7</sup>	NVI usage possible?
transitive	Voice <sub>TR</sub>	✓
unergative	Voice <sub>TR</sub>	✓
causative	Voice <sub>TR</sub>	✓
unaccusative	Voice <sub>INTR/V</sub>	✗

- Proposal: NVI causatives are possible only when **CAUS** selects **Voice<sub>TR</sub>**.
- The problem is, if we implement this in the ‘simple’ way as in (18), the resulting structure has **too many arguments!**

(18)

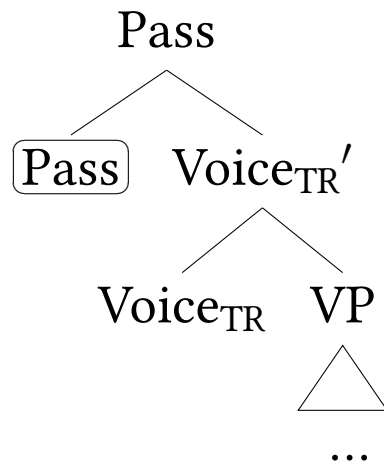


<sup>7</sup>That causative bases pattern with transitive and unergative bases implies that CAUS is itself a Voice<sub>TR</sub> head, as in Harley (2008, 2013).

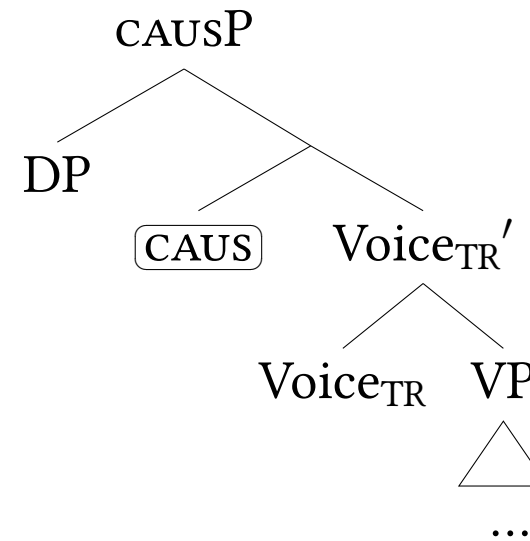
## Analysis

- Bruening (2013:22): in passives, Pass<sup>0</sup> selects  
 ‘a projection of Voice that has not yet projected its external argument’.  
 → i.e. a bar-level projection of transitive Voice.

(19) **Passive according to Bruening (2013)**



(20) **Non-valency-increasing causative**



## The selectional life of a CAUS/Voice head

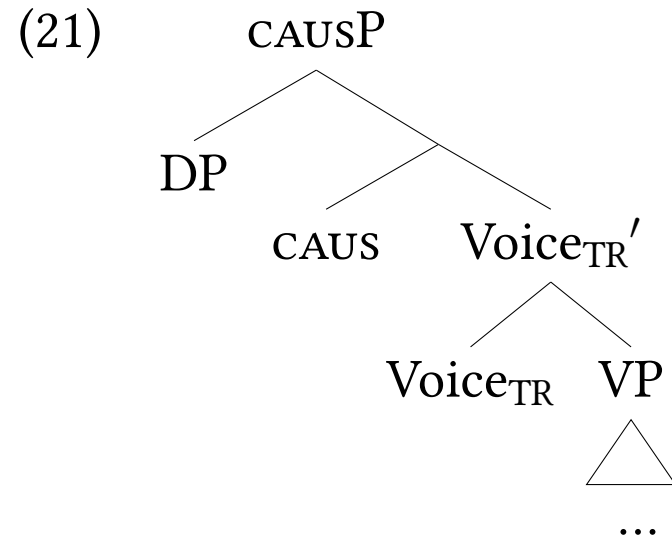
- Harley (2013): CAUS heads may select:
  - $\sqrt{\text{ROOTP}}$  ('lexical' causative with single causing event)
  - VoiceP ('syntactic' causative with two causing events)
  - vP (causative with implicit causee)
- Current proposal: CAUS may also select:
  - Voice' (non-valency-increasing causative)

## Outline

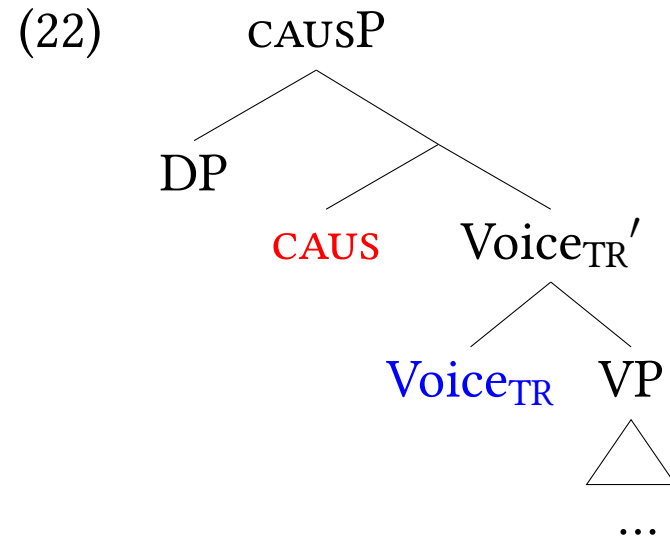
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## 4 The compositional semantics of NVI causatives

- What is the interpretation of the structure in (21)?



## Semantic composition: the intuition

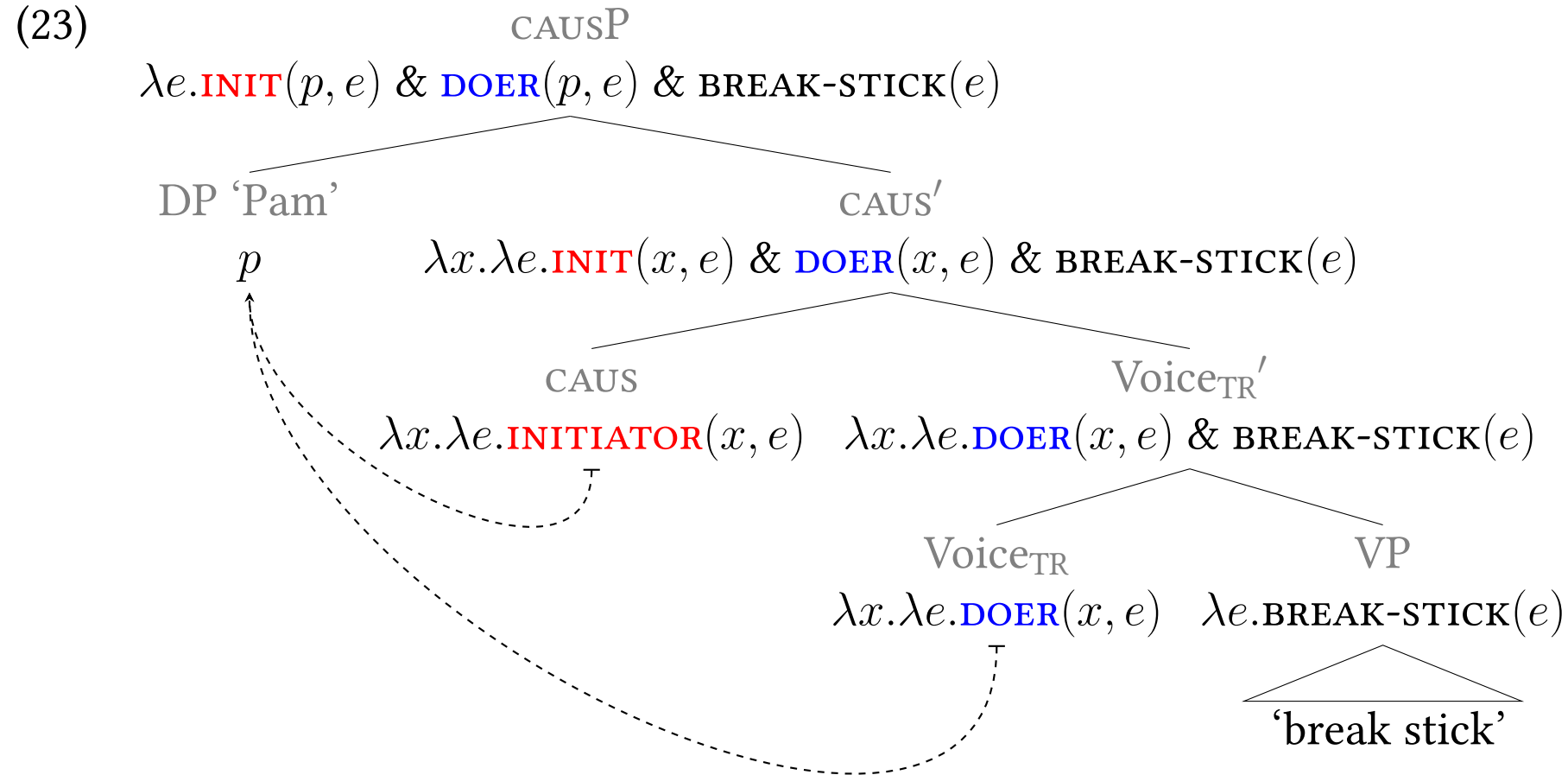


- **Voice<sub>TR</sub>** and **CAUS** each introduce unsaturated  $\theta$ -roles.
- **Voice<sub>TR</sub>**'s  $\theta$ -role can *usually* be saturated by Spec-VoiceP.
  - ...but in (22) there's nothing in Spec-VoiceP.
- The  $\theta$ -roles of **Voice<sub>TR</sub>** and **CAUS** **combine**.<sup>8</sup>
- The complex  $\theta$ -role is saturated by the DP in Spec-CAUSP.<sup>9</sup>

<sup>8</sup>This derivation requires a composition rule of *Predicate Conjunction* (Pylkkänen 2002; Kratzer 2009; Wood 2014, 2015).

<sup>9</sup>On the **DOER** role in (23), see Lundin (2003) and Sigurðsson and Wood (2020).

## Semantic composition





## Notes on the composition

- In NVI causatives, the denotations of Voice<sub>TR</sub> and CAUS are fixed by **contextual allosemy**.
- CAUS may be thought of as a Voice<sub>TR</sub> head.
  - Necessary for when NVI causatives are built off a causative base.
- The **DOER** and **INITIATOR** role are associated with the same event.<sup>10</sup>
  - Interpretation is *not* bieventive.

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<sup>10</sup>This ignores more fine-grained distinctions between causing and inchoative events within ‘simple’ change-of-state transitives.

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## 5 Deriving the interpretations of NVI causatives

Recap:

- The subject of an NVI causative ends up with **DOER** and **INITIATOR** roles, from the same event.

What are the effects of this interpretation?

- A **DOER** is one continuously involved in making the event happen.
  - This forces the event to have a **duration**.

An **INITIATOR** starts the event.

- The subject being both **INITIATOR** and **DOER** ensures that the subject is an **agent**.<sup>11</sup>

In this section:

- How the special meanings of NVI causatives result from grammaticalizing the consequences of **duration** and **agency**.

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<sup>11</sup>This is similar to how Ramchand (2008) captures agentive predicates.

## Property #1: Pluractionality

- How to ensure that punctual events have a **duration**? Make them **pluractional**.<sup>12</sup>

### (24) Tuvan (Turkic)

a. *ašak*    *Bajir-ga*    *inek-ti*    *dile-t-ken*

old.man    Bajir-DAT    cow-ACC    look.for-CAUS-PST

‘The old man caused Bajir to look for the cow (one time).’

b. *ašak*    *Bajir-ga*    *inek-ti*    *dile-t-tir-ken*

old.man    Bajir-DAT    cow-ACC    look.for-CAUS-CAUS-PST

‘The old man caused Bajir to look for the cow (several times).’

(Kulikov 1999:50)

<sup>12</sup>Specifically, this is *event-internal* pluractionality in the sense of Henderson (2012).

## Property #1: Pluractionality

- The pluractionality meaning of NVI causatives may end up conventionalised, even with non-punctual base verbs.<sup>13</sup>

### (25) Periquitos Tariana (Arawakan)

- 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.

(Aikhenvald 2011:112-118)

<sup>13</sup>In Creek, which does *not* have NVI causatives generally, some verbs form their pluractional forms with a causative suffix (Martin 2011).

## Property #2: increased intensity or affectedness of the object

- A consequence of increased **duration** is that the object may end up in a **more affected** state.
- NVI causatives may come to have ‘increased affectedness’ meaning by grammaticalization.

### (26) Choctaw (Muskogean)

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).’

(Tyler 2020:142)

## Property #2: increased intensity or affectedness of the object

- Relatedly, NVI causatives can also have an ‘**increased intensity**’ meaning (even where duration is not obviously affected) (Aikhenvald 2011).

### (27) Gayo (Austronesian)

a. *i-tipak=è*                      *aku*

UP-kick=3.NOM.SUBJ I

‘He kicked me.’

b. *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’

(Aikhenvald 2011:126)

## Property #3: increased volitionality of the subject

- Recall that the compositional semantics of NVI causatives forces the subject to be an **agent** – and excludes involuntary readings.

### (28) Finnish

a. *henkilō laihtu-i 4.86 kilo-a*  
 person.NOM lose.weight-3SG.PST 4.86 kilogram-PART  
 ‘A person lost 4.86 kilograms of weight (spontaneously, without conscious effort).’

b. *henkilō laihdu-tt-i 4.86 kilo-a*  
 person.NOM lose.weight-CAUS-3SG.PST 4.86 kilogram-PART  
 ‘A person lost 4.86 kilograms of weight (intentionally).’ (Kittilä 2009:80)



## Property #3: increased volitionality of the subject

- Enforced agency may lead to ‘**increased volitionality**’ being grammaticalized as meaning of NVI causatives (even where the subject is already acting intentionally).

### (29) Purépecha

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.’

(Kittilä 2009:80)

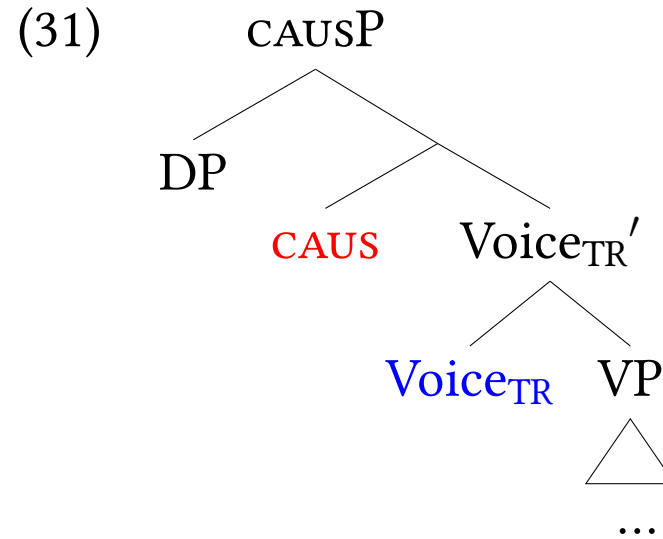


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## 6 Conclusion

- NVI causatives have the syntax in (31):
  - **CAUS** selects a bar-level projection of **VOICE<sub>TR</sub>**.
- **CAUS** and **VOICE<sub>TR</sub>** introduce separate thematic roles, which combine.
  - These enforce **duration** and **agency**.
- The pragmatic consequences of duration and agency may grammaticalize.
  - Pluractionality, greater affectedness, greater volitionality.



## References

- Aikhenvald, Alexandra Y. 2011. Causatives which do not cause: non-valency-increasing effects of a valency-increasing derivation. In *Language at Large*, ed. Alexandra Y. Aikhenvald and Robert M. W. Dixon, 86–142. Brill.
- van den Berg, Helma. 1995. *A grammar of Hunzib*. Munich: Lincom Europa.
- Bowden, John. 2001. *Taba: description of a South Halmahera language*. Canberra: Pacific Linguistics.
- Broadwell, George Aaron. 2006. *A Choctaw reference grammar*. Lincoln, NE: University of Nebraska Press.
- Bruening, Benjamin. 2013. By phrases in passives and nominals. *Syntax* 16:1–41.
- Elbert, Samuel H., and Mary Kawena Pukui. 1979. *Hawaiian grammar*. Honolulu: University of Hawaii Press.
- Harley, Heidi. 2008. On the causative construction. In *Handbook of Japanese linguistics*, ed. Shigeru Miyagawa and Mamoru Saito, 20–53. Oxford: Oxford University Press.
- Harley, Heidi. 2013. External arguments and the Mirror Principle: On the distinctness of Voice and v. *Lingua* 125:34–57.
- Hawkins, Emily A. 1979. *Hawaiian sentence structures*. Australian National University: Dept. of Linguistics, Research School of Pacific Studies.

- Henderson, Robert Martin. 2012. Ways of pluralizing events. PhD Thesis, UC Santa Cruz.
- Hopper, Paul J., and Sandra A. Thompson. 1980. Transitivity in grammar and discourse. *Language* 56:251–299. Publisher: JSTOR.
- Key, Gregory. 2013. The morphosyntax of the Turkish causative construction. Doctoral Dissertation, University of Arizona.
- Kibrik, Andrej A. 1996. Transitivity in lexicon and grammar. In *Godoberi*, ed. Alexandr E. Kibrik, 107–142. Munich and Newcastle: Lincom Europa.
- Kittilä, Seppo. 2009. Causative morphemes as non-valency increasing devices. *Folia Linguistica* 43:67–94.
- Kratzer, Angelika. 2009. Making a pronoun: Fake indexicals as windows into the properties of pronouns. *Linguistic Inquiry* 40:187–237. Publisher: MIT Press.
- Kulikov, Leonid I. 1993. The “second causative”: A typological sketch. In *Causatives and transitivity*, ed. Bernard Comrie and Maria Polinsky, 121–154. Amsterdam, Philadelphia: John Benjamins. Publisher: John Benjamins Amsterdam & Philadelphia.
- Kulikov, Leonid I. 1999. Remarks on double causatives in Tuvan and other Turkic languages. *Journal de la Société Finno-ougrienne* 88:49–58.
- Lundin, Katarina. 2003. Small clauses in Swedish: Towards a unified account. Doctoral Dissertation, Lund University.

- Lyutikova, Ekaterina, and Sergei Tatevosov. 2018. Event (de)composition and fake causativization. In *Proceedings of the 10th workshop on Altaic Formal Linguistics*, 34–56. Cambridge, MA: MIT Working Papers in Linguistics.
- Martin, Jack B. 2011. *A grammar of Creek (Muskogee)*. Lincoln, NE: University of Nebraska Press.
- Medeiros, David J. 2015. The Morphosyntax of the Hawaiian Causative. Slides from presentation at LSA 2015.
- Miyagawa, Shigeru. 1984. Blocking and Japanese causatives. *Lingua* 64:177–207.
- Nash, Léa. 2020. Causees are not agents. In *Perspectives on causation*, 349–394. Springer.
- Pylkkänen, Liina. 2002. Introducing Arguments. Doctoral Dissertation, MIT.
- Ramchand, Gillian. 2008. *Verb meaning and the lexicon: A first phase syntax*. Cambridge: Cambridge University Press.
- Sigurðsson, Einar Freyr, and Jim Wood. 2020. On the implicit argument of Icelandic indirect causatives. *Linguistic Inquiry* 1–74. Publisher: MIT Press.
- Tyler, Matthew. 2020. Argument structure and argument-marking in Choctaw. Doctoral Dissertation, Yale University.
- Wood, Jim. 2014. Reflexive -st verbs in Icelandic. *Natural Language & Linguistic Theory* 32:1387–1425.
- Wood, Jim. 2015. *Icelandic morphosyntax and argument structure*. Dordrecht: Springer.

## Appendix A: NVI causatives of unaccusatives?

### (32) Cora

a. *ɨ hám<sup>w</sup>eʔi t,ízi-ceʔi*  
 DET tortilla PL-hard  
 ‘The tortillas are hard.’

b. *ɨ sɨká hám<sup>w</sup>eʔi pú t,ízi-u-ceʔi-re*  
 DET sun tortilla 3SG PL-CMP-hard-CAUS  
 ‘as for the sun, it hardened the tortillas’

c. *ɨ hám<sup>w</sup>eʔi t,ízi-u-ceʔi-re-kaʔa*  
 DET tortilla PL-CMP-hard-CAUS-PST  
 ‘The tortillas got hard.’

(Kittilä 2009:88)



## Appendix B: how do you know if CAUS is truly NVI?

### (33) Tatar

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)’

(Kittilä 2009:81)

- Is *yčyra* ‘meet’ transitive or intransitive in (33a)?
- I have avoided discussion of languages where CAUS affects the *coding* of arguments but not their total number.

## Appendix C: Recursive NVI causatives?

### (34) Tuvan (Turkic)

a. *ašak*    *Bajir-ga*    *inek-ti*    *dile-t-ken*  
 old.man Bajir-DAT cow-ACC look.for-CAUS-PST  
 ‘The old man caused Bajir to look for the cow (one time).’

b. *ašak*    *Bajir-ga*    *inek-ti*    *dile-t-tir-ken*  
 old.man Bajir-DAT cow-ACC look.for-CAUS-CAUS-PST  
 ‘The old man caused Bajir to look for the cow (several times).’

c. *ašak*    *Bajir-ga*    *inek-ti*    *dile-t-tir-t-ken*  
 old.man Bajir-DAT cow-ACC look.for-CAUS-CAUS-CAUS-PST  
 ‘The old man caused Bajir to look for the cow (many times).’ (Kulikov 1999:50)

- Recursive NVI causative morphemes are predicted to be possible from my syntax. I’m unsure how the semantics would work.