

Kwak'wala *-mas* and event causation*

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Abstract: This paper investigates the semantics of the Kwak'wala causative suffix *-mas* and argues for a bieventive analysis of causativization over an analysis involving the addition of a cause theta-role. I present two types of data in order to motivate an event-based semantics for *-mas*: data concerning thematic restrictions on the external arguments of *-mas* sentences, and data involving adverbial modification and scopal ambiguity. Adopting Pylkkänen's (2008) framework, I analyze *-mas* as a voice-bundling causative which selects a ν P complement. I also discuss how restrictions on causativizing transitives can be seen to follow from a more general dispreference in the language for having more than one accusative-case marked argument in a clause.

Keywords: causatives, event semantics, external arguments, Wakashan

1 Introduction

Morphological causatives have often been described as involving the addition of a non-core argument that is interpreted as the causer of an event described by the verb root. (e.g. Comrie 1976; Dixon 2000; Pylkkänen 2008). Pylkkänen (2008:88) describes two broad types of formal analyses which have been proposed to account for this increase in valence, summarized in (1)–(2).

(1) **Theta-role Analysis:** *Introduction of a cause theta role*

- a. Cause: $\lambda x.\lambda e.$ causer(x, e)
- b. x is the causer of some event e . e.g. Reinhart 2002, Doron 1999

(2) **Bieventive Analysis:** *Addition of a cause event*

- a. Cause: $\lambda P.\lambda e. (\exists e') P(e') \ \& \ \text{CAUSE}(e, e')$
- b. There is some causing event e that causes event e' . e.g. Pylkkänen 2008, Parsons 1990

Pylkkänen argues that morphological causatives universally have the bieventive semantics in (2) and that observed cross-linguistic variation arises from two syntactic parameters. The first parameter, termed 'voice-bundling', concerns whether or not a causative is bundled together with a Voice head to introduce an external argument. The second parameter, termed 'selection', refers to the size of complement selected for by the causative; any given causative may select for a root ('root-selecting'), a VP ('verb-selecting'), or a ν P ('phase-selecting') constituent.

This paper examines Kwak'wala *-mas* using Pylkkänen's framework. Basic examples of causativization with *-mas* are given in (3)–(7) below. As the examples show, Kwak'wala *-mas* can

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causativize a diverse set of predicate types. Nevertheless, transitives (7)¹ show special restrictions related to accusative case assignment; these are discussed in Section 5 below.

(3) **WEATHER PREDICATE: *χis-* ‘to sun-shine, be sunny out’**

*χis*elamasox Merlin(*χ*^wa nala*χ*).
*t*his-a-a-mas=ox merlin (*χ*wa nala=*χ*)
 sun.shine-PL.ACT-FV-CAUS=2LOC merlin (ACC day=VIS)
 ‘Merlin [*the magician*] made it sunny out (today).’ (VF)²

(4) **NOMINAL PREDICATE: *ρəχa* ‘airplane’**

*ρəχ*ax?idamasox Merlinoxa k^wik^w.
*p*atla-x’id-a-mas=ux merlin=aχ=xa kwikw
 airplane-BEC-FV-CAUS=2LOC merlin=VIS=ACC eagle
 ‘Merlin [*the magician*] made the eagle turn into a plane.’ (VF)

(5) **UNACCUSATIVE VERB: *tiqax-* ‘to fall down’³**

*tiq*axamasi Simonoxa čəq^wana.
*t*ik-aχ-a-mas=i simon=aχ=xa tsakwana
 fall-down-FV-CAUS=3LOC simon=VIS=ACC bird
 ‘Simon made the bird fall’ / ‘Simon dropped the bird.’ (VF)

(6) **UNERGATIVE VERB: *qas-* ‘to walk’**

qasamasoxda kəlxaxa bəsəxa bəg^wanəm qa lalax laxa t’əmyilas.
*q*as-a-mas=ox=da kəlxaxa=xa bəs=aχ=xa bəgwanəm...
 walk-FV-CAUSE=2LOC=OST driver=ACC bus=VIS=ACC man...
 ...ka lalax la=xa t’əmy-’ilas.
 ...COMP go.along PREP=ACC phone-place
 ‘The bus-driver made a man walk to get to the phone.’ (VF)

(7) **TRANSITIVE VERB: *təp-* ‘to break’**

**təp*idamasox Simonox Lolaχa q^wə’sta.
*t*ap-x’id-a-mas=ox simon=aχ=χ lola=xa k^wa’sta
 break-BEC-FV-CAUS=2LOC simon=VIS=ACC lola=ACC cup
intended: ‘Simon made Lola break the cup.’ (JF)

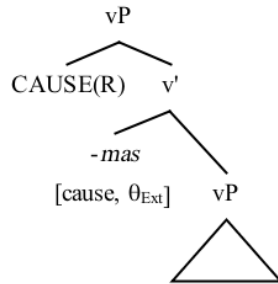
¹ The root *təp-* ‘to break’ in (7) can in fact occur unmarked in both intransitive and transitive frames. What (7) is specifically showing, then, is the ill-formedness of the transitive use of this root with *-mas*.

² Abbreviations used in this paper include the following: - affix boundary, = clitic boundary, 1POSS first person possessor, 1SG first singular, 3CO.POSS third-person possessor coreferent with subject, ACC accusative, 1LOC proximal locative deictic, 2LOC medial locative deictic, 3LOC distal locative deictic, AUX auxiliary, BEC become operator, CAUS causative, COMP complementizer, DISC discourse particle, DST.PST distance past, EXP experienced-thing (voice), FUT future, FV final vowel, (IN)VIS visibility clitic, NM nominalizer, NOM nominalizing voice suffix, OBL oblique case, O.POSS oblique possessor, OST ostensive marker, PL.ACT pluractional, RED reduplication, JF judged form, TF translated form, VF volunteered form.

³ I use the terms ‘unaccusative’ and ‘unergative’ in this paper as convenient semantic labels; diagnostics have not yet been found for a syntactic distinction between these classes in Kwak’wala.

Below I argue that *-mas* requires a bieventive semantic analysis as in (2). Syntactically, I analyze *-mas* as a phase-selecting causative that is bundled together with an external-argument introducing head.⁴ The details of this analysis are summarized in (8).

(8) **Analysis of Kwak’wala *-mas***



-mas is a complex head [cause, θ_{Ext}] that is interpreted in 2 steps:

Step 1: Addition of cause event

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

Step 2: Introduction of external argument

$\lambda x. \lambda e. \theta_{Ext}(e, x)$

In Section 2 I provide some basic background on relevant features of Kwak’wala. Then in Section 3 I discuss thematic constraints on the external argument that may appear with *-mas*, and argue that these favour a bieventive analysis over a theta-role analysis. Section 4 presents another set of arguments for a bieventive analysis involving adverbial modification and scopal ambiguity. Then in Section 5 I revisit the analysis in (8), provide two arguments for *-mas* being a vP-selecting causative, and propose that causativization of transitives is independently constrained by restrictions on the assignment of accusative case. Section 7 summarizes and concludes.

2 Background on Kwak’wala

Kwak’wala is a Wakashan language spoken on northwestern Vancouver Island, the adjacent mainland, and in urban centers in British Columbia. The language is endangered, with about 150 remaining first-language speakers, though about 13% of the population identify as learners and 8% as semi-speakers (FPHLCC 2010) and revitalization efforts are underway. All data below are from original fieldwork during 2009 to 2015 with six consultants, altogether speaking two of the five generally recognized dialects of Kwak’wala (Anonby 1997), Kwak’wala and ’Nakwala. To date I have not found any differences in how causatives are used across these two dialects.

Kwak’wala is relatively fortunate for a Northwest Coast language in terms of its documentation though much work remains to be done, especially in phonetics and semantics. Moreover, there has been no previous work on causatives in any Northern Wakashan language.⁵ To address this gap, the work here focuses on Kwak’wala’s most productive causative, *-mas*.⁶

⁴ Since the term “voice” has been used in a recent analysis of the Kwak’wala ‘passive’ suffixes (Sherer 2014) I adopt the phrase “external-argument introducing head” here in place of Pytkänen’s (2008) term “voice-bundling head” to avoid confusion.

⁵ Early description of Kwak’wala is in Boas (1911, 1947); more recent work in syntax and semantics has been done in general syntax (Anderson 1982), passives/voice (Levine 1980, Rosenblum 2013, Sherer 2014), complementation (Levine 1984), determiners (Nicholsen and Werle 2009, Black 2011) and determiner phrases (Chung 2007), copulas and clefts (Littell 2010, Stewart 2011), aspect (Greene 2013), and argument structure (Davis & Sardinha 2011), among others.

⁶ The causative discussed here is listed as *-amas* in Boas (1911, 1947); see Section 5 for discussion on the morphological shape of *-mas*. A second causative suffix *-(g)il* exists which is more limited in its distribution, showing up in certain common causative forms (e.g. *həm̓gila* ‘to feed’) as well as productively in creation

Kwak’wala is a polysynthetic, almost exclusively suffixing language. Boas (1911, 1947) divides the verb into three zones, simplified somewhat and summarized in Figure 1. The ‘stem suffixes’ in Figure 1 include contentful lexical suffixes and aktionsart suffixes; the ‘word suffixes’ contain suffixes which alter valence⁷; and the inflectional enclitics mark various clause-level grammatical distinctions such as outer aspect, tense, mood, person, and subject agreement.

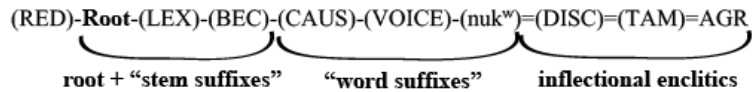


Figure 1 The Kwak’wala Verb

The unmarked clausal word order in Kwak’wala is VSO, with auxiliaries frequently preceding the verb, sometimes followed by fronted subjects. Inflectional enclitics typically occur in second position and attach to the prosodic constituent that precedes the syntactic constituent to which they refer. Non-subject argument DPs are either obligatorily marked with accusative = $\chi(a)$ or oblique = $s(a)$ case, which is to some extent a lexical property of each verb (Davis & Sardinha 2011, Sherer 2014) or else occur case-marked in prepositional phrases at the right edge of the clause. Example (9) illustrates these basic clausal properties using the verb *čo* ‘to give’, with the subject, oblique argument, and prepositional argument delimited by square brackets.

- (9) *čo*wida cedaqəsa λ atəmʔ la χ a bəgʷanəm.
 čo[=i=da cedaq][=sa λ atəmʔ] [la= χ a bəgʷanəm]
 give=3LOC=DET woman=OBL hat PREP=ACC man
 ‘The woman is giving a hat to the man’ (VF)

In cases where a third-person subject is not an overt nominal, locative deictics agree with the non-overt argument as in (10).

- (10) *daʔtəloχ.*
 daʔt-əl=οχ
 laugh-PL.ACT=2LOC
 ‘He/she/it/they [medial distance from speaker] is/are laughing.’ (VF)

In discourse, however, third-person subjects may also be unmarked for agreement, a fact that will factor in to the discussion in Section 3.4 regarding pronominal subjects.

3 External arguments with *-mas*

3.1 Obligatoriness

Kwak’wala sentences with causative *-mas* require an external argument. Kwak’wala therefore differs from languages like Japanese and Finnish which allow true unaccusative causative constructions that lack an external argument (Pylkkänen 2008). That this latter type of construction

contexts (e.g. *nəxʷəneʔgila* ‘to make a blanket’). A third causative suffix listed in Boas (ibid.) as *-oʔso*, appears to have fallen out of use, at least to my knowledge.

⁷ The suffix *-nukʷ* means ‘to have’ with nominal stems, and is used to form indefinite object constructions with verbal stems (Sardinha 2013, Sherer 2014).

is ungrammatical in Kwak'wala is shown by (11b), which sounds to consultants like an incomplete sentence. For the semantic causee to appear as the subject of a sentence with *-mas*, the verb must take a voice suffix (glossed NOM below; see Sherer 2014) as it does in (11c).

(11) *Context: My puppy Loki went outside; when he came back in a few minutes later, his ear was bleeding. We don't know what caused it.*

a. ʔəlkʷoχ pəspa'yuchs Loki.

alkw=oχ pəspə'yu=x=s loki
 bleed=2LOC ear=VIS=O.POSS loki
 'Loki's ear is bleeding.' (VF)

b. *ʔəlkʷamasoχ pəspa'yuwəs Loki.

alkw-a-mas=oχ pəspə'yu=s loki
 bleed-FV-CAUS=2LOC ear=O.POSS loki
lit. Loki's ear caused [missing object] to bleed.' (JF)
 [Intended: 'Loki's ear was made to bleed on him.']

c. ʔəlkʷamacuwoχ pəspa'yuwəs Loki.

alkw-a-mas-su'=oχ pəspə'yu=s loki
 bleed-FV-CAUS-NOM=2LOC ear=O.POSS loki
 'Loki's ear was made to bleed.' / 'Something made Loki's ear bleed.' (VF)

Since causative *-mas* does not appear to occur without an external argument also being present, I assume that the suffix fits Pylkkänen's (2008) criteria as a voice-bundling causative.

3.2 Thematic constraints

Broadly-speaking, Kwak'wala *-mas* constructions take external arguments that are thematically construable as causes. Thus agents (12), natural forces (13), and stimuli (14) are commonly found as external arguments with *-mas*:

(12) *Context: Hannah put cayenne in the soup when the cook was out.*

ʔaxʷstuxʷʔidamasuχ Hannahχʷa yusaχ.
 t'laχwstu-x'id-a-mas=uχ hannah=xwa yusa=x
 red.colour-BEC-FV-CAUS=2LOC hannah=ACC soup=VIS
 'Hannah made the soup (turn) red.' (VF)

(13) pələmxʔidamasuχda yoləχuχ Katie.

p'aləmx-x'id-a-mas=uχ=da yola=aχ=x=uχ katie
 blink-BEC-FV-CAUS=2LOC=OST wind=VIS=ACC=2LOC katie
 'The wind made Katie blink.' (VF)

(14) ləmisida təpala wokʷəgaʔtamasχa waci.

lə='mis=i=da tap-'ala wokʷ-ga'f-a-mas=xə 'watsi
 AUX=DISC=3LOC=OST break-NOISE bark-emit-FV-CAUS=ACC dog
 'The sound of shattering made the dogs bark.' (VF)

Out-of-the-blue, sentences with instruments (15) or static enabling conditions (16) as external arguments tend to be construed as having agentive properties, as shown by the consultants' comments below; this tends to result in them being judged as infelicitous.

- (15) # təp̥idamasida ləbayuxa qʷəʔstabidu.
 t̥ap-x'id-a-mas=i=da d̥ləbayu=x̣a k̥w̥a'sta-bidu
 break-BEC-FV-CAUS=3LOC=OST hammer=ACC cup-DIM
 'The hammer made the little cup break.' (JF)
Consultant's comment: "Nobody's holding it. Ghost, maybe...*loʔlinox.*"

- (16) *Context: Jon's nighttime fishing plans were spoiled when it snowed.*

kiλamasi kʷ'isaxox Jon xa ga'ala.
 kitl-a-mas=i kwisa=x̣=ox̣ jon xa ga'ala
 fish.with.net-FV-CAUS=3LOC snow=ACC=2LOC jon ACC morning
 'The snow made Jon [go] fishing in the morning.' (JF)
Consultant's comment: "It sounds funny - *kiλamasida kʷ'isa* – the snow made him go fishing. As if the snow was talking [laughter]."

The general thematic constraints above are consistent with either a theta-role analysis involving the addition of a cause theta-role onto a single event (1), or a bieventive analysis involving the introduction of an external argument that is the subject of an added cause event (2). The next two subsections present data that argue in favour of the latter bieventive analysis.

3.3 Event construals in context

The first argument for a bieventive analysis comes from the ability for static conditions to be licensed as external arguments in context. In (17) and (18) cold and heat are construed as events, rather than entities, and can therefore occur as felicitous external arguments with *-mas*.

- (17) *Context: My mom put salmon outside to thaw overnight, but it got way colder than expected. In the morning, the salmon had frozen.*

yuṁuxda w̥ədalaχ x̣uxʷʔidamasχʷa k̥utəlaχ.
 yu='m=ux=da 'w̥adala=x̣ t̥uxw-x'id-a-mas=x̣wa k̥utəla=x̣
 be.2LOC=DISC=2LOC=OST cold=VIS ice-BEC-FV-CAUS=ACC salmon[F.Rupert]=VIS
 'The **cold** made the salmon freeze.' (VF)

- (18) *Context: Eddie fell asleep on the couch with a slab of butter in his hand.*

yaχʔidamasida c̥əlkʷaʔsa ʔayasuʔχada bada leʔ mexʔidi Eddie.
 yaχ-x'id-a-mas=i=da tsalkwa=sa ayasu'=x̣a=da bada
 melt-BEC-FV-CAUS=3LOC=OST heat=O.POSS hand/arm=ACC=OST butter
 ... leʔ mex-x'id=i eddie
 PREP.NM sleep-BEC=3LOC eddie
 'The **hand's heat** made the butter melt when Eddie fell asleep.' (JF)

The fact that external arguments of *-mas* are generally felicitous as long as they are construable as standing in for an event, and not necessarily felicitous if construed as an entity,

argues in favour of a bieventive analysis of *-mas* over a theta-role analysis. It is also interesting to note that instruments strongly resist being external arguments in sentences with *-mas*, presumably because they are much harder to construe in eventive terms.⁸

3.4 Events as pronominal external arguments

Event nominals are rare as subjects in Kwak’wala with the exception of a small number of lexicalized eventive roots, such as *ninini* ‘earthquake’ shown in (19). Consultants often prefer to express event causation using several predicates and more than one clause. Example (20) shows how one consultant’s translation of an English ‘make’ construction explicitly mentions two events – a getting sick event, and a resulting state of appreciation for being out in the sun.

- (19) *lida ninini kəʔʔidamasχən niniḡwaci.*
lɑ=i=da ninini kəl-x'id-a-mas=x=ən 'ni~'nigwatsi
 AUX=3LOC=OST earthquake go.off-BEC-FV-CAUS=ACC=1.POSS PL~light
 ‘The earthquake made my lights go out.’ (VF)

- (20) *Context: Years ago Norman got sick and had to stay indoors all the time. Ever since he got better, he’s really appreciated being out in the sunshine. So Norman’s illness made him really love the sunshine.*

- loʔe? cəxqi Norman laʔəm λu:ma la ʔiʔakχada χisəla.*
lɑ=woʔ=i tsəx-x'id norman la='əm tuma la
 AUX=DIST.PST=3LOC sick-BEC norman AUX=DISC very go
 ... *ix'ak=xɑ=da tʰisəla*
 like=ACC=OST sun.shine
 ‘A long time ago Norman got sick, and now he really likes the sunshine.’ (VF)

Nevertheless, while event nominals are rarely subjects in Kwak’wala, it does appear to be possible for events to serve as pronominal external arguments of *-mas* sentences. Thus a likely analysis of example (21) involves a null (*pro*) third-person external argument in the second clause that refers to a causing event. Note that while it’s possible that *pro* in this example could be referring grammatically to an entity (=ən *dogʷəλ* ‘my seen thing’) in the previous clause, rather than an implicit event, even this would seem to involve =ən *dogʷəλ* being construed as an event. Example (22) is more clear: in this example reference to an implicit event is accomplished with the use of a voice suffix *-suʔ* that suppresses the external (event) argument.

- (21) *Context: I saw a shadow which I thought was a cougar, and I ran away! But then I looked back and realized it was just a cat that I had seen.*

- busiyən dogʷəλ k'is bədiyəl ləmis daʔtamas gaχən.*
busi=ən dogw-ətʰ kis bədi-ətʰ lɑ='mis...
 cat=1POSS see-EXP NEG cougar-EXP AUX=DISC

⁸ Delancey (1984:203) draws attention to potentially related restrictions on instrument subjects in English: e.g. *The axe broke the window* is felicitous if an axe fell off a shelf and hit the window, but most likely infelicitous if the axe was used in a deliberate hitting event. This example came to my attention via Levin and Rappaport-Hovav (2005:49).

... da'ɫ-a-mas ∅ gaxan
 laugh-FV-CAUS **pro** 1SG.OBJ
 'A cat is what I saw, not a cougar, so **it** made me laugh.' (VF)
 [*lit.* 'My seen-thing is a cat, [I] didn't [see] a cougar, so **it** made me laugh.']

- (22) *Context: Rita felt bad when no one showed up for her party...until she realized she had sent out invitations with the wrong date!*

ləmni qotəlaɫi Ritaɣa gʷixʔidaʔas ləmis ʔolek'al ʔikeqəlamacuwaʔ.
 lə='m=i k'otal-a=t=i rita=xɑ gwix-x'id-a-'as...
 AUX=DISC=3LOC know-FV=FUT=3LOC rita=ACC happen-BEC-FV-NM

... lə='mis olakal ik-ekal-a-mas-su='a'
 AUX=DISC really good-in.mind-FV-CAUS-NOM=3INVIS
 'Then Rita realized what had happened and she felt a lot better (*lit.* 'She was made to feel good').' (VF)

If events are able to serve pronominally as external arguments with *-mas*, this provides another argument that *-mas* encodes the addition of a cause event, rather than just adding an entity.

To summarize this section, causative *-mas* is acceptable with external arguments that are thematically agents, natural forces, stimuli, (pro) events, and static enabling conditions when these are construable as events. On the other hand, *-mas* is unacceptable with instruments and enabling conditions construed as entities. These constraints on possible external arguments with *-mas* argue favour a bieventive analysis as in (2) over a theta-role analysis as in (1).

4 Adverbial modification

4.1 Modification with temporal adverbs

Temporal adverbs can be used to explicitly tease apart the two events that make up statements with *-mas*, the causing event and the caused event, thereby providing additional evidence for a bieventive semantic analysis. In (23) a complex event in which Eddie causes Shelly to get hurt, expressed with *-mas*, is explicitly split into two parts: the causing event (Eddie putting wood on the ground) is modified by the temporal adverb *ʔənswəʔ* 'yesterday', while the caused event (Shelly getting hurt) is modified by the temporal adverb *ɣa nala* 'today'. In example (24), the causing event (my sweetheart sending flowers) is modified by *ʔənswəʔ* 'yesterday' and the caused event (my smiling) gets an implicit day-of-utterance reading assigned to it by context.

- (23) *Context: Eddie dropped a piece of wood on the path yesterday. Today, Shelly tripped over the piece of wood and got hurt.*

yəlkʷamasi Eddieyəɣ Shellyɣa nala leʔ ʔəɣʔəɫsɣa ləqʷa ʔənswəʔ.
 yəlkʷ-a-mas=i eddie=aɣ=x shelly=xɑ **nala** le'...
 get.hurt-FV-CAUS=3LOC eddie=3VIS=ACC shelly=ACC day PREP

... aɣ'al's=xɑ ləkwa lənswəʔ
 put.outside=ACC wood yesterday
 'Eddie made Shelly get hurt **today**, when he put wood on the ground **yesterday**.' (JF)

- (24) *Context: My sweetheart sent me flowers yesterday. I received them today and smiled.*

mən^wʔidamasən wayas gaχən leʔ haʔaχsada iksuk^w k^wak^waχʔoma gaχən tənswəʔ.
 mən^wx-x'id-a-mas=ən 'wayas gaχən le'...
 smile-BEC-FV-CAUS=1SG.POSS sweetheart 1SG.OBJ PREP

... halaxs=sa=da iksukw kwakwax'oma gaχən ləns^wəl
 send=OBL=DET beautiful plant.life 1SG.OBJ yesterday
 'My sweetheart made me smile when he sent beautiful flowers to me yesterday.' (VF)

On a theta-role analysis, there should only be one event for temporal modification to target. The possibility of having different temporal adverbs modify a causing event and a caused event therefore provides another argument for a bieventive analysis of causative *-mas*.

4.2 Adverbial scope ambiguities

A bieventive analysis of *-mas* predicts that adverbs will be able to modify either the causing event or the caused event. Example (25) with *ʔalaq* 'almost' shows that this prediction holds: sentences with *ʔalaq* and *-mas* are scopally ambiguous between a reading where *ʔalaq* modifies the causing event (25a) or the caused event (25b).⁹

- (25) *Context: Ruby, Katie, and Katie's mom are playing a game where each takes a turn trying to make one of the others laugh in 1 minute.*

a. **X almost (CAUSE (Y LAUGH))**

ʔalaχmox Katieyox daʔtamasox Ruby ʔomisox g^waʔa gaχeʔ Pat luwis wayas.
 alax^w=m=ox katie=aχ da'ʔ-a-mas=x ruby o='mis=ox...
 almost=DISC=2LOC katie=VIS laugh-FV-CAUS=ACC ruby AUX=DISC=2LOC

... gwaʔ-a gaχ=e' pat dlu=is 'wa'yas
 stop/finish-FV come=NM pat with=3.CO.POSS sweetheart

'Katie almost [*started to try to make*] made Ruby laugh, but she stopped when Pat and his sweetheart arrived.' (VF)

b. **X CAUSE (almost (Y LAUGH))**

ʔalaχmox daʔtamasən ʔəbəmp gaχən ʔomisox mən^wʔidamasox gaχən.
 alax^w=m=ox da'ʔ-a-mas=ən əbəmp gaχən...
 almost=DISC=2LOC laugh-FV-CAUS=1SG.POSS mom 1SG.OBJ

... o='mis=ox mən^wx-x'id-a-mas=ox gaχən
 AUX=DISC=2LOC smile-BEC-FV-CAUS=2LOC 1SG.OBJ

'My mom almost made me laugh, but she just made me smile.' (VF)

According to Pylkkänen's (2008) criteria, the potential for ambiguity with non-agentive adverbs like *ʔalaq* rules out *-mas* being a 'root-selecting' causative. When it comes to differentiating verb-selecting causatives from phase-selecting causatives, Pylkkänen predicts a split depending on the potential for scopal ambiguity with agentive adverbs: verb-selecting causatives are never ambiguous with agentive adverbs since at most one agent can be present in the

⁹ The different position of the subject in (26a) and (26b) relative to the verb is not truth-conditionally significant.

representation, whereas phase-selecting causatives are potentially ambiguous since there can be up to two external arguments present which could in theory both be agents. In Kwak’wala, however, I have not found a syntactic configuration where the adverb *hinuma(s)* ‘to do on purpose’ can be ambiguous – examples (26) and (27) show two attempts to obtain both high and low scope readings. According to Pyllkkänen’s test, then, *-mas* patterns as a verb-selecting causative.

(26) *hinuma(s)* ‘to do on purpose’ + *mənxʷ?idamas* ‘to make someone smile’

- a. yu^hmux Karenx hinuma mənxʷ?idamasxuχ Scott.
 yu=^hm=ux karen=x hinuma...
 be.2LOC=DISC=2LOC karen=VIS on.purpose
 ... mənxw-x'id-a-mas=x=ux scott
 smile-BEC-FV-CAUS=ACC=2LOC scott
 ‘Karen_i purposely_i made Scott smile.’ (VF)
 [Can’t mean: ‘Karen made Scott_i purposely_i smile.’] (JF)
- b. yu^hmux Karenx ǵʷixʷ?idaxʷ?asnukʷ hinumasəsuχ Bill qa mənxʷaʔeʔs.
 yu=^hm=ux karen=x gwix-x'id-a-'as-nukw
 be.2LOC=DISC=2LOC karen=2VIS happen-BEC-FV-NM-something
 ... hinumas=s=ux bill ka mənxw-aʔ=e'=s
 on.purpose=O.POSS=2LOC bill COMP smile-PL.ACT=NM=O.POSS
 ‘lit. Karen did something so Bill_i would purposely_i smile.’ (VF)
 [Can’t mean: ‘Karen_i purposely_i made Scott smile.’] (JF)

(27) *hinuma(s)* ‘to do on purpose’ + *daʔ?idamas* ‘to make someone laugh’

- a. hinumasox Pat leʔ daʔ?idamasəχ Masaki
 hinumas=ox pat leʔ daʔ-x'id-a-mas=x masaki
 on.purpose=2LOC pat PREP.NM laugh-BEC-FV-CAUS=ACC masaki
 ‘Pat_i intentionally_i made Masaki laugh.’ (VF)
 [Can’t mean: ‘Pat made Masaki_i laugh intentionally.’] (JF)
- b. ləmi Pat wəʔax Masaki qəs hinumasbuʔeʔ daʔʔəla.
 la=^hm=i pat watʔ-a=x masaki ka=s...
 AUX=DISC=3LOC pat ask-FV=ACC masaki COMP=O.POSS
 ... hinumas=buʔ=eʔ daʔʔ-al-a
 on.purpose=pretend=NM laugh-PL.ACT-FV
 ‘Pat asked Masaki_i to intentionally_i pretend to laugh.’ (VF)
 [Can’t mean: ‘Pat_i intentionally_i made Masaki laugh.’] (JF)

I suspect, however, that there are independent reasons for why *hinuma(s)* cannot be ambiguous in Kwak’wala. Firstly, low scope readings of *hinuma(s)* in examples like (26a) and (27a) may be ruled out on purely semantic grounds, since causees in *-mas* constructions tend to have low control relative to causers and might just be too difficult to construe as volitional. Heidi Harley (p.c.) notes that it is not uncommon for languages to disallow ambiguities with agentive adverbs in examples like (26a) and (27a). Secondly, Kwak’wala may just be restricted in its ability to modify non-subject arguments by secondary predication (see Anderson 1984 on the ‘subject-centredness’ of Kwak’wala). Significantly, if Pyllkkänen’s test fails for independent reasons such

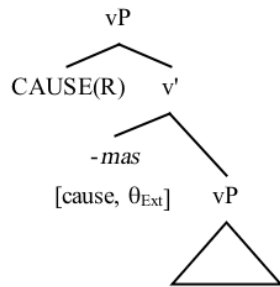
as these, it is still possible that *hinuma* is a phase-selecting causative. In fact, this is what I will argue for below in Section 5.

In summary, the ability for non-agentive adverbs like *?alaaq* ‘almost’ to modify either a causing or a caused event argues for a bieventive analysis over a theta-role analysis. Agentive adverbs do not exhibit such ambiguities, but it is not clear how to best interpret this result.

5 Analysis

The proposed analysis of *-mas* is shown in (8) below, repeated from the Introduction.

(8) Analysis of Kwak’wala *-mas*



-mas is a complex head [cause, θ_{Ext}] that is interpreted in 2 steps:

Step 1: Addition of cause event

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

Step 2: Introduction of external argument

$\lambda x . \lambda e . \theta_{Ext}(e, x)$

The bieventive semantics of *-mas* was argued for in Section 3 and Section 4, while the property of *-mas* being bundled together with an external-argument introducing head was argued for in Section 3. The final piece of the analysis to be accounted for is the size of *-mas*' complement. In the next two subsections I provide two arguments for *-mas* being a phase-selecting causative.

5.1 Distribution across verb classes

The first argument that *-mas* is a phase-selecting causative comes from its ability to causativize all intransitive verbs, including ones with unergative semantics, such as (6). On the assumption that unergative verbs take an external argument, *-mas* must be a phase-selecting causative. A potential problem with this argument is that if *-mas* were truly phase-selecting, we might expect there to be no restrictions on *-mas* causativization, and yet we see in (7) that transitives resist causativization with *-mas*. However, by hypothesis there is an independent explanation for why transitives resist causativization – namely, the fact that Kwak’wala generally disallows two $=\chi(a)$ (accusative) marked arguments in a clause (Sherer 2014, Davis & Sardinha 2011). Thus (28):

(28) **Kwak’wala Accusative Case Restriction**

There can only be one $=\chi(a)$ marked (accusative) argument¹⁰ per clause.

Assuming that (28) holds, and seeing that *-mas* consistently assigns accusative case to its direct object, *-mas* is by hypothesis unable to select a complement that also assigns accusative case.¹¹

¹⁰ The term ‘argument’ is apparently important here as temporal adjuncts, which are often introduced by $=\chi(a)$ enclitics, can co-occur with identically $=\chi(a)$ marked objects. See example (3).

¹¹ It is still unclear whether (28) is a strict constraint or a strong dispreference in Kwak’wala, as there is quite a bit of variation in the degree to which consultants accept or produce causatives of transitives (7). A few verbs such as *duq^w* ‘to see’ have also recently been found to form *-mas* causatives with idiosyncratic properties, including, it seems, double accusative marking; more research is needed on this class of verbs.

Evidence that (28) is at play in restricting causativization of transitives in Kwak'wala comes from the observation that it *is* possible to causativize transitives when the clause is restructured so that accusative case is only assigned to one argument. Examples (29) and (30) show near paraphrases of (7) in which only one argument is assigned accusative case. In example (29) one argument is demoted with a voice suffix and another is expressed in an adjunct, while example (30) utilizes a copular cleft construction to distribute arguments across two clauses.

- (29) təp̄idamacuʔuxda qʷəʔstexs Dennis gayəla laχ Anna.
 t̄ap-x'id-a-mas-su'=ux=da k̄wə'st=ex=s dennis...
 break-BEC-FV-CAUS-NOM=2LOC=OST cup=VIS=O.POSS dennis
 ... ga-ala la=x anna
 coming-PL.ACT PREP=ACC anna
 'The cup was broken [*lit.* 'caused to be broken'] by Dennis because of Anna.' (VF)

- (30) hēmi Anna lagitēs Dennis təp̄idamasχa qʷəʔsta.
 he='m=i anna la-gil=e=s dennis...
 be.3LOC=DISC=3LOC anna AUX-reason=INVIS=O.POSS dennis
 ... t̄ap-x'id-a-mas=χa k̄wə'sta
 break-BEC-FV-CAUS=ACC cup
 'Anna's the reason Dennis broke the cup.' (VF)

Example (31) shows a similar pattern with the optionally transitive verb *qas-* 'to walk' (compare (6) with (31a)). Once again we see that causativization with *-mas* is ungrammatical when it results in two accusative-case marked arguments (31b). However, when the clause is restructured, as in (31c) with a voice suffix and oblique possessor, the result is grammatical.

- (31) a. qasoχda čədaqəχis w̄ac̄iχ.
 k̄as=oχ=da t̄s̄adaḱ=aχ=x̄=is 'watsi=x̄
 walk=2LOC=OST woman=VIS=ACC=3.CO.POSS dog=VIS
 'The woman is walking her dog.' (VF)
- b. *qasamasida čədaqəχa bəgʷanəməχa w̄ac̄'i.
 k̄as-a-mas=i=da t̄s̄adaḱ=aχ=x̄a bəgwanəm=aχ=x̄a 'watsi
 walk-FV-CAUS=3LOC=OST woman=VIS=ACC man=VIS=ACC dog
intended: 'The woman made the man walk the dog.' (JF)
- c. qasamacuʔoχ bəgʷanəməχa w̄ac̄isa čədaq.
 k̄as-a-mas-su'=oχ bəgwanəm=aχ=x̄a 'watsi=sa t̄s̄adaḱ
 walk-FV-CAUS-NOM=2LOC man=VIS=ACC dog=O.POSS woman
 'The man was made to walk the woman's dog.' (JF)

It is plausible then that a restriction on assigning only one accusative-case per clause is what restricts the causativization of transitives with *-mas*: in order to form causatives of transitives, consultants must creatively find ways to restructure the clause to make sure accusative case only

gets assigned to one argument.¹² This hypothesis is consistent with *-mas* being a phase-selecting causative that assigns structural accusative case to its direct object.¹³ I leave the details of how to implement the generalization in (28) within the grammar as a topic for future research.

5.2 Affix-ordering

A second, somewhat tentative, argument for *-mas* being a phase-selecting causative relates to where *-mas* attaches within the verb. Returning to the Kwak’wala verb template in Figure 1 above, we can see that *-mas* straddles a boundary between the ‘stem suffixes’ and ‘word suffixes’. If this morphological division reflects a phase boundary, then the positioning of *-mas* relative to other affixes constitutes a morphological argument for it being a phase-selecting causative.

Evidence for *-mas* selecting a ‘phase’ comes from the status of the affixal neighbours to its right and left. On its right edge, *-mas* is immediately followed by voice suffixes (when these are present). Sherer (2014) analyzes voice suffixes as attaching above the verbal phase, embedding verbs with complete argument structures; it is plausible, then, that *-mas* could also be located in this higher phase. Now consider that on its left edge, *-mas* immediately precedes ‘stem-completive *a*’ (glossed here as FV, ‘final vowel’), which is a default verb form that attaches at the right edge of verb stems with or without aktionsart suffixes (Greene 2013).¹⁴ On the assumption that *-a* is a verbalizer of some sort, it could plausibly mark the rightmost edge of the lower verbal phase, which would provide additional morphological evidence for *-mas* being phase-selecting, given its position adjacent to *-a*. Though the status of morphological phases in Kwak’wala is in need of further study, the position of *-mas* relative to other affixes is at least suggestive of its being a phase-selecting causative.

Nevertheless, an alternative morphological analysis of the causative requires mention – namely, the analysis whereby the shape of the causative suffix is actually *-amas*, as was assumed in Boas (1911, 1947). On this analysis, the initial *-a* in *-amas* is present underlyingly but deleted when the suffix follows a vowel. In practice, it is very hard to distinguish between Boas’ morphological analysis and the one I am assuming, in part because *-mas* usually attaches to momentaneous *-x?id* which is consonant-final, and in part because we would expect verbal stems to have stem-completive *-a* anyway, making it impossible to tell whether this *-a* is part of the stem or part of the suffix. Nevertheless, in those rare instances where *-mas* causativizes a consonant-final, non-verbal stem without *-x?id*, the *-a* is absent, as shown in (32): this supports a morphological analysis of the causative as *-mas* over the analysis assumed by Boas.

- (32) səbadzoʔilasmasi Merlinəχa guk^w.
 səbadzoʔilas-mas=i merlin=ǫǫ=ǫa gukw
 movie.theatre-CAUS=3LOC merlin=2VIS=ACC house
 ‘Merlin [*the wizard*] made a house into a movie theatre.’ (VF)

Boas’ misanalysis of this suffix is understandable as we would expect relevant examples like (32) to be exceedingly rare in Boas’ textual materials (i.e. ‘to cause to be an N’), and also

¹² Consultants have expressed surprise at being unable to directly translate sentences like (7) into Kwak’wala. As creative masters of their language, however, they are always quick to provide alternatives.

¹³ Note that weather predicates are unique in consistently allowing null causees, as seen in (3); this makes sense on the assumption that weather predicates denote events without arguments (e.g. λe.rain(e)).

¹⁴ In Kwak’wala, *-a* is often elided when adjacent to a vowel-initial enclitic determiner; however, it consistently shows up when second-position clitics attach to an auxiliary predicate, as well as in the presence of the ‘discourse marker’ *-ʔəm/-m̄*. See Greene (2013) for discussion of stem completive *-a*.

because many suffixes in Kwak'wala do in fact lose initial segments in certain contexts. Only exceedingly rare examples like (32) are capable of disproving Boas' morphological analysis.

6 Conclusion

In this paper I have investigated Kwak'wala causative *-mas* using the framework in Pylkkänen (2008) and have argued for a bieventive analysis of causative *-mas* over a theta-role analysis. This and other properties of *-mas* identified in this paper are summarized in (33).

- (33) **Summary: Properties of Kwak'wala causative *-mas***
1. *Bieventive semantics*: *-mas* introduces a causing event.
 2. *External-argument introducing*: *-mas* is syntactically bundled with an external-argument introducing head.
 3. *Phase-selecting*: *-mas* selects for a vP.
 4. *Case-assigning*: *-mas* assigns accusative case to its direct object.
 5. *Restricted by case*: *-mas* cannot directly causativize transitives which assign accusative case to their objects, unless the clause is reorganized to make it so accusative case is only assigned once within the clause.

An important question for future research is how to best implement the case-restriction generalization in (28) in a way which accounts for various observed grammatical restrictions in Kwak'wala grammar. In addition to (28) being relevant for constraining causatives of transitives – as argued for above – a restriction on case assignment is likely also relevant for explaining the use of dummy prepositions to host optional second arguments in Kwak'wala (Davis & Sardinha 2011), a pattern that is reminiscent of the role played by preposition-like constructions in Southern Wakashan (Woo 2007). Future research is also needed to address how *-mas* differs from other causatives in the language, including the relatively more restricted zero-causative.

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