

### Culmination implicatures are not implicatures: a Salish perspective

Introducing new data from Secwepemctsin, Nl̓eʔkepmxcin, and St'át'imcets (Northern Interior Salish), this paper addresses two issues that arise from the literature on non-culminating accomplishments (NCAs): (a) it shows that cancelable culmination “implicatures” in Salish, are *at-issue* and therefore not bona fide implicatures; (b) it shows how (modal) accounts of NCAs (Bar-el et al. 2005) make an incorrect prediction regarding determiner licensing. I introduce a scalar analysis that ensures “cancelability” of culmination and predicts its *at-issueness*. The analysis correctly predicts which determiners are licensed in the object DP.

**1. At-issueness:** Salish predicates marked with control-transitive morphology normally culminate, but allow explicit culmination cancelation (1)-(2). This fact has driven claims that culmination is an implicature (Bar-el et al. 2005) – parallel claims exist for similar phenomena beyond Salish (Altshuler 2014; Martin 2019). If culmination is an implicature, it should be *not-at-issue* and inaccessible to semantic operators such as negation and adverbial modification (Potts 2005, 2015; Tonhauser 2009). However, culmination *is* accessible to negation and adverbial modification in Secwepemctsin and Nl̓eʔkepmxcin, which shows that culmination is *at-issue* (3a-b)-(4a-b).

**2. Determiner licensing:** Previous analyses of NCAs in Salish (Bar-el et al. 2005; Kiyota 2008; Huijsmans and Mellesmoen 2021) take a modal approach to account for the cancelable culmination inference (from Bar-el et al. 2005: 95):

- (i)  $\llbracket \text{CTR.TR} \rrbracket = \lambda f_{\langle v, st \rangle} . \lambda e . \lambda w [e \text{ is controlled by its agent in } w \wedge \forall w' [w' \text{ is an inertia world} \\ \text{w.r.t. } w \text{ at the beginning of } e \rightarrow [\exists e' [f(e')(w') \wedge e \text{ causes } e' \text{ in } w']]]]$

The modal approach predicts that control transitive marking should license material that requires modal (intensional) licensing. Matthewson (1998) shows that the St'át'imcets determiner *ku=* requires such licensing (5), and this extends to the Nl̓eʔkepmxcin determiner *k=* (6). However, in St'át'imcets and Nl̓eʔkepmxcin, these determiners cannot be used under control transitive verbs, regardless of event actualization (7a-b).

**3. Solution:** Both problems are addressed through a scalar analysis with a measure-of-change function ( $\mathbf{m}_\Delta$ ) for verbal predicates (Kennedy and Levin 2008), which measures the change undergone by the object that participated in the event.

- (ii) For any measure function  $\mathbf{m}$ ,  $\mathbf{m}_\Delta = \lambda x . \lambda e . \mathbf{m}_{\mathbf{m}(x)(\text{init}(e))}^\uparrow(x)(\text{fin}(e))$   
 $\mathbf{m}_\Delta$  is the degree of difference between the degree of  $x$  at the beginning of  $e$  and the degree measured by  $\mathbf{m}$  at the end of  $e$ . (Kennedy and Levin 2008: 18)

Crucial to the truth conditions of control transitive verbs is its mapping of  $\mathbf{m}_\Delta$  onto a top-closed scale:

- (iii) *Control transitive:*  
 $\mathbf{m}_\Delta(x)(e) \in S_{[0,1]}$   
 The degree to which  $x$  changes due to participating in  $e$  maps onto a closed scale.

Culmination is inferred through *Interpretive Economy* (IE):

- (iv) *Interpretive Economy*

Maximize the contribution of the conventional meanings of the elements of a sentence to the computation of its truth conditions. (Kennedy 2007: 36)

IE maximizes the contribution of  $\mathbf{m}_\Delta$ , which results in maximizing the contribution scale's upper bound to the computation of its truth conditions, and hence (1)-(2) normally culminate. IE is violable and culmination is cancelable (Kennedy and McNally 2005; Kennedy 2007).

**4. Outlook:** By encoding the top end of the scale in the truth-conditions, culmination is accessible to semantic operators such as negation and adverbial modification. At the same time, both the cancelability and the default inference of culmination follow from IE. As a result, this analysis obtains the core feature of defeasible culmination, while predicting that culmination is *at-issue* content (3a-b)-(4a-b).

The scalar analysis does not license material that requires modal (intensional) licensing, and therefore predicts that object DPs headed by *ku=* (St'át'imcets) or *k=* (Nl̓eʔkepmxcin) are illicit under control transitive predicates, which is borne out (7a-b).

- (1) *Context: Jim worked on making a basket but it isn't done yet.*  
 Jim kúl-**en-[t]**-s re miñc, #(ta7 k s-wi7-s ey) Secwepemctsin  
 Jim make-CTR-TR-3ERG DET basket NEG D/C NMLZ-finish-3POSS still  
 'Jim made a basket but he still hasn't finished.'  
 (Culmination cancelation with CTR-TR)
- (2) *Context: I worked on roasting a deer but it's a time-consuming process. So the roast isn't done yet.*  
 q̣<sup>w</sup>ey-**[n]-t**-éne ?ə=smiyc #(kmeł tətə?e k=s=cuk<sup>w</sup>-s-[t]-ne yi?) Nl̥ə?kepmxcin  
 roast-CTR-TR-1SG.ERG DET=deer however NEG D/C=NMLZ=finish-CAUS-TR-1SG.ERG yet  
 'I roasted deer but I haven't finished it yet.'  
 (Culmination cancelation with CTR-TR)
- (3) *Context: Jim only ate the unhealthy parts of dinner but didn't have any vegetables. Jim's mother tells him:*  
 a. Jim ta7 k s-7ill-**en-[t]**-c re-7 s-ts-7illen Secwepemctsin  
 Jim NEG D/C NMLZ-eat-CTR-TR-2SG.ERG DET-2POSS NMLZ-STAT-eat  
 'Jim, you did not eat your food' (Negation targeting endpoint)  
 b. Jim tətə?e k=s=?upis=[n]-[t]-éx<sup>w</sup> ?ə=? ṣḷaʃx-ans Nl̥ə?kepmxcin  
 Jim NEG D/C=NMLZ=eat-CTR-TR-2SG.ERG DET=2POSS food-tooth  
 'Jim, you didn't eat your food!' (Negation targeting endpoint)
- (4) *Context: I caught my dog eating the bread we left out. I put the bread away, just before he ate all of it.*  
 a. re sqéxe kékme7ll ill-**en-[t]**-s re lekelét Secwepemctsin  
 DET dog almost eat-CTR-TR-3ERG DET bread  
 'The dog almost ate the bread' (Adverbial targeting endpoint)  
 b. ?ə ʔ̣u? xé?e ?upi-**[n-t]**-s ?ə=seplil ?ə=sqáqxa Nl̥ə?kepmxcin  
 INT until DEM eat-CTR-TR-3ERG DET=bread DET=dog  
 'The dog almost ate the bread' ( Adverbial targeting endpoint)
- (5) wa7=\*(**kelh**) mám'teq ken-ts7á **ku**=plísmen St'át'imcets  
 IMPF=FUT walk(redup) around-here **ku**=policeman  
 'There \*is/might be a policeman walking around here'  
 (Possibility modal licensing *ku*= | Matthewson 1998: 203)
- (6) *Context: The speaker sees a bear in the woods.*  
 w?ex\*(=**nke**) ?elʔ̣u? ne? **k**=spe?ec Nl̥ə?kepmxcin  
 be=INF also PROX **k**=bear  
 'Bears are here too' (Inferential modal licensing *k*= | Littell and Mackie 2011: 9)  
 (See Matthewson et al. (2007) on why the inferential is modal)
- (7) a. \* k'ul'-ún'=lhkan **ku**=ts'lá7 (t'u7 ay=t'u7 kw=s=tsúk<sup>w</sup>-s-an) St'át'imcets  
 make-CTR-TR=1SG.SBJ DET=basket but NEG=EXCL D/C=NMLZ=finish-CAUS-TR-1SG.ERG  
 Intended: 'I made a basket (but I didn't finish it)' (Determiner *ku*= illicit under CTR-TR)  
 b. \* ʔ̣q<sup>w</sup>u?-[n]-t-éne **k**=swete (ʔ̣u? tətə?e k=s=cuk<sup>w</sup>-s-[t]-ne) Nl̥ə?kepmxcin  
 sew-CTR-TR-1SG.ERG DET=SWEATER but NEG D/C=NMLZ=finish-CAUS-TR-1SG.ERG  
 Intended: 'I knit a sweater (but I didn't finish it)' (Determiner *k*= illicit under CTR-TR)

---

**References:** Altshuler, D. 2014. A typology of partitive aspectual operators. *NLLT* 32. Bar-el, L., H. Davis & L. Matthewson. 2005. On non-culminating accomplishments. *Proceedings of NELS* 35. Huijsmans, M., & G. Mellesmoen. 2021. An overview of control and non-control in ?ay?ajuθəm (Comox-Sliammon). *Papers for ICSNL* 56 Kennedy C. & L. McNally. 2005. Scale Structure, Degree Modification, and the Semantics of Gradable Predicates. *Language* 81. Kennedy, C. 2007. Vagueness and grammar: the semantics of relative and absolute gradable adjectives. *L&P* 30. Kennedy, C. & B. Levin. 2008. Measure of change: the adjectival core of degree achievements. *Adjectives and Adverbs: Syntax, semantics and discourse*. OUP. Kiyota, M. 2008. Situation aspect and viewpoint aspect: From Salish to Japanese. Dissertation, UBC. Littell, P. & S. Mackie. 2011. Reconsidering sensory evidence in Nl̥ə?kepmxcin. *Papers for ICSNL* 46. Martin, F. 2019. Non-culminating accomplishments. *Language and Linguistics Compass* 13. Matthewson, L. 1998. Determiner systems and quantificational strategies: Evidence from Salish. Matthewson, L., H. Davis & H. Rullmann. 2007. Evidentials as epistemic modals: Evidence from St'át'imcets. *Linguistic Variation Yearbook* 7. Potts, C. 2005. The logic of conventional implicatures. OUP. Potts, C. 2015. Presupposition and implicature. *Handbook of contemporary semantic theory*. Tonhauser, J. 2009. Diagnosing (not-)at-issue content. *Proceedings of SULA* 6.

---