Non-culminating accomplishments in Kwak'wala and Salish*

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1. Introduction

The Salish and Wakashan language families belong to the Northwest Coast Sprachbund and share many areal features (Thompson & Kinkade 1990). This makes it all the more interesting when we find significant grammatical differences between the two families. In this paper I present evidence suggesting there may be a cross-family difference in what factors give rise to atelicity in certain accomplishment-like VPs.

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The languages I compare include Kwak'wala (a Northern Wakashan language) and two Salish languages analyzed in Bar-el et al. (2005): St'át'imcets and Skwxú7mesh (hereafter 'Salish').

In English, non-progressive sentences with accomplishment predicates are telic (1a). That telicity is entailed is shown by the fact that it cannot be felicitously cancelled (1b).

- (1) a. Nazansky wrote a letter.
 - b. #...but he didn't finish writing it.

The nearest translational equivalent of many English accomplishments in Kwak'wala, St'át'imcets, and $S\underline{k}w\underline{x}$ ú7mesh differ from their English counterparts in that they do *not* entail telicity. Predicates with this property are referred to as non-culminating accomplishments (NCAs).

In this paper, I present evidence suggesting that NCAs may arise for different reasons in Kwak'wala than they do in Salish. I begin by introducing Bar-el et al.'s (2005) analysis of NCAs in St'át'imcets and Skwxwú7mesh (Section 2). After this, I show that the Kwak'wala data are more complicated than previously thought, for the reason that this language possesses both culminating and non-culminating accomplishment-like predicates (Section 3). I then sketch two possible analyses of NCAs in Kwak'wala, one analysis in which NCAs are derived, as they are in Salish, and a second analysis in which NCAs are basic and underived (Section 4). I finish by highlighting some theoretical implications of the second analysis (Section 5).

2. Non-culminating accomplishments in Salish: Bar-el et al. (2005)

In St'át'imcets and $S\underline{k}w\underline{x}$ ú7mesh, the closest equivalents of accomplishment VPs are a class of predicates referred to as control

transitives. These predicates are formed by the suffixation of a transitivizer to an unaccusative root (Davis 1997, Davis & Demirdache 2000). Though there are a number of transitivizers in both languages, Bar-el et al. (2005) specifically discuss control transitives formed using the prototypical control transitivizers -Vn(') (St'át'imcets) and -Vn/-Vt/-Vnt (Skwxwú7mesh). For space reasons, only data from St'át'imcets is reproduced below; readers may refer to Bar-el et al. (2005) for corresponding data in Skwxú7mesh.

Control transitives lacking overt aspectual and tense marking are by default interpreted as culminated events in the past tense (2). That event culmination is only an implicature, however, is demonstrated by the fact that it can be felicitously cancelled (3).

(2) dets'-en-lhkán ti ts'áz'cen-a hook-TR-1sg.su DET rug-DET 'I hooked a rug.'

Speaker's comments: "That sounds like a finished product."

¹ The abbreviations used here include: <u>St'át'imcets data</u>: 1sg.su 'first person singular indicative subject', 1sg.erg 'first person singular ergative', 3poss 'third person possessive', Det 'determiner', Neg 'negation', Nom 'nominalizer', ooc 'out of control', VG 'volunteered gloss'. <u>Kwak'wala data</u>: 1poss 'first person possessive', 3DIST 'third person distal', 3med 'third person medial', 3refl.poss 'third person reflexive possessive', ACC 'accusative case', Bec 'momentaneous aspect', CONJ 'conjunction', CONT 'continuative aspect', Det 'determiner', JF 'judged form', Neg 'negation', NMZ 'nominalizer', OST 'ostensive', PL 'plural', PREP 'preposition', VER 'verum focus', VIS 'visible', VF 'volunteered form'

² To establish the claim that telicity is implicated but not entailed in control transitives, Bar-el et al. (2005) also show that event non-culmination can be reinforced without redundancy, and that event culmination can be felicitously questioned. I focus on the cancellability test here, both for space reasons and because this is the test that has been most thoroughly carried out in Kwak'wala.

(Bar-el et al. 2005, ex. 5b)

(3) máys-en-lhkan ti q'láxan-a, fix-TR-1SG.SU fence-DET DET ťu7 cw7ay t'u7 kw-s tsúkw-s-an but NEG DET-NOM finish-CAU-1SG.ERG just 'I fixed a fence, but I didn't finish.' (Bar-el et al. 2005, ex. 9)

The fact that these predicates are non-culminating is especially interesting given that the verb roots involved are lexically telic. This is shown by how in their unaccusative realization, in the absence of overt aspectual or tense marking, these roots only give rise to past tense interpretations (4), and by how attempting to deny culmination leads to contradiction (5).

- (4) q'ets' ti swíta-s-a get.knitted DET sweater-3POSS-DET
 VG: 'Her sweater got knitted.'
 Can it mean it's being knitted right now?
 "No. It just means her sweater got knitted."
 (Bar-el et al. 2005, ex. 26)
- (5) * mays ti q'láxan-a, kw-s t'u7 aoy t'u7 get.fixed DET fence-DET but NEG just **DET-NOM** ka-máys-ts-a ooc-fix-3poss-ooc 'The fence got fixed, but it couldn't get fixed.' Speaker's comments: "Contradiction." (Bar-el et al. 2005, ex. 32)

Thus, even though the verb roots are telic, they are able to describe atelic events when suffixed with a control transitivizer.

To account for these patterns, Bar-el et al. analyze control transitivizers as performing two functions. First, they introduce an external argument which is 'in control' of the event; and second, they eliminate the requirement that the event culminate in the actual world. To capture this modal property of the transitivizers' meaning, the authors analyze control transitivizers as introducing inertia worlds, incorporating insights from Dowty's (1979) analysis of the English progressive. The denotation of control transitivizers is given in (6).

(6) $[CONTROL.TRANS]^w = \lambda f \in D_{< l,st>}$ [λe [e is controlled by its agent in w & \forall w' [w' is an inertia world w.r.t. w at the beginning of $e \rightarrow [\exists e' [f(e')(w') \& e \text{ causes } e' \text{ in } w']]]]$

According to (6), the transitivizer takes a telic verb root and adds two conditions: first, that the event is controlled by an agent, and second, that the event culminates in all inertia worlds.³ Thus NCAs in Salish arise through the addition of a non-culmination meaning to an underlyingly telic root.

3. Two varieties of accomplishment-like predicates in Kwak'wala

Non-culminating accomplishments in Kwak'wala are first documented in Greene (2013), where they are assigned to an aktionsart class called *processes*. Bare *process* roots can be translated in either the present tense (progressive or habitual) or

³ The authors propose that inertial worlds branch off at the beginning of the event, rather than at the end of the reference time. This allows them to account for Salish perfective accomplishments having different truth conditions from English progressives (Bar-el et al. 2005).

⁴ Greene (2013) proposes three aktionsart classes, including *processes* (which includes both accomplishment-like and activity-like verbs), *states*, and *transitions*. Of these classes, only *transitions* entail telicity.

the past tense (Greene 2013, p. 36). In (7), the *process* verb -(*g*)*ila* 'make' describes an event which is not culminated, while in (8) the *process* verb *kilak*- 'beat up' is used to describe a culminated event.

(7) ?əxilox Jen λοx Alexisaxa xwakwənaxa hi?ənx

$$7 ext{ox} ext{-}(g) ext{il} = ext{ox} ext{ Jen} ext{ λ w} = ext{ox} ext{ Alexis}$$

$$do\text{-make} = 3 ext{MED Jen} ext{ CONJ} = 3 ext{MED Alexis}$$

$$= ext{x} = ext{a} ext{ x} ext{w} ext{a} ext{k} ext{w} ext{ona} ext{ = α} ext{ hi} ext{?onx} ext{ = α}$$

$$= ext{ACC} = ext{DET canoe} ext{ = $ACC} = ext{DET summer}$$

'Jen and Alexis made a canoe last summer.'

Speaker: "It could mean that they built a canoe any summer, but it's not necessarily finished." (Greene 2013, ex. 50)

(8) kilax?idida bəgwanəməxa sadiqwa laxis ?əyə?su

kilak-x?id = i = da bəg
w
anəm = x = a sadiq w a beat.up-BEC = 3DIST = OST man = ACC = DET horsefly

la = x = is ?əÿə?su

prep = acc = 3refl.poss hand/arm

'The man killed the horsefly on his arm.' (20120706 VF)

Some other *processes* include *hil-* 'fix', *da-* 'take in hand', *qan-* 'sew', *kat-* 'write', and *tus-* 'cut'.

Similar to Salish control transitives, *process* verbs implicate but do not entail event culmination. Thus culmination can be felicitously cancelled, as shown in (9)-(10).

⁵ Culmination doesn't seem as strongly implicated in Kwak'wala NCAs as it is reported to be in Salish control transitives.

(9) ?əxilox Jen λox Alexisaxa xwakwənaxa hi?ənx, xiwaxox gwała ?əx-(g)il =o \check{x} Jen λŵ =o \check{x} **Alexis** =3MED Jen do-make CONJ =3MED**Alexis** x^wak^wəna $= \check{\mathbf{x}} = \mathbf{a}$ hi?ənx xiwaž $= \check{\mathbf{x}} = \mathbf{a}$ = ACC = DET canoe = ACC = DET summer never

= ox g^w ał-a = 3MED finish-a

'Jen and Alexis made a canoe during the summer time, and never finished.' (Greene 2013, p. 43)

So far then, accomplishment-like predicates in Kwak'wala look just like Salish control transitives. However, it turns out that there are also many accomplishment-like predicates in Kwak'wala which do entail culmination. For instance, wəns?id 'sink' and təpid 'break' entail telicity, as shown by the impossibility of cancelling the event's culmination in (11)-(12).

(11) # wəns?idox Henrixa xwakwəna. ki?st'ox wəns?ida
wəns-x?id = ox Henry = x = a xwakwəna
sunken-bec = 3med Henry = acc = det canoe
ki?s = t'a = ox wəns-x?id-a
neg = but = 3med sunken-bec-a
Literally: "Henry sank the canoe, but it didn't sink."
Speaker: "He sank the canoe but it didn't sink! [laughter]"
(20140324 JF)

(12) # təpidi Patəxa kwə?sta. ki?st'ox kwə?sta təpida təp-x?id =iPat $= \check{x} = \alpha$ k^w ə?sta ki?s=t' α broken-BEC = 3DIST Pat = ACC = DET cup NEG = but=o \check{x} kwə?sta təp-x?id-a =3MED cup broken-BEC-a Literally: 'Pat broke the cup, but the cup didn't break.' KS: "Is that a contradiction?" Speaker: "Yeah, 'he broke the cup, but it didn't break' [laughter]." (20140324 JF)

Some other examples of accomplishment-like predicates which entail culmination include $?a\check{x}stud$ 'open', $lamx^w?id$ 'dry', $ya\check{x}?id$ 'melt', $q^wa\dot{p}id$ 'tear', and $\ddot{k}al\check{x}?id$ 'light up, turn on'.

Accomplishment-like predicates which entail culmination share certain properties. Semantically, they are (to the best of my knowledge, all) derived from state-denoting roots. The stative nature of these roots is apparent in (13)-(14), where they appear bare (that is, with default -a) functioning as attributive modifiers.

- duxwaxəli Patexa wənsa xwakwəna
 duqwax-la = i Pat = x = a wəns-a xwakwəna
 see-CONT = 3DIST Pat = ACC = DET sunken-a canoe
 'Pat saw a sunken canoe.' (20160110 VF)
- (14) naqož Katie laža təpa kwə?sta naq = ož Katie la = $\check{x} = \alpha$ təp-a kwə?sta drink = 3MED Katie PREP = ACC = DET broken-a cup 'Katie's drinking out of a broken cup.' (20160110 VF)

When the suffix -x?id attaches to one these stative roots, an inchoative state is formed (Greene, 2013, p. 89). Syntactically, these can be realized as unaccusative predicates (15)-(16).

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(15) wəns?idida xwakwəna

wəns-x?id = i = da
$$x^w \alpha k^w$$
əna sunken-BEC = 3DIST = OST canoe 'The canoe sunk.' (20140324 VF)

(16) təpidida kwə?sta

təp-x?id = i = da
$$k^w$$
ə?sta
broken-BEC = 3DIST = OST cup
'The cup broke.' (20110628 VF)

Significantly, derived unaccusative predicates like as *wəns?id* and *təpid* entail telicity. This is shown by the impossibility of cancelling the event's culmination in (17)-(18).

(17) # ?əxstudoxda t'əxəla. ki?st'ox ?əxstuda

KS: "So is that like a contradiction?"

Speaker: "Yeah!" (20140324 JF)

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(18) # təpidida kwə?sta, ki?st'ox təpida

təp-x?id = i = da kwə?sta ki?s = t' = ox

broken-bec = 3med = ost cup neg = but = 3med

təp-x?id-a

broken-bec-a

Literally: 'The cup broke, but it didn't break.'

(20140324 JF)
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The telicity of derived unaccusatives like those in (17)-(18) can be explained compositionally, as the result of suffixing the 'momentaneous aspect' suffix -x?id to a property-denoting root. The semantics of -x?id is given in (19).

(19)
$$[x?id] = \lambda P_{\langle v, \langle s,t \rangle \rangle} \lambda t_i \lambda w_s$$
. \exists e.(BECOME(P))(e)(w) & time(e) \subseteq t (Greene 2013, pg. 88)

The suffix -*x?id* asserts that a transition into an event has occurred within the reference time. Thus, suffixing -*x?id* to a stative root produces a telic event—namely, one in which an internal argument comes to possess the property denoted by the stative root.⁶

Returning to the accomplishment-like predicates in (11)-(12), we see that they only differ from the unaccusatives in (15)-(16) in having an external argument. But since the accomplishment-like predicates in (11)-(12) are telic just like (15)-(16), this means that adding an external argument is *not*, on its own, sufficient in Kwak'wala for removing a verb's entailment that an event culminates in the real world. This contrasts directly with what happens in Salish control transitives, where the addition of an

⁶ This argument only needs to possess the property to some minimal degree. For instance, for the first sentence in (17) to be felicitous, the door must have opened at least a crack but does not have to have opened completely.

external argument to a telic verb does consistently give rise to atelicity. Thus, while there is compelling evidence in Salish for an association between the addition of an external argument and non-culmination, the same association does not carry over transparently into Kwak'wala, where only certain accomplishment-like predicates (namely, ones formed from lexical processes, which are not obviously derived from stative roots) are non-culminating.

4. Two analyses of NCAs in Kwak'wala

In this section I sketch two analyses of NCAs in Kwak'wala: one in which Kwak'wala resembles Salish at an abstract level, and one in which Kwak'wala and Salish differ.

Up to this point I've glossed over an important way in which Kwak'wala resembles Salish: namely, that in both Salish (Bar-el et al. 2005, Jacobs 2011) and Kwak'wala, the class of accomplishment-like predicates which are non-culminating require agentive external arguments. Thus, we see in (20)-(21) that *process* predicates are infelicitous if their subjects are not Agents.

(20) # t'us?idida k̂awayux̃a k^w əni k^w

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t'us-x?id = i = da kawayu = \check{x} = a kwənikw cut-BEC = 3MED = OST knife = ACC = DET bread Literally: 'The knife cut the bread.'

Speaker's comments: "[laughter] All by itself? The knife cut the bread...all by itself. Nobody's holding the knife." (20140113 JF)
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(21) # dalida ?i?əÿəsuxɑ walas bukw

da-la
$$= i = da$$
 ?i \sim ?ə \dot{y} əsu take.in.hand-CONT $= 3$ MED $= O$ ST PL \sim hand/arm $= \dot{x} = a$ walas buk w $= ACC = DET$ big book

Literally: 'The hands are carrying a big book.'

Speaker's comments: "[laughter] O, you're scaring me!

Sounds like ghosts. The hand is carrying the big

book...Isn't attached to anything, it's just like a ghost."

(20140113 JF)

By comparison, accomplishment-like predicates which culminate can take non-Agent external arguments, as shown with $lamx^w?id$ 'dry' (22) and $\lambda a\check{x}^wstud$ 'close, shut' (23).

(22) ləmx^w?iduxda xisəlaxən səyax

ləmx
w
-x?id = u \check{x} = d α %isəla = \check{x} = n
dry-bec = 3med = ost sunshine = acc = 1poss
sə $\check{y}\alpha$ = \check{x}
hair = VIS
'The sun dried my hair.' (20130626 VF)

(23) hemida yola %axwstudxa təxəla

he =
$$\vec{m}$$
 = i = da yu-la $\lambda \vec{a} \vec{x}^w$ stu-x?id
be.3dist = ver = 3dist = ost wind-cont closed-bec
= \vec{x} = \vec{a} t'əxəla
= ACC = DET door
'It's the wind that closed the door.' (20130708 VF)

A similar pattern occurs in Salish, where non-control transitivizers which enforce culmination also introduce non-volitional external arguments (Jacobs 2011).

To capture the difference between Agent-taking and Cause-taking predicates in Kwak'wala, we could posit two phonologically null, external argument-introducing heads: one that adds a semantic Agent (Agent Voice), and one that is semantically underspecified (Cause Voice). Agent Voice has modal semantics similar to that of the Salish control transitivizers and occurs in structures with *process* roots, while Cause Voice is used in the formation of accomplishment-like predicates which entail culmination. This analysis (Analysis A) is summarized in (24).

- (24) Analysis A: Two external-argument introducing heads in Kwak'wala
 - a. Agent Voice adds an Agent external argument and

introduces inertia modality

b. Cause Voice adds an external argument construed

as a Cause

While Analysis A captures a commonality between Kwak'wala and Salish, it has some drawbacks.

To begin with, I am not aware of any independent evidence that *process* roots in Kwak'wala are lexically telic. In contrast, we do have evidence that the verb roots which appear in Salish control transitives are telic. Thus, the evidence for Agent Voice having modal semantics in Kwak'wala is not on par with the evidence for the control transitivizer having modal semantics in Salish.

Secondly, since derived unaccusatives like *wans?id* and *tapid* always entail culmination (as in (17)-(18)), in order for Analysis A to work we need some way of guaranteeing that derived unaccusatives always co-occur with Cause Voice. This raises a question about what prevents derived unaccusatives from co-occurring with Agent Voice. This question is especially difficult to answer given that in Kwak'wala, culminating accomplishments can have fully volitional Agents. This is shown in (25)-(26), which contain the adverb *hinuma* 'to do on purpose'.

(25)?omux hinumux Norman qəs wəns?ide?x xwakwənes Bill 2o = m = ux hinuma $=u\check{x}$ Normang(a) so = VER = 3MED on.purpose = 3MED NormanPREP wans-x?id = e?x^wak^wəna $= \check{\mathbf{x}}$ =s=3REFL.POSS sunken-bec = NMZ = ACC canoe Bill = s=3possBill 'Norman purposely sunk Bill's canoe.' (20130626 VF)

(26) hinumoxda cədaq təpixa kwə?sta
hinuma = ox = da cədaq təp-?id
on.purpose = 3MED = OST woman broken-BEC
= x = a kwə?sta
= acc = det cup
'The woman broke the cup on purpose.' (20130111 VF)

It seems like it should be semantically possible for Agent Voice to be present in structures such as (25)-(26) containing volitional Agents, and for a reading of non-culmination to be coerced; empirically, however, this doesn't seem to be possible. To guarantee that only Causal-R Voice appears in these structures, then, we need to appeal to syntax. We could say, then, that Agent Voice syntactically selects *process* roots, while Causal Voice appears elsewhere. Yet while saying so would get the facts right, it does so in a somewhat unnatural way, by forcing a class of roots which semantically select an Agent (namely, *processes*) to be associated with non-culmination. Non-culmination, on this analysis, seems to 'piggy-back' on Agentivity.

A second possible analysis of NCAs in Kwak'wala starts by assuming that *process* roots in Kwak'wala are lexically atelic. This follows Kratzer (2004), who argues that accomplishments in Finnish and German are lexically atelic. However, for this

assumption to be useful in explaining why NCAs arise, Kwak'wala must differ significantly from Finnish and German in its grammar. In particular, while these languages possess a functional head above VP which introduces telicity (Kratzer, ibid.), Kwak'wala must lack an analogous telicity-introducing head. Then, the absence of a grammatical source of telicity in Kwak'wala enables *processes*, which are lexically atelic, to remain unmodified by the structure they are embedded in, resulting in them simply 'surfacing' as NCAs. In other words, NCAs in Kwak'wala are basic and underived. This analysis (Analysis B) is summarized in (27), where Kwak'wala is contrasted with Salish.

(27) Analysis B: Derived versus underived NCAs

verb source of non-culmination

meaning meaning

Salish telic addition of modalized control

transitivizer

Kwak'wala atelic no addition of telicity

Recall that culminating accomplishments in Kwak'wala are telic, but that their telicity arises compositionally; as such, no independent telicity-introducing head needs to be posited in order to explain them. Thus, the Kwak'wala data presented above is wholly consistent with Analysis B.

5. Conclusion

Though NCAs exist in both Wakashan and Salish languages, evidence from the two language families suggests that the semantics of non-culmination may have a different source in each of the two families. On the one hand, NCAs in Salish result from the addition of a meaning component which results in non-culmination (Bar-el et al. 2005). On the other hand, the evidence in Kwak'wala for a similar analysis is less transparent, and an alternative analysis in

which NCAs in this language are underived is also consistent with the data.

This latter analysis of Kwak'wala NCAs centers on the claim that Kwak'wala lacks a functional head introducing telicity. This claim is significant because it challenges the idea that telicity is instantiated universally in a hierarchy of functional heads (e.g. Travis 2010). Additional support for this claim comes from Greene's (2013) finding that Kwak'wala lacks a canonical perfective marker, as well as from forthcoming work in which I argue that object case is independent of telicity in Kwak'wala. Even so, while the claim that Kwak'wala lacks a telicity-introducing functional head is consistent with the data just presented, more empirical evidence is needed to establish it. This paper presents the first steps in this direction.

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