Intransitive *-t* in Salish*

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Abstract: This paper has two parts. In the first, we undertake a cross-Salishan survey of the distribution of intransitive *-t* (usually referred to in the Salish descriptive literature as 'stative' or 'immediate'). We identify two separate instantiations of the morpheme: the first, widespread across the family though only found in relic form in coastal languages, marks adjectives (or 'property concepts'). The second, attested only in Interior Salish, and even then only robustly so in the Northern Interior languages nłeʔkepmxcín (Thompson River Salish) and Secwepemctsín (Shuswap), marks a change of state (COS) with an entailment of culmination. In the second part of the paper, we investigate COS *-t* in detail in the Northen Interior, focusing in particular on a comparison between bare root COS verbs in St'át'imcets (Lillooet) and their t-marked equivalents in nłeʔkepmxcín and Secwepemctsín. We argue that the degree-based account of COS roots proposed by Nederveen (2024, in prep.) is better equipped to handle the close semantic parallels between t-marked and bare COS roots in the Northern Interior than the alternative predicative account of Bar-el et al, (2005) and Davis (2024), and propose that apparent bare root COS verbs in St'át'imcets are derived by affixation of a zero-marked version of *-t.* We conclude by drawing the two halves of the paper together, arguing for a diachronic trajectory in which *-t* was originally more widespread in Interior Salish, and was replaced by zero-marking in St'át'imcets and by inchoative marking in the Southern Interior.

Keywords: comparative Salish, Interior Salish, change-of-state, aspect, telicity, inchoative marking

1 Introduction

Almost every Salish language has a suffix *-t* which – unlike its better-known homophone, the transitivizer *-t* – attaches to roots to yield *in*transitive predicates. In most of the family, intransitive *-t* occurs only sporadically and unproductively, and is largely found on roots which can be characterized pretheoretically as adjectival. However, in Interior Salish – and more particularly, in the Northern Interior languages nłeʔkepmxcín (Thompson River Salish) and especially Secwepemctsín (Shuswap) – intransitive *-t* is used on verbal roots to derive change of state (COS) verbs with an entailment of culmination.

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In this paper, we take a closer look at intransitive *-t.* We begin in Section 2 with a cross-Salishan survey of its occurrence, which shows that adjectival *-t* is both very widespread and largely lexicalized, while COS *-t* is confined to Interior Salish, where it is found more commonly (though with varying productivity). In Section 3 we then turn to a more detailed consideration of COS *-t* in light of the emerging evidence for an important parametric difference in the morphological realization of COS verbs across Salish. Whereas in Central Salish as well as the Northern Interior language St'át'imcets (Lillooet), COS verbs are typically realized as bare roots, in the other Interior languages COS verbs must be suffixed with an overt intransitivizing morpheme. This morpheme differs between languages: whereas in the Southern Interior language nsyilxcn (Okanagan) it is usually either the inchoative marker *-p* ~ *<ʔ>* (Lyon 2023) or C_2 (COS) reduplication, in nłeʔkepmxcín and Secwepemctsín, it is most often realized as *-t.*

In Section 3 we then consider the implications of this morphological distribution for the semantic representation of COS verbs, focusing particularly on the comparison between bare root COS verbs in St'át'imcets and their t-marked counterparts in nłeʔkepmxcín and Secwepemctsín, which we show pattern identically as telic unaccusatives. We contrast two views of bare root COS verbs: the first treats them as underived achievements, lexically encoding a COS without internal structure (Davis 1997, Bar-el et al. 2005, Kiyota 2008, Davis and Matthewson 2009, Davis 2024); the second, based on a measure-of-change analysis of t-marked COS verbs in nłeʔkepmxcín and Secwepemctsín (Nederveen 2024, *in prep.*), treats them as derived from predicates of degrees via a null intransitivizing morpheme parallel to intransitive *-t.* We conclude on the basis of the close semantic parallels between bare root and t-marked COS verbs in favour of the second option, and adduce additional arguments for the measure-of-change approach to St'át'imcets based on its ability to account for the differences between punctual and durative COS verbs in imperfective contexts, as well as for cases of degree-based event modification.

Finally, in Section 4, we consider the diachronic implications of our synchronic analysis of COS verbs. We argue for a historical trajectory whereby COS *-t* was originally more widespread in Interior Salish than its current limited distribution in nłeʔkepmxcín and Secwepemctsín suggests, and that it was replaced by inchoative marking in the Southern Interior languages and by zero-marking in St'át'imcets. We then consider the historical relationship between adjectival *-t,* which has reflexes all over Coast Salish and COS *-t*, which *t* is confined to the Interior. We compare two possible scenarios, one in which COS *-t* developed after Proto-Interior Salish split off from the rest of the family, and the other where it was originally present prior to the split, but was completely lost in Coast Salish.

2 Intransitive *-t* across Salish

In this section, we review what is known about the distribution of intransitive *-t* across the Salish family. We are indebted here to the comparative morphological work of the late M. Dale Kinkade (1996, n.d.).

According to Kinkade (n.d.), intransitive *-t* is found in every Salish language except Tillamook. However, there is a clear division between Interior Salish, where it is widely distributed, often quite common, and at least sometimes compositionally active, and the rest of the family, where it is infrequent, semantically opaque, and often overlooked. Furthermore, adjectival and COS *-t* can be

clearly distinguished in the Northern Interior (even in St'át'imcets, where COS *-t* has fallen into disuse), whereas in most of the rest of the family only adjectival *-t* can readily be detected.[1]

We begin here in 2.1 by examining adjectival *-t*, since it is the more widespread – though less semantically transparent – of the two main types. In 2.2 we then introduce COS *-t,* whose distribution is mainly limited to Northern Interior Salish, before discussing cases in 2.3 which fall into neither of these groups, and which we refer to as "anomalous *-t*". 2.4 summarizes our findings.

2.1 Adjectival *-t*

While widespread and quite common in Interior Salish, adjectival *-t* is only found on a very few roots and is largely lexicalized in the rest of the family. It is not easy under these circumstances to identify it conclusively, particularly in less-well described languages. The problem is compounded by the fact that, as Kinkade (1996:193) points out, *t* is an extremely common element in suffixes more generally, so that stem-final *t* often has more than one potential diachronic source. Strikingly, however, adjectival *t* tends to occur consistently on a small set of roots across the family: these most often denote dimensions, including 'long/tall', 'wide' and 'thick'. In Table 1 we give reflexes of these three adjectives across the family.[2]

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[1] In previous descriptive work on Interior Salish languages, adjectival and COS *-t* have been conflated, as reflected in the fact that they are invariably given a single gloss, which typically assimilates COS cases to adjectival ones by treating them as stative (presumably via the entailment between a culminating COS and a result state, though this connection is not made explicitly). Thus Mattina (1996:93) for nsyilxcn, Willet (2003:85) for nxa'amxcín/Moses Columbia, and Pete (2011:516) for Seliš/Montana Salish all label *-t* as 'stative', while van Eijk (1997:72) labels it 'continuing state' in St'át'imcets, and Kuipers (1974:54) simply chooses 'state' for Secwepemctsín. 'State' is also adopted for by Kinkade (1996:193) in his cross-Salishan survey of aspectual marking, specifically in order to differentiate *-t* from the prefix **ʔac-*, glossed 'stative', which is found across the family and typically marks a resulting (or target) state. The only exception to the convention of treating *-t* as some kind of stative marker is the label 'immediate' used by Thompson and Thompson (1992:92) for nłeʔkepmxcín. While the Thompsons also (implicitly) aim to provide a unified description for the adjectival and COS uses of *-t*, they take a different angle, claiming it "refers to states and actions which have just gone into effect", a description which may be appropriate for COS *-t*, but is evidently *not* true of its adjectival counterpart. In order to cover the latter, they extend their definition by going on to say that "an immediate form can indicate some state of affairs in the past" (i.e., it is not necessarily "immediate"), before acknowledging that it doesn't even necessarily entail that an event has taken place, since it "can also refer to impending and generalized states or actions", and finally conceding that "immediate forms sometimes refer to more general characteristics of things" (i.e., they are adjectives). The result, unfortunately, is that the label 'immediate' becomes devoid of any content at all: we therefore suggest it should be abandoned. Our own label of 'intransitive *-t*' is meant to be general enough to capture both adjectival and COS uses of *-t.*

[2] Here and in the rest of the paper we use the Salish version of the North American Phonetic Alphabet (NAPA) for ease of comparison between languages; for the sake of uniformity, we also occasionally compromise between different transcription and glossing conventions, for example by representing stress only in polysyllabic words (as in St'át'imcets), rather than also marking it on monosyllabic words (as in nłeʔkepmxcín). In addition, in Table 2 we employ traditional (English) language names, as is customary in work on Salish historical linguistics. Forms in parentheses are non-cognates to the most common *-t* forms; a dash indicates that a root is synchronically separable from suffixal *-t* (we have erred on the side of caution here: in many cases, it is not possible to tell the synchronic status of *t* from available data).Lower Chehalis

Table 1: Cross-Salishan reflexes of dimensional adjectives with final *t*

Language	*'long/tall'*	*'wide'*	*'thick'*
Bella Coola	(cak^{w})	(p̓iq̓-iik)**-t**	pɬ**t**
Comox-Sliammon	ƛ̓aq**t**	(p̓iq̓)	pəɬ**t**
Pentlatch	ƛ̓aq**t**	?	pəɬ**t**
Sechelt	ƛ̓aq**t**	(p̓iq̓)	pəɬ**t**
Halkomelem	ƛ̓eq**t**	ɬq̓e**t**	pɬe**t**
Northern Straits	ƛ̓eq**t**	ɬq̓e**t**	čɬə**t**
Klallam	ƛ̓aq**t**	ɬq̓ə**t**	čɬə**t**
Nooksack	ƛ̓aq**t**	ɬəq̓á(ʔ)**t**, ɬáq̓ə**t**	?
Squamish	ƛ̓aq**t**	ɬəq̓	pɬuɬ
Lushootseed	(ha:c)	ɬəq̓**t**	pɬə**t**
Twana	(ɬax^{w})	ɬəq̓	pəɬ
Quinault	ƛ̓aq	ɬəq̓-	pət(-ɬ)
Upper Chehalis	ƛ̓aq(-ɬ)	ɬəq(-ɬ)	pəɬ(-ɬ)
Cowlitz	ƛ̓aq(-ɬ)	ɬəq-(ɬ)	pəɬ
Lillooet	(zax)**-t**	ɬəq̓	pɬuɬ
Thompson (River)	ƛ̓ax̌**t** / (zex)**-t** / (wis)**-t**	ɬaq̓**t**	pɬəɬ-**t**
Shuswap	ƛ̓ex̌**t** / (yex)-**t**	ɬeq̓-**t**	pɬeɬ-**t**
Okanagan	(wis-xn̓)	ɬaq̓**t**	pɬaɬ**t**
Moses-Columbia	(wis-xn)	ɬəq̓**t**	pə́ɬəɬ**t**
Spokane-Kalispel-Montana Salish	(wis-šn)	ɬaq̓**t**	pɬiɬ**t**
Coeur D'Alene	(ciš)**-t**	ɬaq̓**-t**	peɬɬ**t**

The most striking thing about Table 1 is the systematic correspondence for the three adjectives represented here between the two major branches of the family, Central and Interior Salish: most or all of the languages in these two branches have cognates ending in *-t*, though it is unclear whether it still constitutes a separate suffix in any of the Central Salish languages.

The picture is less clear with the other branches (partly but not entirely because data is less easy to come by). In Tsamosan, it appears that adjectival *-t* has been uniformly replaced by *-ɬ* on dimensional adjectives. However, Nuxalk/Bella Coola, the most divergent of all Salish languages, has t-final reflexes of the adjectives 'wide' and 'thick'. This is telling, in that due to the distance in time and space between Nuxalk and the other divisions of the family, these forms are less likely than forms in e.g., Central Salish to have been borrowed as fully lexicalized, and are therefore more likely to be relics from an earlier period when adjectival *-t* was more common and possibly productive.

and Tillamook are omitted in the table due to lack of data; in addition, Quinault data (from Modrow 1971) are unreliable, so our reconstructions are provisional.

In Interior languages, adjectival *-t* is particularly associated with what is traditionally termed 'characteristic' reduplication.[3] Characteristic reduplication is a (typically infixed) subcase of C_1C_2 reduplication which – depending on the language – may or may not be formally distinct from the (typically prefixal) plural and pluractional meanings associated with C_1C_2 on nouns and verbs, respectively: see Mellesmoen (2025:72-75) and references therein for discussion. Examples are given below from nxaʔamxcín, Secwepemctsín, nłeʔkepmxcín, and St'át'imcets:

(1) a. *nxaʔamxcín* (Willet 2003:243-245)

ċál̓<ċal̓>**-t**	<	√ċal̓	'shady'
xʷúḵʷ<xʷuḵʷ>**-t**	<	√xʷuḵʷ	'clean'
ḵín<ḵin>**-t**	<	√ḵin	'dangerous, not trustworthy'
sə́n<sən>**-t**	<	√sən	'tame, gentle'
yə́ʕʷ<yəʕʷ>**-t**	<	√yəʕʷ	'strong, intense'

b. *Secwepemctsín* (Kuipers 1974:54-55)

pál̓<pəl̓>**-t**	<	√pal̓	'stubborn'
qʷəy~qʷíy**-t**	<	√qʷiy	'blue'
ɣəl~ɣál**-t**	<	√ɣal	'strong'
xʷús<xʷəs>**-t**	<	√xʷus	'numerous'
səx~séx**-t**	<	√sex	'pure'

c. *nłeʔkepmxcín* (Thompson and Thompson 1992:89)

zéẇ<zəẇ>**-t**	<	√zeẇ	'tiresome'
ƛ̓aq̓<ƛ̓əq̓>**-t**	<	√ƛ̓aq̓	'full of thorns, thorny'
n-wén<wn>**-t**	<	√wen	'early in the morning'
míʔ<miʔ>**-t**	<	√miʔ	'contagious'
ʔəs-t-páʕ<paʕ>**-t**	<	√paʕ	'faded'

d. *St'át'imcets*

qíl̓<qəl̓>**-t**	<	√qil̓	'fun'
ḵín<ḵn>**-ət**	<	√ḵin	'dangerous'
ċə́z<ċəz>ḵ**-ət**	<	√ċzḵ	'scary'
záẇ<əzẇ>**-ət**	<	√zaẇ	'annoying'
kʷíw<kʷw>**-ət**	<	√kʷiw	'slippery'

The frequent co-occurrence of adjectival *-t* with adjective-forming C_1C_2 reduplication is something of a puzzle, particularly since both can form adjectives independently, and adjectives are also found without either of them, as seen in the Secwepemctsín examples in (2):

[3] 'Characteristic' seems to be an attempt to refer to the syntactic category adjective without actually making a commitment to its existence, as is the designation 'property-denoting' in Mellesmoen (2025) and elsewhere. Willet (2003:242) is an exception: she explicitly claims this type of reduplication is adjective-forming in nxaʔamxcín. See also Davis (2011) for the same claim with respect to St'át'imcets.

(2) a. *Secwepemctsín adjectives formed with -t but without C_1C_2 reduplication*

ƛ̓əx-**t**	‘sweet’
q̓ʷuc-**t**	‘fat’
x̌ʷən-**t**	‘fast’
c̓eɬ-**t**	‘cold’
k̓’is-**t**	‘bad’

b. *Secwepemctsín adjectives formed with C_1C_2 reduplication but without -t*

məkʷ~mékʷ	‘blunt’
mət~mát	‘soft (as butter)’
ləx̌~léx̌	‘smart, intelligent’
təp~ƛ̓ép	‘dark colour’[4]
x-təqʷ~tíq̓ʷ	‘dirty, muddy (of water)’

c. *Secwepemctsín adjectives formed with neither C_1C_2 reduplication nor -t*

x̌mank	‘heavy’
x̌yum	‘big’
qʷec	‘warm’
piq	‘white’
qyex̌	‘drunk’

Clearly, if there was originally a systematic set of alternations relating *-t* and C_1C_2, it has been obscured by lexicalization, even in Secwepemctsín, where *-t* is very common and occurs on a great many adjectives.

Occasionally, we also find semantic contrasts between reduplicated and non-reduplicated instances of predicates suffixed with *-t.* One such case, from St’at’imcets, is given in (3) below:

(3) √zaẇ ‘annoyed, irritated’

a. tə́x̌ʷ=Ø=ƛ̓uʔ waʔ zaẇ-**t** ta=kʷúkʷpiʔ-s=a ʔi=waʔ
really=3SBJ=EXCL IPFV annoy-**INTR** DET=chief-3POSS=EXIS PL.DET=IPFV
k̓ə́xʷaʔ ɬ=xʷʔáz=as kʷas
play.hockey COMP=NEG=3SJV D/C+NMLZ+IPFV+3POSS
ka-n-łaṁ-xal=wít-a
CIRC-LOC-get.put.in-ACT=3PL-CIRC
‘The hockey coach gets really annoyed when they can’t score.’[5]

[4] In this and the following example, the initial ejective has deglottalized, due to a general constraint in Secwepemctsín against having more than one ejective in a word (Kuipers 1974:23).

[5] Glossing abbreviations are as follows: ABSN = absent, ACT = active intransitive, CHA = characteristic (C_1C_2) reduplication, CIRC = circumstantial modal, COMP = complementizer, COP = (equational) copula, COS = change-of-state (C_2) reduplication, D/C = determiner-complementizer, DEM = demonstrative, DET = determiner,

b. záẇ**<əzẇ>-ət**=łkan kákʷuʔ kʷu=sḵʷúḵʷmiʔt
annoy**<CHAR>-INTR**=1SG.SBJ around.there DET=child
ʔi=wán kʷɨkʷs
when.PAST=IPFV+3SJV small
'I was an annoying child to be around when I was small.'

Here, the non-reduplicated version denotes the state of being annoyed, while the reduplicated version describes the property of causing annoyance. More generally, as noted in Davis (2011), the combination of characteristic reduplication with adjective *-t* often seems to yield adjectives of the latter type (as in all the cases in 1d. above), though there are also exceptions: *ʕə́n̓<ʕən̓>ət (< √ʕn̓)* means 'short-tempered', not 'causing anger', for example.[6]

2.2 Change-of-State *-t*

We now turn to COS *-t*, whose distribution appears to be confined to the Interior. Even here, it varies in frequency. In the Northern Interior, COS *-t* is common in nłeʔkepmxcín and particularly Secwepemctsín, but only present in a few relic forms in St'át'imcets.

In the Southern Interior, COS *-t* is attested in nxaʔamxcín but not in nsyilxcn, where Lyon (2023:233) claims that only adjectival *-t* is present, and even then only in lexicalized form. Data are not clear for the other two Southern Interior languages: for Coeur D'Alene, Reichard (1938:578) describes *-t* as deriving predicates that "have a characteristic innately" (i.e., show the profile of adjectives), but also gives examples with *-t* on clearly eventive predicates; for Seliš/Montana Salish, Pete (2011:516) characterizes *-t* as deriving "a class of verbs that express a state or condition", a description which combines features of both adjectival and COS *-t.*

Examples of COS *-t* are given below from the three Northern Interior languages, plus nxaʔamxcín as representative of the Southern Interior.

(4) a. *nxaʔamxcín*

maʕ̓ʷ**-t**	'break'
x̌ə̓s**-t**	'get lost'
na-suḵ̓ʷ**-t**	'float'

DIM = diminutive (C) reduplication, DIR = directive (full control) transitivizer, ERG = ergative (transitive subject suffix), EXCL = exclusive, EXIS = existential enclitic, INCH = inchoative, INTR = intransitive *-t*, IPFV = imperfective, LOC = locative, MID = middle, NEG = negation, NMLZ = nominalizer, OBJ = object suffix, PASS = passive, PAST = past, PL = plural inflection, PLU = plural/pluractional (C or C_1C_2) reduplication, POSS = possessive, PROSP = prospective aspect, PROG = progressive aspect, Q = yes-no question, QUOT = quotative, REM = remote in time, transitivizer, SJV = subjunctive ("conjunctive") subject clitic, SBJ = indicative subject clitic. An affix is marked with a dash (-), a clitic with an equals sign (=), a prefixal reduplicant with a tilde (~), an infix (including reduplicated infixes) with angled brackets (<…>), unsegmentable morpheme combinations with a plus sign (+), and segments deleted by regular phonological processes with curly brackets ({..}).

[6] The same generalization is also noted for Coeur D'Alene by Reichard (1938:578), who characterizes the combination of characteristic reduplication and *-t* as "…having the quality of affecting"; evidently, this semantic propensity goes back a long way in Interior Salish.

kʷaǩʷ**-t**	‘wake’
ʔuxʷ**-t**	‘get frostbitten’

b. *Secwepemctsín*

x-sul**-t**	‘freeze over’
qiɬ**-t**	‘wake up’
q̓iw**-t**	‘break’
niḵ**-t**	‘get cut’
ḵʷul̓**-t**	‘get made, be born’

c. *nłeʔkepmxcín*

qeṁ**-t**	‘get shot’
sek**-t**	‘get hit’
n-kʷew**-t**	‘fall in the water’
cek**-t**	‘get cool’
yuqʷ**-t**	‘get pulled up’

d. *St’át’imcets*[7]

zik**-t**	‘fall, topple (of e.g., a tree)’
łap**-t**	‘go out, get extinguished (of e.g., a fire or light)’
ƛ̓iqʷ**-t**	‘crackle (of e.g., a fire)’

As mentioned above, while the distinction between adjectival and COS *-t* is (relatively) clear in the three Northern Interior languages, it is much less so in the Southern Interior, including in nxaʔamxcín. In fact, following Kinkade (1989), Willet (2003:186) makes the claim that *-t* invariably marks a state in nxaʔamxcín: she therefore treats putative COS forms such as those listed in (4a) as denoting states rather than changes of state. Since COS *-t* entails culmination, and will therefore always indirectly yield a resulting state interpretation, it is virtually impossible to tell the difference between COS and stative *-t* without targeted elicitation; unfortunately, since no tests that might distinguish eventive from stative predicates have been carried out in nxaʔamxcín (at least to our knowledge) there is no direct empirical evidence to choose between the COS and the resulting state analysis for *-t*.

However, an indirect morphological argument for COS *-t* can still possibly be constructed on the basis of the contrast between eventive predicates marked with *-t* and those marked with stative **ʔac-*. Lyon (2023:248) argues convincingly that *c-*, the reflex of **ʔac-*, is productively used in neighbouring nsyilxcn to derive result (target) state predicates, independently of its use in imperfectives, where it forms part of a general reanalysis of stative and nominalizing morphology

[7] Though t-suffixed COS forms have a relic distribution in St’át’imcets, in the cases listed here, *-t* still alternates systematically with other aspect/transitivity-related morphology, including the directive (full control) transitiver, as in *zík-iṅ* ‘fell something (e.g., a tree)’, *łáp-aṅ* ‘extinguish something’, and *ƛ̓íqʷ-iṅ* ‘crack something (e.g., a whip)’. However, on other historically t-marked verbs, such as *qaṁt* ‘get hit’ (cognate with synchronically t-marked forms in the other two Northern Interior languages), *t* has become reanalyzed as part of the root, and remains present when the verb is transitivized, as in *qaṁt-s* ‘hit something’ with the causative transitivizer *-s*.

to mark viewpoint aspect. If the same holds of *ʔac-* in nxaʔamxcín, where *-t* is more prevalent on eventive predicates than in nsyilxcn, the contrast between t-marked and *ʔac*-marked predicates furnishes a potential argument that *-t* marks (or marked) a COS, as opposed to the resulting state interpretation of *ʔac-*.

Though detailed argumentation parallel to that provided by Lyon is lacking elsewhere, as far as we can tell, his conclusion that stative **ʔac-* must be distinguished from its use in imperfectives holds more generally in the Southern Interior.[8] This includes in nxaʔamxcín, where it is in fact easy to distinguish (intransitive) imperfective from stative forms: the former are prefixed with *sac- ~ sc-* (historically, a combination of the nominalizer and **ʔac-*) and suffixed with *-míx ~ -mx*, while the latter are simply prefixed with *ʔac- ~ c-*. Though Willet (2003) does not discuss stative *ʔac- ~ c-*, there are actually quite a number of examples in her dissertation, including *ʔac-ʔitx* 'sleep', *ʔac-xa<q̓>q̓* 'get paid', and *ʔac-pə<n̓>n̓* 'it bends'.[9] Kinkade (1989) also provides a number of relevant forms, including *ʔac-t̓uc* 'it's lying down', *ʔac-wiʔ* 'it's finished', and *ʔac-yaɬ̓* 'they're gathered, bunched up'. It thus seems likely that the stative prefix is or was at least partially productive in nxaʔamxcín, which raises the question of its relation to (potential) COS *-t* forms such as those listed in (4a) above. Unfortunately, we have not found any examples of the stative prefix alternating with *-t*, and therefore can draw no further conclusions at this point; further investigation might shed more light on the question.

A further potential morphological diagnostic for COS *-t* involves its interaction with other COS morphemes in Interior Salish. These include: the inchoative marker, which has two allomorphs, *-p* on weak roots and *<ʔ>* on strong roots (Kinkade 1996, van Eijk 1997); C_2 reduplication (referred to frequently in the Salish literature as 'out of control', following Carlson and Thompson 1982 on nłeʔkepmxcín and Spokane, Kinkade 1982 on nxaʔamxcín; see also van Eijk 1990 for a cross-Salishan survey); and the 'developmental' suffix **-wíl̓x* (see Kinkade 1989 on nxaʔamxcín, Kinkade and Kiyota 2004 for a cross-Salishan survey).

The developmental suffix occupies an outer level of derivational morphology, as evidenced by its ability to add freely to stems containing other COS morphemes, including *-t*: for example, Kinkade (1989) points out that unlike other aspectual morphemes, it occurs freely with *-t* in nxaʔamxcín.[10] For this reason, we set it aside.

In contrast, inchoative markers and C_2 reduplication are largely in complementary distribution with each other and with COS *-t*, suggesting that they are closely related.[11] One important difference between them has been alluded to already, and will be explored further in following sections: *-t* appears to invariably derive a *telic* predicate, whereas other COS markers vary cross-linguistically in their effect on telicity: for example, inchoative marking entails culmination on verbal (but not adjectival) roots in nsyilxcn (Lyon 2023:261-270); in St'át'imcets and nłeʔkepmxcín, on the other hand, inchoative marking only has a weaker culmination implicature, as discussed in 3.3 below.

There is one other class of predicates in Interior Salish that shares a rigid entailment of telicity with COS *-t*: bare root COS verbs in St'át'imcets (Davis 2024). One of the most important findings

[8] Reichard (1938:578) indicates that resulting state predicates in Coeur D'Alene are also derived by prefixation of stative *ʔac-*, which is distinct from its use in imperfectives ('customary' in Reichard's terminology). Coeur D'Alene thus resembles nsyilxcn in this respect.

[9] The last two of these also have C_2 reduplication, showing that the stative prefix (unlike *-t*) is not in complementary distribution with inchoative marking in nxaʔamxcín.

[10] Its phonology is also distinctive: unlike other COS markers, it is a strong (inherently stressed) suffix.

[11] This is not true in nsyilxcn, where the inchoative marker attaches to stems ending in (adjectival) *-t,* according to Lyon (2023:239). This may be another indication that *-t* is fully lexicalized in nsyilxcn.

in recent work on COS predicates in the Interior has been that – contrary to the situation in Central Salish – bare roots COS predicates are the exception rather than the rule. In fact, St'át'imcets appears to be the *only* language in the Interior with an extensive set of bare root COS verbs. This, together with the notable absence of COS *-t*, raises the possibility (which we explore further below) that bare root COS predicates are in fact affixed with a zero-marked equivalent of *-t*.

We conclude that *-t* certainly has (or had, in the case of St'át'imcets) a COS function in the Northern Interior. Available evidence is too fragmentary to draw a definitive conclusion for the Southern Interior, though on balance it appears likely that *-t* had a COS function there, too, at least historically.

2.3 Anomalous *-t*

Our discussion so far leads to the conclusion that *-t* derives two relatively well-defined predicate classes, 'property denoting' adjectives and COS verbs. However, there is a small class of *t*-suffixed predicates in Interior Salish which do not fit this profile. Cases are given below from the four languages we have been comparing so far (nxaʔamxcín and the three Northern Interior languages):

(5) a. *nxaʔamxcín*[12]

muǩʷ**t**	'laugh'
c̓əl-**út**	'stand up'[13]
cnanep**t**	'come in (pl.)

b. *Secwepemctsín*

c̓niqʷ**-t**	'fighting'
cu**-t**	'say'
xʷəs**-ét**	'go about, travel a short distance'

c. *nɬeʔkepmxcín*

xʷəs**-t**	'go home'
cu**-t**	'say'
məy**-t**	'perform a healing ritual'

d. *St'át'imcets*

c̓niqʷ**-t**	'fight, quarrel'
qʷal̓**-út**	'say'
may**-t**	'fix up (particularly of Indian doctor)'

[12] We are not as confident about the segmentation of *-t* in nxaʔamxcín as in the Northern Interior languages, so we have erred on the side of caution and only marked *-t* as a separate suffix where we are sure there are other derivations of the same root without *-t.*

[13] There are two forms in this list with *-út* and one with *-ét*. These are likely descended from stressed variants of *-t*, which would have occurred with weak roots; forms with bare *-t* would then have occurred with neutral or strong roots.

Most of these are not simply cases of fossilized *-t*, as evidenced by other derivations with the same roots (e.g., transitive *c̓níqʷ-ən* 'fight somebody', *cu-n* 'tell somebody', *máy-s-ən* 'fix something' in St'át'imcets).[14] This means they were not simply borrowed as unanalyzed forms; it is likely that they are holdovers from a much earlier stage of Salish, where *-t* had a more general intransitivizing function.

2.4 Interim Summary

Our cross-Salishan survey of intransitive *-t*, though in many cases suffering from a lack of crucial data (particularly and not surprisingly with respect to its semantics), has revealed a number of significant generalizations:

1. As originally observed by Kinkade (n.d., 1996), intransitive *-t* is old: it occurs in all major branches of the family, as well as Nuxalk/Bella Coola, indicating that it can be traced back to Proto-Salish.
2. Throughout the family, it is used to mark adjectives (a.k.a. 'property concepts'), though in Central Salish (including Nuxalk) it is almost completely lexicalized, and persists only in relic forms.
3. In Northern Interior Salish (and more debatably in the Southern Interior) *-t* has or had a distinct function as a COS marker.
4. A small set of anomalous forms indicates that *-t* may have once had a more general function as a marker of intransitivity, though data here are too scanty to do more than speculate.

One question which arises from these observations is particularly pertinent to the COS function of *-t*, our principal pre-occupation in the rest of the paper: namely, is the COS interpretation an innovation in the Northern Interior, or does it represent an archaism which has been lost in the rest of the family?

The reason this question is important is that it impacts our analysis of *bare* COS predicates, not only in St'át'imcets but also further afield in Central Salish. Both St'át'imcets and Central Salish languages have lost COS *-t* (as part of a more general loss of intransitive *-t*), and both have bare COS predicates. This distinguishes them quite sharply from the other Northern Interior languages, which have retained COS *-t* and do not allow bare COS predicates (Southern Interior languages show a third pattern: they have largely lost COS *-t,* but have replaced it with other COS markers such as inchoative marking and C_2 reduplication).

We will not try to answer this question for the whole family: that project is both too ambitious and too empirically difficult, given the time depth of the relevant changes. However, we *will* attempt to provide an answer for St'át'imcets, which has the advantage that we can undertake a more detailed look at the semantics of its COS predicates, particularly in comparison to its *t*-suffixed Northern Interior counterparts.

3 COS roots in the Northern Interior

[14] That having been said, two out of the three alternations between intransitive *-t* forms and transitive *-n* forms shown here are themselves irregular, indicating a fairly high degree of lexicalization.

In this section, we conduct a more detailed investigation into the properties of COS verbs in the three Northern Interior languages. In 3.1 we show that in spite of the morphological difference between bare root COS verbs in St'át'imcets and t-marked verbs in the other two languages, they behave identically in two important respects: they are unaccusative and they entail event culmination. In 3.2, we present the two main semantic hypotheses proposed for bare COS verbs in St'át'imcets and t-marked COS verbs in Secwepemctsín and nłeʔkepmxcín, respectively. We then compare and contrast them in 3.3, paying particular attention to which of them is best able to produce a unified analysis of the two morphological patterns.

3.1 Bare root versus t-marked COS verbs

We begin by illustrating the two morphological strategies for forming COS verbs in Northern Interior Salish: bare root unaccusatives in St'át'imcets versus *t*-marked forms in the other two languages. We show that aside from this morphological difference, COS verbs behave identically across the three languages: they license a single internal argument (i.e., they are unaccusative); and they entail culmination (i.e., they are telic).

COS verbs in St'á'timcets frequently surface as bare roots (Davis 2024). Illustrative textual examples are given in (6)-(8):

(6) cúkʷ=Ø=kʷuʔ láti ʔ na=kʷə́kʷaʔ-s=a wa ʔ,
finish=3SBJ=QUOT there ABSN.DET=grandmother-3POSS=EXIS be
łwál=Ø=ti ʔ ƛ̓it, plán=Ø=ti ʔ ʔaʔ kʷas
get.abandoned=3SBJ=DEM also already=3SBJ=DEM NEG D/C+NMLZ+IPFV+3POSS
ka-mátq-a kʷu=ʔáma
CIRC-walk-CIRC DET=good
'Only his grandmother was there, she had been left behind as well, because she couldn't walk that well anymore.' (Edwards et al. 2017:118)

(7) **kʷán**=Ø=kʷuʔ láti ʔ, **sə́k~sk-əqʷ**=Ø=kʷuʔ
get.taken=3SBJ=QUOT there **PLU~get.beaten-head**=3SBJ=QUOT
na=tw<ə́w>ẇət=a
ABSN.DET=boy<DIM>=EXIS
'The boy was taken and beaten about the head.' (Edwards et al. *in prep.*)

(8) **kəł**=Ø ʔi=sc̓ám̓-s=a, ʔəł **k̓ax**=Ø,
get.removed=3SBJ PL.DET=fish.bone-3POSS=EXIS and.then **get.dried**=3SBJ
ʔəł **c̓əq̓**=Ø
and.then **get.pounded**=3SBJ
'The (fish) bones were removed, and then it was dried and pounded.' (Mitchell 2022:396)

Notice the typical "patient-oriented" meaning of the bolded COS forms: even when the meaning of the root semantically entails agentivity, only an internal argument (patient or theme) may be expressed syntactically. In other words, bare COS verbs are unaccusative.

The second important property of bare root COS verbs in St'át'imcets is that they test as telic (Bar-el et al. 2005, Davis 2024). They have a non-cancelable culmination entailment (9a), unlike control transitives derived from the same roots, which only have a cancelable culmination implicature, shown for comparison in (9b).

(9) a. ***mays**=Ø ti=q̓láx̌an=a ƛ̓uʔ ʔáy=Ø=ƛ̓uʔ
get.fixed=3SBJ DET=fence=EXIS but NEG=3SBJ=EXCL
k^{w}=s=ka-máys=c=a
D/C=NMLZ-CIRC-get.fixed=3POSS=CIRC
Intended: 'The fence got fixed but it couldn't get fixed.' (St'át'imcets; Davis 2024:310)

b. **máys-ən**-Ø=łkan ti=q̓láx̌an=a ƛ̓uʔ ʔáy=Ø=ƛ̓uʔ
get.fixed-DIR-3OBJ-1SG.SBJ DET=fence=EXIS but NEG=3SBJ=EXCL
k^{w}=s=ka-máys=c=a
D/C=NMLZ-CIRC-get.fixed=3POSS=CIRC
'I fixed the fence but it couldn't get fixed.' (St'át'imcets; Davis 2024:310)

In contrast to St'át'imcets, COS verbs in the other two Northern Interior Salish languages are derived by *t*-suffixation, as seen in (4) above. Bare root COS verbs are ungrammatical in both languages, as shown below in (10)-(11):

(10) *Secwepemctsín: bare root COS is ungrammatical*

a. ***sul**=Ø ɣə=c̓iʔ
get.frozen=3SBJ DET=deer
Intended: 'The meat froze/got frozen.'

b. ***x^{w}ík̓**=∅ ɣe=sqlélten
get.dried=3SBJ DET=salmon
Intended: 'The salmon dried/got dried.'

(11) *nłeʔkepmxcín: bare root COS is ungrammatical*

a. ***kip̓**=∅ ʔə=sméyx
get.trampled=3SBJ DET=snake
Intended: 'The snake got trampled.' (Nederveen 2024:426)

b. ***nik̓**=∅ ʔə=keyxm-ékeʔ
get.cut=3SBJ DET=limb-hand
Intended: 'The branch got cut.' (Nederveen 2024:427)

In other ways, however, t-marked COS verbs are parallel to bare root COS verbs in St'át'imcets. Firstly, they license a single theme or patient argument: in other words, they are unaccusative, as shown in (12)-(13) below (with a parallel bare COS verb from St'át'imcets given for comparison in (14)).[15]

(12) *Secwepemctsín: t-marked COS verbs are unaccusative*

[15] It is important to set aside here "control roots" – that is, the class of zero-marked unergative (agentive intransitive) predicates which are found consistently across the family. See Davis (1997) for arguments that these predicates are zero-derived middles.

sul-t=∅ ɣe=c̓íʔ
get.frozen-INTR=3SBJ DET=deer
'The meat froze/got frozen.' (≠ 'Someone froze the meat.')

(13) *nłeʔkempxcín: t-marked COS verbs are unaccusative*

q̓ʷey-t=∅ ʔə=sqyéytn
get.roasted-INTR=3SBJ DET=salmon
'The salmon got roasted.' (≠ 'Someone roasted the salmon.')

(14) *St'át'imcets: bare COS verbs are unaccusative*

q̓ʷəl=∅ ta=c̓íʔ=a
get.cooked=3SBJ DET=meat=EXIS
'The meat got cooked.' (≠ 'Someone cooked the meat.')

Also like bare COS verbs in St'át'imcets, t-marked COS verbs in Secwepemctsín and nłeʔkepmxcín test as telic, as shown in (15)-(16) (again with a bare COS verb from St'át'imcets given for comparison in (17)):

(15) *Secwepemctsín: t-marked COS verbs are telic*

sul-t=∅ ɣə=c̓íʔ (*ʔeł ʔex ʔey ɣə=súl-t=əs)
get.frozen-INTR=3SBJ DET=deer (*and PROG still D/C=get.frozen-INTR=3SJV)
'The meat froze/got frozen (*and it's still freezing).'

(16) *nłeʔkepmxcín: t-marked COS verbs are telic*

nik̓-t=∅ ʔə=sɣép (*λ̓uʔ tə=Ø=téʔe k=s=tékm=s)
get.cut-INTR=3SBJ DET=tree (*but NEG=3SBJ=NEG D/C=NMLZ=all=3POSS)
'The tree got cut (*but not all of it).'

(17) *St'át'imcets: bare COS verbs are telic*

q̓ʷəl=∅ ta=c̓íʔ=a, (*λ̓uʔ waʔ=Ø=λ̓uʔ ʔəs-x̌íẇ)
get.cooked=3SBJ DET=meat=EXIS (*but IPFV=3SBJ=EXCL STAT-raw
'The meat got cooked (*but it's still raw).'
Consultant's comment: "Going against itself.'

It is also worth pointing out that relic t-marked forms in St'át'imcets show the same behaviour: they are unaccusative (18) and telic (19):

(18) *Relic t-marked COS verbs in St'át'imcets are unaccusative:*

a. **zik-t**=∅ ta=ʔuxʷalmíxʷ=a

fall-INTR=3SBJ DET=Indigenous.person=EXIS
'The person toppled/fell (like a tree).' (≠ The person felled something (like a tree).')
Consultant: "I'll allow that."

b. **łap-t**=∅ ta=smúłac=a
get.extinguished-INTR=3SBJ DET=woman=EXIS
'The woman went out (like a light).' (≠ The woman extinguished something (like a light).')

(19) *Relic t-marked COS verbs in St'át'imcets are telic:*

a. **zik-t**=∅ ta=sɣáp=a, (*ƛ̓uʔ wáʔ=∅=ƛ̓uʔ ʔəs-ɣə́p)
fall-INTR=3SBJ DET=tree=EXIS (*but IPFV=3SBJ=EXCL STAT-upright)
'The tree fell (*but it's still standing).'

b. **łap-t**=∅ ta=sc̓áḵʷa=a (*ƛ̓uʔ wáʔ=∅=ƛ̓uʔ ʔəs-ʕʷə́l)
go.out-INTR=3SBJ DET=light=EXIS (*but IPFV=3SBJ=EXCL STAT-lit)
'The light went out (*but it's still lit).'

In other words, bare root COS verbs in St'át'imcets show the same syntactic and semantic profile as t-marked COS verbs, strongly suggesting that, in spite of their superficial morphological differences, they should be given the same analysis.

3.2 Two analyses of COS verbs in the Northern Interior

The next question, of course, is what should that analysis be? In the following two sections, we will present two alternatives, the first proposed by Davis (2024) for bare root COS verbs, following Bar-el et al. (2005) for St'át'imcets and Sḵwx̱wu7mesh, the other by Nederveen (2024, *in prep.*) for t-affixed COS verbs in Secwepemctsín and nłeʔkepmxcín. We will then compare their suitability for a unified analysis of both patterns.

3.2.1 Predicative COS roots: Bar-el et al. (2005), Kiyota (2008), Davis (2024)

Because bare root COS verbs in St'át'imcets are unaccusative and entail telicity, Davis (2024) proposes that the root selects for an entity (the internal argument) and an event. He adopts the following denotation for St'át'imcets roots, from Bar-el et al. (2005):

(20) a. λx λe λw. P(x)(e)(w) (type <e,<v,<s,t>>>)
b. $[[\text{mays}]]^w$ = λxλe[x gets fixed in w (e)]

Under this "bare bones" analysis, the event *e* argument lacks internal structure: by convention, it is interpreted as a simple transition, which means it culminates and therefore counts as an achievement in terms of aspectual class.[16]

[16] Kiyota (2008:80) employs a similarly impoverished formula for bare root COS verbs in SENĆOŦEN (Northern Straits Salish), given in (i) below.

Two aspects of the bare bones approach are important to note here. First, the formula in (20) is radically underspecified: it says nothing about the internal temporal constituency of the event denoted by the predicate, beyond the fact that it culminates (and even then only by convention). This is not by accident: it embodies the claim that the duration of an event, crucial in distinguishing achievements from accomplishments in English, is irrelevant to COS roots in Salish, which only care about culmination. As Kiyota (2008:78) puts it with respect to the Central Salish language SENĆOŦEN (Northern Straits Salish), "…instantaneousness is not a defining property of achievements. Instead, what distinguishes achievements from accomplishments (as well as the other aspectual classes) is the culmination, but not the durativity/instantaneousness…". The prediction here is that no grammatical test will distinguish between COS verbs that denote (near-) instantaneous events and those which unfold over a measurable interval of time.

Second, COS roots under this denotation are self-contained predicates: they describe a transition undergone by an entity, and can surface in bare form as long as the root composes with an appropriate individual which can saturate its internal argument. Again, this is not accidental: it is specifically designed to handle the fact that bare roots surface as COS verbs without any further morphological modification.

3.2.2 Non-predicative COS roots: Nederveen (2024, *in prep*.)

An alternative analysis of COS roots in Secwepemctsín and nłeʔkepmxcín is proposed by Nederveen (*in prep.*), building on Nederveen (2024). This analysis is designed to account for the fact that in these languages, COS roots do *not* surface in bare form, while also accounting for the fact that once suffixed with *-t*, they show the same semantic profile as bare COS roots in St'át'imcets.

Nederveen's analysis is couched in the framework of degree semantics: more specifically, it treats COS roots as a kind of *degree achievement* (Hay, Kennedy & Levin 1999; Kennedy & Levin 2008; Kennedy 2012). Under this conception, events are equipped with a degree-semantic component that measures change. More specifically, COS roots are treated as functions which measure a difference between two points on a scale of event completion: it is this difference which corresponds to the change of state.[17]

The relevant measure function is formalized as a kind of *difference function*, originally devised by Kennedy and McNally (2005) to handle comparatives:

(i) λe.BECOME(P(e))

This version differs in two respects from that in (20) above. First, it explicitly rather than implicitly encodes event culmination via (a particular interpretation of) the BECOME operator. And, second, it assumes a Davidsonian approach to the relation between individual arguments and the COS verb, so that all arguments are introduced separately by thematic predicates of events, and the verb itself only takes an event argument.

[17] Nederveen adopts the definition of scales in Kennedy & McNally (2005), according to which scales are triplets ⟨*D, R*, Δ⟩, where *D* is a set of totally ordered points, *R* is the direction of the ordering on a scale *S*, and Δ is a value that represents the dimension of measurement. Degrees (d) are intervals on a scale whose dimension is defined by the lexical content of adjectives (taken to be simple measure functions) and COS verbs (taken to measure-of-change functions).

(21) *Difference functions* (Kennedy & Levin 2008: 17)
For any measure function m from objects x and times t to degrees d on a scale S, and for any d ∈ S, m↑ is a function just like m, except that:
a) its range is {d' ∈ S | d ⪯ d'}, and
b) for any x, t in the domain of m, if m(x)(t) ⪯ d then m↑(x)(t) = d

The definition in (21) states that a difference function $\mathbf{m}^{\uparrow}$ is a measure function which has a "derived zero" corresponding to the comparative standard of an adjective (the arbitrary degree d in the formula above). As a consequence a difference function is always defined relative to a *lower closed scale* (a scale with a minimum threshold, defined by d).

For two objects at a single point in time, the following difference function applies:

(22) λx [**m**↑(x) = d] (type <e,d>)

In (22), **m**↑(x) is the formal notation for a difference function, which takes an individual *x* and returns a degree *d* that represents the difference in the degree of *x* and some other, contextually generated degree *d'*.

For COS roots, a measure of change function applies. This is a function that measures change between two degrees over time. That is, the initial degree is generated at the beginning of the event, and the final degree is generated at the end of the event: the difference between these two degrees amounts to the degree of change. The value of the degree of change establishes the extent of the change of state, i.e., partial or complete. The underlying semantics of COS roots for Nederveen (in prep.) is as follows.

(23) $[[\sqrt{\text{CoS}}]] = \lambda x \lambda e[\mathbf{m}^{\uparrow}{}_{\mathbf{m}(x)(\text{init}(e))}(x)(\text{fin}(e))]$ (type <e,<v,d>>)
COS roots yield the degree of difference between the degree of *x* at the beginning and the degree measured by m at the end of *e.* (Kennedy & Levin 2008:18)

In other words, a COS root takes an entity *x* and an event *e* and returns the degree that represents the amount that *x* changes in the property measured by **m** as a result of participating in *e* (Kennedy and Levin 2008). The degree of change is measured by mapping an argument *x* onto a scale whose minimal value is the degree of *x* that is measured by **m** at the initiation of *e*. The output is the difference between the degree of *x* at the beginning and the degree measured by **m** at the end of *e*.

There are two important consequences of the measure of change analysis of COS roots. Firstly, roots are predicted not to appear in bare form. Under a measure of change analysis, roots are non-predicative functions of type <e,<v,d>>: they take an entity and an event and output a degree. In order to yield a predicate, a root therefore needs to undergo further derivation.

Secondly, COS roots do not entail telicity by themselves. The scale structure of a COS root is not specified beyond the constraint imposed by the nature of being a measure of change function itself, namely that the scale is closed at its lower end due to the existence of an initial degree (corresponding to the beginning of an event). Without any further scale structure specification, the scale defaults to being open at its upper end (i.e., with no inherent endpoint). Without a natural endpoint, a predicate cannot be telic (Kennedy & Levin 2008, Koontz-Garboden 2010).

These two consequences are dealt with by t-suffixation, which derives well-formed predicates with an entailment of culmination. The denotation of intransitive *-t* is as follows:

(24) [[*-t*]] = λg ∈ <e,<v,d>> λxλe ∃ d [g(x)(e) = d ∧ d = $\mathbf{max}_S$] (type <<e,<v,d>><e,<v,t>>>)

In other words, intransitive *-t* takes a gradable predicate with the type of a measure function (*g*), as well as an individual (*x*) and an event (*e*), to which the gradable predicate applies. It existentially quantifies over the degree of change (*d*) and sets the output of the COS root to the maximal point on its scale ($\mathbf{max}_S$). By introducing a maximal element on the scale of the degree of change and equating the degree of change to this maximum element, culmination is entailed.

Compositionally, intransitive *-t* derives an ordinary predicate which takes an individual and an event to yield a truth value. The full composition of intransitive *-t* applied to a change of state root is shown in (25).

(25) [[*-t*]]([[√CoS]]) = λg ∈ <e,<v,d>> λxλe ∃ d [g(x)(e) = d ∧ d = $\mathbf{max}_S$]
(λxλe[$\mathbf{m}^{\uparrow}_{\mathbf{m}(x)(\text{init}(e))}$(x)(fin(e))])
= λxλe ∃ d [$\mathbf{m}^{\uparrow}_{\mathbf{m}(x)(\text{init}(e))}$(x)(fin(e)) = d ∧ d = $\mathbf{max}_S$]

COS roots suffixed with intransitive *-t* thus show the same profile as bare COS roots in St'át'imcets: they are unaccusative predicates which entail telicity.

3.3 Comparing the analyses

We have now reviewed two semantic analyses, designed to account for the two different morphological realizations of COS verbs in Northern Interior Salish (bare roots in St'at'imcets, t-affixed forms in nłeʔkepmxcín and Secwepemctsín).[18] The next question is: can either of them be naturally extended to cover the empirical domain of the other?

We'll begin with the bare bones analyses of Bar-el et al, Kiyota, and Davis, where bare roots are simple predicates of events with a built in culmination entailment, which compose with an individual and an event to yield a truth value. On this analysis, it is not at all obvious how to account for obligatory t-suffixation in nłeʔkepmxcín and Secwepemctsín (or obligatory inchoative marking in nsyilxcn); since the bare root is already a fully-fledged predicate, there is no role for *-t* or inchoative marking in the compositional semantics, and its appearance is consequently anomalous.

On the other hand, only one relatively innocuous extra assumption is needed to extend the degree-based approach advocated by Nederveen and Lyon from obligatorily suffixing COS languages to bare root COS languages: the availability of a zero-marked counterpart of *-t* (or inchoative marking, in the case of nsyilxcn).[19] This constitutes a straightforward morphological argument in favour of the degree-based approach over the bare bones approach.

A related argument can be made based on inchoative marking in St'át'imcets. Unlike in nsyilxcn (Lyon 2023), inchoative marking (which consists of an infixed glottal stop in strong roots

[18] Inchoatives in nsyilxcn (Lyon 2023) can be grouped here with t-marked forms in the Northern Interior languages.

[19] Davis and Matthewson (2009:1107) (see also Davis 2024:308-9) argue against the zero-marking option for bare root unaccusatives precisely on the basis that "…there are no overt intransitive suffixes which yield derived unaccusatives" (as opposed to overt marking for unergatives, which is pervasive across the Salish family). The existence of *t*-marked unaccusatives in nłeʔkepmxcín and Secwepemctsín, together with parallel evidence for obligatory inchoative marking on unaccusatives in nsyilxcn, provides straightforward empirical evidence against this claim in Interior Salish.

and a suffixed *-p* on weak roots) crucially does *not* entail culmination in St'át'imcets, but only has a weaker culmination implicature, which like that associated with control transitives (Bar-el et al. 2005) can be easily cancelled. This is shown in (26)-(28) below: (26) involves event cancellation, while (27)-(28) involve event continuation.[20]

St'át'imcets inchoative marking does not entail culmination

(26) **ʕʷəl-p**=Ø ta=lam-xal-áɬxʷ=a, ƛ̓uʔ ɬáp-an̓-Ø-əm
burn-**INCH**=3SBJ DET=pray-ACT-place=EXIS but extinguish-DIR-3OBJ-PASS
ʔə=ki=wáʔ=Ø ɬáp-xal, níɬ=Ø=ƛ̓uʔ s=xʷʔaẏ=s
by=PL.DET=IPFV=3SBJ extinguish-ACT COP=3SBJ=EXCL NMLZ=NEG=3POSS
kʷ=s=**ʕʷəl-p**=s
D/C=NMLZ=burn-**INCH**=3POSS
'The church got on fire, but the firefighters put it out so the church didn't burn.' *(consultant's translation)*

(27) a. **ɣi<ʔ>p**=Ø ʔi=sq̓ʷlap-áż-ɬkaɬ=a
grow<INCH>=3SBJ PL.DET=strawberry-plant-1PL.POSS=EXIS
'Our strawberry plants are growing!'

b. xʷúż=Ø=ƛ̓uʔ **ɣi<ʔ>p** ƛ̓u x̌zúm-usaʔ=Ø ʔi=sq̓ʷláp=a
PROSP=3SBJ=EXCL **grow<INCH>** until big-berry=3SBJ PL.DET=strawberry=EXIS
'They'll keep growing till the strawberries are big.'

(28) a. **ʕi<ʔ>s**=Ø ʔi=susuzíl=a l=ki=sqʷə́m<qʷəm>=a
shrink<INCH>=3SBJ PL.DET=glacier=EXIS in=PL.DET=mountain<PLU>=EXIS
'The glaciers are shrinking in the mountains.'

b. xʷúż=Ø ƛ̓aƛ̓áka **ʕi<ʔ>s** ƛ̓u ka-xʷáz=a=Ø

[20] These findings raise the question of whether inchoative-marked COS verbs in nɬeʔkepmxcín and Secwepemctsín have an entailment of culmination (like in nsyilxcn) or only an implicature of culmination (like in St'át'imcets). In Secwepemctsín, inchoative marking is unproductive and lexicalized: it is thus hard to test systematically. In nɬeʔkepmxcín, preliminary evidence suggests that inchoatives pattern with those in St'át'imcets (i.e., they only have a culmination implicature), as shown in the cancellation scenarios in (i)-(ii) below:

(i) k̓<ʔ>éx=Ø=ƛ̓uʔ e=n-ɬeɬɬúxʷ k̓̓é·meɬɬ
dry<INCH>=3SBJ=EXCL DET=1SG.POSS-dress but
tə=Ø=téʔe k=s=k̓<ʔ>ex=s ʔiy
NEG=3SBJ=NEG D/C=NMLZ=dry<INCH>=3POSS yet
'My dress dried, but it isn't entirely dried.' *or*:
'My dress is coming along dry but it isn't entirely dried.'

(ii) c<ʔ>ék=Ø=ƛ̓uʔ e=n-séysik̓ʷ, k̓̓é·meɬ tə=Ø=téʔe k=s=c<ʔ>ek=s
cool<INCH>=3SBJ=EXCL DET=1SG.POSS-soup but NEG=3SBJ=NEG D/C=NMLZ=cool<INCH>=3POSS
'The soup cooled but it isn't cool.'

PROSP=3SBJ continuously **shrink<INCH>** until CIRC-NEG-CIRC=3SBJ
'They'll continuously shrink till they're gone.'

On the bare bones analysis of bare COS verbs, it is unclear how inchoative marking will undo the entailment of culmination which is built into the COS root in the form of an (implicit or explicit) BECOME operator.[21] However, on the degree-based analysis, culminating COS verbs are built from underlying predicates of degrees without a culmination entailment: all that is then needed to derive a non-culminating inchoative predicate is to alter the maximality specification associated with *-t*, as in (29) (compare (25) above):

(29) *St'át'imcets inchoative*
[[*INCH*]] = λg ∈ <e,<v,d>> λxλe ∃ d [g(x)(e) = d ∧ $\mathbf{S_d}$ **= closed**]
(type <<e,<v,d>><e,<v,t>>>)

Here, the initial point of the event is provided by the "derived zero" of the measure of change function, but the *max* specification of *d* which ensured a culmination of entailment for *t*-marked predicates has been replaced by a weaker condition which says that the degree *d* forms part of an upper closed scale. The upper closed scale, as required, results in an implicature rather than an entailment of culmination, through Interpretive Economy (Kennedy 2007):

(30) *Interpretive Economy*
Maximize the contribution of the conventional meanings of the elements of a sentence to the computations of tis truth conditions (Kennedy 2007:36)

Interpretive Economy maximizes the information provided by the scale structure that is associated with the relevant predicate. The inchoative specifies an upper closed scale, which generates the default inference of culmination. Interpretive Economy can be overridden, and therefore allows for non-culminating cases as in (26)-(28).

A more indirect argument for the degree-based analysis can potentially be made on the basis of the interaction of COS predicates with imperfective (viewpoint) aspect. For present purposes, we treat imperfective in a standard fashion as placing the reference time *i* inside the running time of an event *e* (Kratzer 1998):

(31) [[Imperfective]] = λQ.λi.∃e.[i ⊆ τ(e) & Q(e)]

Now, let us consider how imperfective might interacts with COS predicates on the two analyses under consideration. Recall first of all that the bare bones approach makes no predictions about temporal constituency beyond the entailment of culmination. This means (as explicitly claimed by Bar-el et al. 2005 and Kiyota 2008) that under this approach duration is irrelevant to the specification of bare root COS verbs: the transition which they denote can be instantaneous or can take place over an indeterminate temporal interval, as long as it culminates.

[21] One way to do so would be to extend to inchoatives the modal (branching worlds) analysis proposed by Bar-el et al. (2005) for control transitives in St'át'imcets and Sḵwx̱wu7mesh. Under this analysis, the event denoted by inchoative-marked verbs would culminate under the normal course of events, but there would be less expected worlds where it did not; canceling the implicature of culmination would amount to eliminating the most expected worlds in favour of a less expected outcome.

In contrast, the degree-based approach specifies initial and final points of events on a scale via a measure-of-change function (the initial point is given by the function itself, and the final point is supplied by *-t* or some other morphological marker of maximality). A process component can then be identified as the interval between initial and final points on the scale. Because of the extra temporal machinery employed in the degree-based analysis, it permits a more fine-grained analysis of temporal constituency, including, for example, the ability to distinguish traditional achievements (with little or no duration) from accomplishments (with a non-instantaneous process component).

This extra machinery may be advantageous. In all three Northern Interior languages, COS verbs may combine with imperfective/progressive aspect in a broadly parallel fashion, as shown in (32)-(34):[22]

(32) *Secwepemctsín: combination of t-marked COS verbs with the progressive predicate (w)ʔex*

(wʔ)ex=∅ ʔey ɣe=**súl-t**=əs ɣe=c̓íʔ
PROG=3SBJ still D/C=**get.frozen-INTR**=3SJV DET=deer
'The meat is still freezing.'

(33) *nłeʔkepmxcín: combination of t-marked COS verbs with the imperfective auxiliary (w)ʔex*

a. **ʔex**=∅ **pew-t** ʔə=sx̣áṅi
IPFV=3SBJ **get.swollen-INTR** DET=wound
'The wound is swelling.'

b. **ʔex**=∅ **zik-t** ʔə=sɣép
IPFV=3SBJ **get.felled-INTR** DET=tree
'The tree is getting felled/is falling over.'

c. **ʔex**=kn **qiɬ-t**
IPFV=1SBJ **get.woken.up-INTR**
'I am waking up/I am awakening/I am getting woken up.'

(34) *St'át'imcets: combination of bare root COS verbs with the imperfective auxiliary wa?*

a. **waʔ**=∅ **mays** ta=n-ḳa̓h=a
IPFV=3SBJ **get.fixed** DET=1SG.POSS-car=DET
'My car is getting fixed.'

[22] This is only partially true for Secwepemctsín, which differs semantically from the other two languages in having a progressive rather than a general imperfective marker (and also syntactically, because its progressive marker is a main predicate taking a subordinate clause rather than an auxiliary). Because progressives do not have habitual readings, only in-progress readings like that in (32) should be possible with COS predicates in Secwepemctsín, which means that punctual (i.e., instantaneous) COS verbs should be incompatible with progressive marking. We do not currently have data bearing on this prediction, but intend to elicit it in the near future.

b. **waʔ**=∅ **qʷəz**
IPFV=3SBJ **get.used**
'It is getting used.'

Since the bare-bones approach makes no claims about the internal temporal constituency of events, there is nothing to stop the imperfective from applying to COS verbs, as long as the transition itself (the single subevent of the COS) is indeterminate in duration; therefore, the fact that the imperfective successfully composes with bare root COS verbs is not in and of itself necessarily problematic. However, the imperfective yields different interpretations with instantaneous and non-instantaneous COS verbs in St'át'imcets: compare the durative COS verbs in (33) above with the punctual COS verbs in (35)-(36) below:

St'át'imcets: imperfective with punctual COS verbs

(35) a. **pun**=Ø ta=n-sqáx̌ʔ=a
get.found=3SBJ DET=1SG.POSS-dog=EXIS
'My dog got found.'

b. ? **waʔ**=Ø **pun** ta=n-sqáx̌ʔ=a
IPFV=3SBJ **get.found** DET=1SG.POSS-dog=EXIS
'My dog gets found (habitually).' (≠ My dog is in the process of getting found)

(36) a. **qʷus**=Ø ta=míx̌aɬ=a
get.shot=3SBJ DET=bear=EXIS
'A/the bear got shot.'

b. ?? **waʔ**=Ø **qʷus** ta=míx̌aɬ=a
IPFV=3SBJ **get.shot** DET=bear=EXIS
'A/the bear gets shot (habitually).' (≠ A/the bear is in the process of getting shot)

To the extent that the distinction between punctual and durative COS should be encoded in the grammar (and more specifically, in the lexical entries of particular COS verbs), the degree-based approach is better equipped in principle to handle the contrast between the durative verbs in (32)-(34) and the punctual verbs in (35)-(36), since it treats events as scalar, and different verbs can therefore specify longer or shorter process components. On the other hand, the bare bones approach has nothing to say about this contrast: it must attribute the effects of imperfective marking on COS verbs to real-world knowledge, rather than the grammar.

A similar though more robust argument can be constructed from degree modifiers which apply to events.[23] Consider the St'átimcets examples in (37)-(38):

(37) **sáq̓ʷuɬ**=Ø kʷ=s=**paw**=s na=waʔ ʔəs-páw
half=3SBJ D/C=NMLZ=**get.inflated**=3POSS ABSN.DET=IPFV STAT-get.inflated
n-kʷup

[23] It is actually not that easy to find degree modifiers in Salish which readily apply to events: there is no equivalent of 'completely' in St'át'imcets, and entity-related quantifiers such as *tákem* 'all' cannot be used to quantify over events. The quantifier *sáq̓ʷuɬ* 'half' is exceptional in this respect.

LOC-mattress
'The air mattress got half-inflated.'

(38) tákəm ʔi=pə́tə́k=a **sáq̓ʷuɬ**=Ø kʷ=s=**q̓ʷəl**=s,
all PL.DET=potato=EXIS **half**=3SBJ D/C=NMLZ=**get.cooked**=3POSS
ʔə́z kʷas ka-c̓áqʷ-a
NEG D/C+NMLZ+IPFV+3POSS CIRC-get.eaten-CIRC
'All the potatoes are half-cooked: they can't be eaten.'

These cases are designed specifically to exclude entity-related readings: if an air mattress is half-inflated, it doesn't mean that half of it is inflated, and, if all the potatoes are half-cooked, it doesn't mean that half of each potato is cooked.

Since the bare bones account says nothing about the internal structure of the COS event, it runs into trouble with the event degree modifier *saq̓ʷuɬ* 'half' in (36)-(37), which has literally nothing to apply to. On the other hand, the degree-based account fares well in these cases, since it is easy to calibrate degrees on a scale to model a half-completed event.

We conclude that the added complexity of the degree-based version of COS is justified by its better empirical coverage, and particularly by the fact that it can be extended easily from t-marked COS verbs in Secwepemctsín and nłeʔkepmxcín to bare root COS in St'át'imcets, whereas it is difficult to see how the bare bones account can be extended in the other direction.

4 Diachronic Implications

It is now time to bring together the two halves of the paper. In Section 2, we surveyed the cross-Salishan distribution of intransitive *-t*, concluding that it is of great antiquity, since it is found (albeit in relic form) in both major branches of the family as well as the outlier Nuxalk. However, in Central Salish and Nuxalk it is confined to adjectival ('property concept') roots, whereas in the Interior it is also found on COS roots, robustly so in the Northern Interior languages Secwepemctsín and nłeʔkepmxcín but only in a few relic forms in St'át'imcets, where t-marked COS forms have been replaced by bare root COS verbs, and variably in the Southern Interior, where t-marking on COS verbs has been largely replaced by inchoative morphology, as in nysilxcn (Lyon 2023).

This distribution led us to consider the question of whether t-marking on COS verbs was originally widespread, but has been retained in something like its original form only in Secwepemctsín and nłeʔkepmxcín, or alternatively whether it has been innovated in the two Northern Interior languages and borrowed sporadically by other Interior languages (though evidently not by coastal languages, which unlike St'át'imcets lack any trace of COS *-t*).

Rather than try to answer this question for the whole family (particularly given the lack of evidence for COS *-t* on the coast), we then focused in Section 3 on the relationship between COS markers in the three Northern Interior languages. Our primary goal was to elucidate synchronically whether the root-based analysis of Bar-el et al. (2005), Kiyota (2008), and Davis (2024), devised for St'át'imcets and other bare root COS languages, could be extended to t-suffixed COS verbs in Secwepemctsín and nłeʔkepmxcín (and their inchoative-affixed counterparts elsewhere in the Interior), or whether alternatively, the degree-based approach of Nederveen (2024, *in prep.*), designed specifically to account for t-suffixation, could be fruitfully extended to bare root COS verbs in St'át'imcets and Central Salish. We concluded in favour of the second option.

Our answer to this synchronic question has clear diachronic implications. Just as it is easy to extend the t-suffixation analysis to bare root COS forms by proposing a zero-marked counterpart

to *-t*, so it is easy to see how the historical loss of an overt marker such as *-t* could lead to zero-marking in apparent cases of bare root COS verbs in St'át'imcets (and to its replacement by inchoative marking in the Southern Interior). But the opposite diachronic trajectory is problematic: why would Secwepemctsín and nłeʔkepmxcín innovate a t-suffix to do the job that bare root COS verbs already did elsewhere without the need for any additional derivational process? Why would remnants of this suffix appear both in St'át'imcets and the Southern Interior? And why would the Southern Interior languages also replace bare root COS verbs, but use inchoative marking to supplant them instead of *-t*? Notice also that it is does not appear that bare root COS verbs are inherently unstable; their widespread distribution throughout Central Salish (with no sign there that they are being replaced by overt COS morphology) argues to the contrary that they represent a relatively steady state.

In other words, the evidence seems to support a trajectory of either loss or replacement of an originally widespread COS suffix *-t,* whose distribution is now limited to the Northern Interior languages Secwepemctsín and nłeʔkepmxcín, with remnants elsewhere in the Interior.

Finally, note that although this story plausibly accounts for the distribution of COS *-t* in the Interior, it leaves Central Salish (which shows no trace of COS *-t* and only has remnants of adjectival *-t*) more of a mystery. One possibility is that COS *-t* only diverged from adjectival *-t* after Interior and Central Salish separated. This, however, would mean that bare COS roots in Central Salish (which are widely attested and well-documented) cannot have arisen via the same diachronic path (loss of *-t*) as in St'át'imcets, which leaves the latter in an anomalous position not as the only Interior language with bare root COS verbs but also as the only language to have innovated a zero-marked version of COS *-t.* One possible explanation for this is that loss of *-t* in St'át'imcets was triggered by contact with neighbouring Central Salish languages such as Sḵwx̱wu7mesh/Squamish, which have bare root COS verbs, as documented in Bar-el et al. (2005); it is known that in other ways (e.g., its pronominal system), St'át'imcets has hybridized quite extensively with Sḵwx̱wu7mesh.

The provenance of bare root COS verbs in Central Salish, however, remains unexplained on that account. The alternative is that COS *-t* was originally present in the family at a stage prior to the separation of Interior from Coast Salish (perhaps as a descendant of an even earlier stage where *-t* was a general marker of intransitivity, as attested by the 'anomalous *-t*' cases discussed in 3.2 above.) It was then lost completely on the coast, but retained until comparatively recently in the Interior. On this account, St'át'imcets is not so much an anomaly as a clue to what happened in Coast Salish, where relic forms of COS *-t* are missing and the diachronic path from derived to bare root COS verbs has been obscured.

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