Change-of-State in Nsyilxcn Roots and Beyond*

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Abstract: This paper provides a semantic reanalysis of property concept ('PC') and change-of-state ('CS') roots in Nsyilxcn, as given in Lyon (2023). It includes additional data from restitution tests (Beavers & Koontz-Garboden 2020) showing that CS roots entail a change-of-state. It also provides evidence that (a) inchoativizers are sensitive to root semantics and should be treated as *v* heads (see Lyon 2025b, also in this volume), (b) the *ɔc-* stativizer occurs higher than inchoativizers in Nsyilxcn, and (c) there is a null *v* head present for certain statives which is an identity function on CS roots specifically. Notably, inchoatives derived from PC roots resist culmination entailment, whereas inchoatives derived from CS roots entail culmination. Overall, this indicates that root-sensitive inchoativizers introduce different degree standards at *v,* which in turn suggests that roots are themselves bare measure (PC) or measure-of-change (CS) functions (Kennedy & Levin 2008) without themselves specifying a standard (contra Beavers & Koontz-Garboden's 2020 analysis of English). This approach can account for cross-Salish variation in whether or not bare CS roots can be used as patient-oriented predicates, assuming variation in whether null *v* introduces a degree standard (e.g. St'át'imcets) or does not (e.g. Nsyilxcn), while at the same time maintaining the same basic root semantics across languages.

Keywords: statives, target states, state passives, roots, inchoatives, change-of-state

1 Introduction

Nsyilxcn (a.k.a. Okanagan, ISO: 639-3 oka) is a Southern Interior Salish language spoken in south-central British Columbia, and the northern interior of Washington State. There are approximately 81 fluent elder speakers on the Canadian side of the border (FPCC 2022). The examples in this paper come primarily from Delphine Derickson-Armstrong and Dave Michele (Westbank reserve), as well as from previously published materials.

This paper is an exploration of root semantics in Nsyilxcn. It contributes an additional cross-linguistic perspective and methodology to the ongoing debate regarding the types of meaning roots encode in natural language (Beavers et al. 2021) and the syntactic structures that roots occur in, and synthesizes and applies theoretical work on roots and change-of-state (Beavers & Koontz-Garboden 2012, 2020), state passives (Parsons 1990, Kratzer 2000, Embick 2004), and the syntactic and semantic functions of *v* (Kratzer 1994; Embick 2004, 2023), situated within a degree framework (Kennedy 1999; Kennedy & Levin 2008; Nederveen 2023 for Salish). The primary goal of this paper is to provide an accurate description and compositional analysis of Nsyilxcn roots as they occur within several key anti-causative structures (i.e statives, inchoatives).

I posit the following two types of roots in Nsyilxcn: change-of-state ('CS') roots which entail change (1), and property concept ('PC') roots (2) which do not. This is similar to Beavers & Koontz-Garboden's (2020) distinction between result and PC roots in English, except that Nsyilxcn CS roots not only denote the *result* of an event-of-change, like English result roots, they also allow

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reference to change event itself, and so are more similar to Kratzer's (2000) underived target state participles in this respect. I distinguish PC and CS roots through language specific morphosyntactic patterns, sublexical modification (restitution tests), and patterns of entailment and contradiction.

(1)	**CS roots**	**statives**	**inchoatives**
a.	*√*nik̓* 'cut'	*əc-nik̓* 'to be cut'	*nik̓•ək̓* 'get cut'
b.	*√*k^{w}um* 'store away'	*əc-k^{w}um* 'to be stored'	*k^{w}um•əm* 'get stored'
c.	*√*naq̓^{w}* 'steal'	*əc-naq̓^{w}* 'to be stolen'	*náq̓^{w}•əq̓^{w}* 'get stolen'
d.	*√*łwin* 'abandon'	*əc-łwin* 'to be abandoned'	*łw•win* 'get abandoned'
e.	**λdλxλsλe.*cut*$_{\Delta}$(x,e,s) ≥ d**	**λxλsλe.*cut*$_{\Delta}$(x,e,s) ≥ stnd(*cut*$_{\Delta}$)**	**λxλeλs.*cut*$_{\Delta}$(x,e,s) = max(*cut*$_{\Delta}$)**

(2)	**PC roots**	**positive adjectives**	**inchoatives**
a.	*√*t̓ʕas* 'hard'	*t̓əs•t̓ʕas-t* 'to be hard'	*t̓<ʔ>ʕas* 'get hard'
b.	*√*łʕat̓* 'wet'	*łʕat̓* 'to be wet'	*ł<ʔ>ʕat̓* 'get wet'
c.	*√*nʕas* 'heavy'	*(nəs)•nʕas-t* 'to be heavy'	*n<ʔ>ʕas* 'get heavy'
d.	*√*piq* 'white'	*piq* 'to be white'	*p<ʔ>iq* 'get white'
e.	**λdλxλs.*hard*(x,s) ≥ d**	**λxλs.*hard*(x,s) ≥ stnd(*hard*)**	**λxλeλs.*hard*$_{\Delta}$(x,e,s) > min(*hard*$_{\Delta}$)**

Nsyilxcn CS roots require overt derivation, and PC roots generally do as well. Based on evidence showing root gradability, I propose that CS roots lexicalize a kind of measure-of-change function (1e) (Kennedy & Levin 2008), which measure the degree *d* to which an entity *x* holds a scalar property *s* as a result of participating in an event of change *e*.[1] PC roots lexicalize basic measure functions (2e), which measure the degree *d* to which an entity *x* holds a scalar property *s*. The roots themselves, however, do not have specified positive or verbal degree standards (Kennedy & Levin 2008, contra Beavers & Koontz-Garboden 2020). Further overt or covert derivation into positive or stative (i.e. 'verbal positive', following Piñon 2005) and eventive ('inchoative') forms provide the necessary degree standards in addition to deriving a predicate of states or a predicate of events, respectively.[2] The analysis complements Nederveen's (2023) similar degree-based approach to agentive, control and non-control sentences in Secwepemctsín.

I contextualize the semantics in (1e,2e) within distinct adjectival and verbal structures. I assume that roots do not project phrasal structure (Marantz 2009) and directly merge with adjectival or verbal categorizing heads (Embick 2004, 2023; Beavers & Koontz-Garboden 2020). Adjectivizing head *a* merges with a PC root (Fig 1), while verbalizing head *v* merges with either a PC or CS root (Fig 2,3). There are different 'flavours' of *v*. I provide evidence for a null *v* head that merges with a CS root (Figure 2). Stativizer *əc-* is required in these cases, and adjoins directly to a *v* head (Embick 2023).[3] Inchoative *v* heads merge directly to a PC or CS root (Embick 2004), projecting a vP. Stativizer *əc-* is optional in Figure 3. (As depicted in Figures 2-3, I use the distribution of compounding root *wiʔ* 'to finish' as one argument that stativizer *əc-* occurs higher than *v*.)

[1] I make an ontological distinction between two kinds of eventualities in my semantic representations: Events 'e' and states 's' (Bach 1986, Kratzer 200).

[2] In describing predicates as "predicates of states" vs. "predicates of events" in this paper, I abstract away from the internal argument *x*. I also remain agnostic with respect to where the internal argument merges.

[3] Evidence that Stat can adjoin directly to v comes from examples showing that phrasal event-related modifiers cannot modify a stative unless they are directly relevant to the state (McIntyre 2015). For Embick (2023) (see also Biggs & Lopes 2024), this follows if there is no phrasal adjunction site lower than StatP. I adopt a similar analysis for Nsyilxcn, but do not discuss it in detail here for reasons of space. This is not critical for the analysis I lay out here.

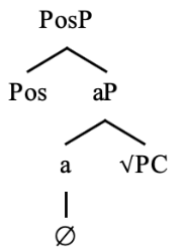

Figure 1. Adjectival Structure

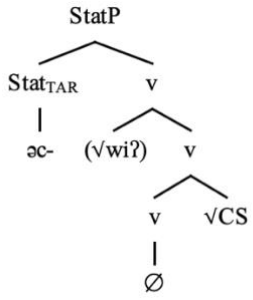

Figure 2. Verbal Structure (Target Stative)

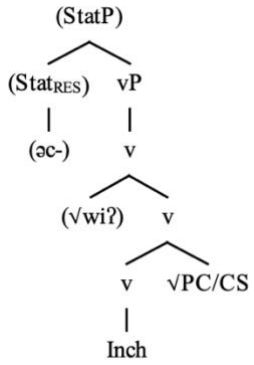

Figure 3. Verbal Structure (Inchoative/Resultant Stative)

The basic outline of my argument is as follows. First, both statives and inchoatives involve *v* structures: These all allow event modifiers (e.g. manner adverbials, non-agentive instruments). Second, inchoativizers introduce a change-of-state and are sensitive to root semantics; this follows if they are *v* heads and adjoin directly to a root. Third, the stativizer is different: it is sensitive to the presence of a change-of-state (i.e. *v*), but not specifically to root class: this follows if stativizers are higher in the structure. This correctly predicts that stativizer *əc-* and inchoativizers may co-occur (3,4, Figure 3). In particular, so long as a PC root is inchoativized (4), it can also be stativized.

(3) a.	*əc-nik̓'*	'already cut'	*CS root* -	*target stative*
b.	*əc-nik̓•ək̓*	'already cut'	*CS root* -	*resultant stative*
(4) a.	**əc-q^{w}in*	'already made green'	*PC root* -	*target stative*
b.	*əc-q^{w}<ʔ>in*	'already made green	*PC root* -	*resultant stative*

When stativizers and inchoativizers co-occur on a root (3b,4b, Fig. 3), the interpretation of the predicate is that of a resultant stative, in the sense of Kratzer (2000). Resultant states are states of an event having completed "that hold forever after" (Parsons 1990). When the inchoativizer is absent (3a, Fig. 2), the predicate is interpreted as a target stative. Target states are transitory, reversable, and "independently identifiable" (Parsons 1990). Since statives always contain *v*, inchoative *v* (Fig. 3) must alternate with a null *v* head (Fig. 2). The null *v* head is an identity function over CS roots specifically (1e), which yields a predicate that serves as the argument of Kratzer's target stativizer. The inchoative *v* derives a predicate of events (1e,2e) that optionally serves as the argument for Kratzer's resultant stativizer. I show that the interpretive difference follows most straightforwardly if the identity function, and the CS root itself, are predicates of both transitional events and scalar result states.

The argument outlined above is expressed within a degree semantics in order to account for differences between inchoativized PC and CS roots with respect to culmination entailments. CS roots are bare measure-of-change functions, which means that null *v* in Nsyilxcn is an identity function over CS roots which are underspecified with respect to a degree standard. If one assumes that null *v* in St'át'imcets *does* introduce a degree standard, similarly to an inchoativizer, not only are the presence of 'bare' CS roots in St'át'imcets made possible while maintaining the same root

semantics across languages, but several other points of variation receive explanation, and a kind of predictive typology emerges.

Theoretically, this approach posits syntactic and semantic parallels between PC and CS roots, and the adjectival and verbal structures they occur in. Both types of roots are underspecified with respect to their degree standards (Kennedy & Levin 2008). Roots receive specification through either a positive marker (Fig 1), a target stativizer (as a verbal positive) (Fig 2), or a *v* inchoativizer (Fig 3). Categorizing *a* and *v* heads may be phonologically null identity functions (Fig 1,2) (Embick 2004), or host inchoativizers which contribute additional semantics (Fig 3). In Nsyilxcn, whether the stativizer derives a target (Fig 2) or resultant stative (Fig 3) crucially depends on the presence or absence of an inchoativizer in *v* and whether or not *v* contributes a degree standard. This analysis takes issue with Beaver & Koontz-Garboden's claim that roots which entail a change-of-state also entail a degree standard, siding rather with Kennedy & Levin (2008) on this issue: Standards may be structurally introduced to roots in at least some languages.

The paper is structured as follows:

The remainder of section 1 lays out the basic morphology of PC and CS roots and the anti-causative ('inchoative', 'stative') structures they occur in, and some discussion on distinguishing the two classes. Section 2 discusses the result of restitution tests, showing that CS roots entail a change-of-state (2.1), and provides a summary discussion of Beavers & Koontz-Garboden's (2020) analysis of change-of-state in English result roots (2.2). Section 3 demonstrates how *v* in Nsyilxcn can be realized by an inchoativizer (Fig 3), or by a null *v* head (Fig 2), and that the interpretation of these structures, when stativized, are resultant and target statives, respectively. Section 4 shows that inchoatives derived from PC roots resist culmination entailment, whereas those derived from CS roots entail culmination. The picture that emerges is that degree standards are introduced at *v,* rather than at the root level. Section 5 provides a formal analysis of roots, statives and inchoatives, within a degree-based framework. Section 6 discusses a few implications, particularly with respect to St'át'imcets and variation within Salish, and concludes.

1.1 Property Concept Roots

Property concept ('PC') roots express homogenous, static concepts, which most naturally translate into adjectives in English. PC roots derive into positive adjectives in Nsyilxcn. Positive adjectives sometimes take the form of bare PC roots (5), but more often end with a *-t* suffix and/or involve C_1C_2 'characterizing' reduplication (6).[4]

	PC root		**Positive Adjective**	
(5)	√*mir*	→	*mir*	'smooth'
	√*ǩaʕl*	→	*ǩaʕl*	'clear, light'
	√*yus*	→	*yus*	'dark red'
	√*piq*	→	*piq*	'white'
	√*c̓uy̓*	→	*c̓uy̓*	'dark'
	√*ɬʕat̓*	→	*ɬʕat̓*	'wet'
	√*tiɬ*	→	*tiɬ*	'straight'
(6)	√*x̌ʷup*	→	*x̌ʷup-t*	'weak'
	√*ʔilxʷ*	→	*ʔilxʷ-t*	'hungry'

[4] Non-reduplicated adjectives with *-t* are sometimes ambiguously interpretable not only as simple states, but as inchoative states (see Bar-el 2005 for Sḵwx̱wú7mesh), e.g. *ʔilxʷt* which means 'hungry' or 'get hungry'.

√ʔayx̌^{w}	→	ʔayx̌^{w}-*t*	‘tired’
√*tał*	→	*(təł)•táł-t*	‘straight, true’
√t̓ʕ*as*	→	*t̓əs•t̓ʕas-t*	‘hard’
√*n*ʕ*as*	→	*(nəs)•n*ʕ*as-t*	‘heavy’
√*x*^{w}*əl*	→	*x*^{w}*əl•x*^{w}*ál-t*	‘alive’
√*xa*ʔ	→	*x̌a*ʔ*•x̌á*ʔ	‘sacred’
√*x̌as*	→	*x̌as-t*	‘good’
√*ham*	→	*həm•hám-t*	‘damp’
√*c̓ał*	→	*c̓ał-t*	‘cold’

I assume, following Davis’ (2011) analysis of adjectives in St’át’imcets Salish, that characterizing reduplication is semantically inert for adjectives, but nevertheless required in many cases.[5] The *-t* suffix occurs in comparative forms of adjectives in many cases.[6] Given that comparative and positive morphology should be in complementary distribution, *-t* is also not a positive marker. I assume here that a null positive morpheme applies to PC roots, and that C_1C_2 ‘characterizing’ reduplication and *-t* are semantically inert, though this is not a critical assumption for what follows.

PC roots and positive adjectives do not encode any change-of-state: These are homogenous states, having neither an inherent initial nor final point (N. Mattina 1996; Kiyota 2008). A change-of-state is introduced by one or more of several inchoativizers, as illustrated in (7).[7] The inchoativizing infix <ʔ> occurs with phonologically strong (i.e. inherently stressed) PC roots (5a-g), whereas *–(a)p* occurs on weak roots (7h-j; i.e. inherently unstressed) (N. Mattina 1996, Lyon 2025b (this volume), see Kinkade 1989 for nxaʔamxčín).[8] Roots are sometimes treated ambiguously as strong or weak (7d). In certain cases, both strong and weak PC roots may take C2 ‘second consonant’ reduplication, either as an alternative (7e-g, i-j), or exclusively (7k-m).

(7)	**property concept roots**				**inchoatives**		
a.	√*n*ʕ*as*	‘heavy’	→	*n*<ʔ>ʕ*as*	**n*ʕ*as-p*	**n*ʕ*ás•əs*	‘get heavy’
b.	√*piq̓*	‘white’	→	*p*<ʔ>*iq̓*	**piq̓-p*	**piq̓•əq̓*	‘get white’
c.	√ɬʕ*at̓*	‘wet’	→	*ɬ*<ʔ>ʕ*at̓*	**ɬʕat̓-p*	*ʔɬʕát̓•ət*	‘get wet’
d.	√t̓ʕ*as*	‘hard’	→	*t̓*<ʔ>ʕ*as*	*t̓sʕ-áp*	*ʔt̓ʕás•əs*	‘get hard’
e.	√*c̓ał*	‘cold’	→	*c̓*<ʔ>*ał*	**c̓ał-p*	*c̓ał•əɬ*	‘get cold’
f.	√*mir*	‘smooth’	→	*m*<ʔ>*ir*	**mir-p*	*mir•ər*	‘get smooth’
g.	√*x̌*ʕ*al*	‘light/clear’	→	*x̌*<ʔ>ʕ*al*	**x̌*ʕ*al-p*	*x̌l•*ʕ*al*	‘get clear’
h.	√*ham*	‘damp’	→	**h*<ʔ>*am*	*ham̓-áp*	**hm̓•ám*	‘get damp’
i.	√*k̓im*	‘dark’	→	**k̓*<ʔ>*im*	*k̓m-áp*	*k̓ím•əm*	‘get dark’
j.	√*tał*	‘straight/true’	→	**t*<ʔ>*ał*	*tɬ-ap*	*tɬ•ał*	‘become straight’
k.	√*x*^{w}*l*	‘alive’	→	**x*^{w}<ʔ>*al*	**x*^{w}*l-ap*	*x*^{w}*l•ál*	‘become alive’

[5] Davis (2011:32) suggests that bare roots adjectives in St’át’imcets are categorially specified as adjectives, whereas bound root adjectives actually contain category-neutral roots, which are then derived into adjectival or verbal forms.

[6] *-t* has been analyzed as a ‘stative’ suffix that is no longer productive (N. Mattina 1996), however it is still analyzable as separate from the root, as can be seen by comparing positive adjectival and inchoative forms.

[7] Inchoative marking has been described as being semantically inert with St’át’imcets adjectives (Davis 2011:39), though this is clearly not the case in Nsyilxcn.

[8] In contrast, <ʔ> in St’át’imcets targets verbal roots (van Eijk & Hess 1986; Davis 2024). There seems to have been a reorganization of inchoative systems across Salish languages over time. An additional difference is apparent with the change-of-state suffix *-wilx* ‘become X’. In Nsyilxcn, this targets derived verbal or adjectival stems, whereas in St’át’imcets this appears to apply to roots in at least some cases (Davis 2024).

l.	√*ǩas*	'good'	→	**ǩ*<ʔ>*as*	**ǩas-p*	*ǩas•s*	'become good'
m.	√*yus*	'purple'	→	**y*<ʔ>*us*	**yus-p*	*yús•s*	'get purple'

When applied to a PC root, these three inchoativizers have very similar semantic effects, and so I treat them as semantically equivalent for now.[9] It is important to note that inchoativization targets a PC root rather than a positive adjective, since it replaces both the *-t* suffix and characterizing reduplication shown in (4) (Kinkade 1989). This suggests that PC roots themselves are derived into distinct adjectival and verbal structures.

1.2 Change-of-State Roots

Change-of-state ('CS') roots occur naturally as patient-oriented predicates in several other Salish languages examined so far (Davis 2024 for St'át'imcets, Huijsmans 2022 for ʔayʔaǰuθəm). These roots have been analyzed as category V (Davis 2024 for St'át'imcets), and as telic unaccusatives, essentially achievements, which denote the culmination of an event (Davis et al. 2020 for ʔayʔaǰuθəm and St'át'imcets).

Nsyilxcn CS roots, in stark contast, do not occur in bare form as patient-oriented predicates (Lyon 2023).[10] These must minimally derive into either stative or inchoative forms (8).[11] Stative forms are derived with stative prefix *əc-* (distinct from imperfective *(ə)c-*[12]). Inchoatives derived from CS roots quintessentially involve C2 reduplication of the root (Watkins 1970; A. Mattina 1989; van Eijk 1990; N. Mattina 1996).[13] In the case of phonologically weak roots (8g-l), an inchoative suffix *–(a)p* is usually interchangeable with C2 reduplication (8i-l).

(8)	**change-of-state roots**		**statives**		**inchoatives**	
a.	*√*nik̓*	'cut'	*əc-nik̓*	'to be cut'	*nik̓•ək̓*	'get cut'
b.	*√*kʷum*	'store away'	*əc-kʷum*	'to be stored'	*kʷum•əm*	'get stored'
c.	*√*naq̓ʷ*	'steal'	*əc-naq̓ʷ*	'to be stolen'	*náq̓ʷ•əq̓ʷ*	'get stolen'
d.	*√*p̓ic̓*	'pinch'	*əc-p̓ic̓*	'to be pinched'	*p̓ic̓•əc̓*	'get pinched'
e.	*√*ǩaq̓*	'pay'	*əc-ǩaq̓*	'to be paid'	*ǩáq̓•əq̓*	'get paid'
f.	*√*kʷul̓*	'make/fix'	*əc-kʷul̓*	'to be made/fixed'	*kʷúl̓•əl̓*	'get made/fixed'

[9] C2 inchoative may have an additional 'out-of-control' component (see Davis in prep for St'át'imcets), but the facts around this are unclear in Nsyilxcn.

[10] Bare CS roots are sometimes accepted (though not volunteered) under an agentive interpretation, but there is evidence that these involve a zero version of the agent-introducing *–(a)m* suffix (see Davis 1997 for St'át'imcets).

[11] Nominalization is also a possibility, though its semantic effect remains a question for future research.

[12] Comparative evidence shows that the Nsyilxcn imperfective almost certainly developed historically from the stative marker (Kinkade 1996:7). First, stativizer *əc-* is cognate with stative prefixes in other Salish languages, e.g. St'át'imcets *es-* (van Eijk 1997), and and *c-/s-* in Secwepemctsín (Kuipers 1974). Second, attaching a *əc-* prefix onto a CS root does not yield an imperfective interpretation, but rather an 'resulting state' reading, often called 'resultive' or 'resultative' in Salish literature (A. Mattina 1989; van Eijk 1990). Further, imperfective *(ə)c-* more closely follows the distribution of the imperfective auxiliary *wa7* in St'át'imcets, rather than stative prefix *es-* (Davis, in prep). Lastly, imperfective markers may co-occur with adjectives in both languages, while stative markers may not.

[13] There are cases where C2 reduplication seems to apply to a morphological stem, as opposed to a root. For example the stem *t̓pəpús* 'to fall on one's face' contains a root *t̓p* plus C2 reduplication and the lexical suffix *=us* 'face'. This stem however itself derives into either stative *əc-t̓pəpús* or inchoative *t̓pəpús•əs*. I suggest that in these cases, stems have been reanalyzed syntactically and semantically as CS roots.

g.	*√*ɬwin*	‘abandon’	*əc-ɬwin*	‘to be abandoned’	*ɬw•win*	‘get abandoned’
h.	*√*q̓ay̓*	‘write’	*əc-q̓ay̓*	‘to be written’	*q̓y̓•áy̓ / q̓y̓-ap*	‘get written’
i.	*√*c̓axʷ*	‘spill’	*əc-c̓axʷ*	‘to be spilled’	*c̓xʷ•áxʷ / c̓xʷ-ap*	‘get spilled’
j.	*√*t̓l*	‘tear/rip’	*əc-t̓al̓*	‘to be torn’	*t̓l-ap*	‘get torn’
k.	*√*tr̓*	‘unravel’	*əc-tar̓*	‘to be unravelled’	*tr̓•ar̓ / tr̓-ap*	‘get unravelled
l.	*√*x̌aw̓*	‘dried’	*əc-x̌aw̓*	‘to be dried’	*x̌w̓•áw̓ / x̌w̓-ap*	‘get dried’

PC and CS roots can be morphologically distinguished as follows. Strong CS roots do not take the inchoativizer infix <*ʔ*> (9), in contrast to strong PC roots (Lyon 2025b). I take this to be evidence that <*ʔ*> inchoativization operates exclusively over PC roots in Nsyilxcn, and that <*ʔ*> cannot coerce a PC root from a CS root. Conversely, bare PC roots do not take the *əc-* stativizer (10).

(9)

a.	**n<ʔ>ik̓*	‘get cut’	→	*ník̓•ək̓*
b.	**x̌<ʔ>aq̓*	‘get paid’	→	*x̌áq̓•əq̓*
c.	**p̓<ʔ>ic̓*	‘get pinched’	→	*p̓íc̓•əc̓*
d.	**n<ʔ>aq̓ʷ*	‘get stolen’	→	*náq̓ʷ•əq̓ʷ*
e.	**k̓ʷ<ʔ>ul̓*	‘get made/born’	→	*k̓ʷul̓•əl̓*
h.	**m<ʔ>iƛ̓*	‘get painted’	→	*míƛ̓•əƛ̓*

(10)

a.	**əc-x̌as*	‘already made good’	→	*x̌as-t*	‘good’ / *x̌as•əs*	‘become good’
b.	**əc-piq̓*	‘already made white’	→	*piq̓*	‘white’ / *p<ʔ>iq*	‘become white’
c.	**əc-ɬʕat̓*	‘already made wet’	→	*ɬʕat̓*	‘wet’ / *ɬ<ʔ>ʕat̓*	‘become wet’

There are nevertheless some roots which occupy a kind of grey area. The roots in (11) have adjectival readings when they undergo C_1C_2 reduplication and occur with a *-t* suffix,[14] like PC roots, but some of these also take the *əc-* stativizer (11c-d), similarly to CS roots.

(11)

a.	√*xʷl*	‘turn/alive’	*xʷl•xʷal-t*	‘alive’
b.	√*x̌s*	‘good’	*x̌s•x̌as-t*	‘good/pretty’
c.	√*x̌w̓*	‘dry/dried’	*x̌əw̓•x̌aw̓-t*	‘dry’
d.	√*nik̓*	‘cut’	*nək•nik̓-t*	‘cut up’

a.	*xʷl•al*	‘become alive’	**əc-xʷal*	‘already alive’
b.	x̌as•əs	‘become good’	**əc-x̌as*	‘already good’
c.	*x̌w̓•áw̓*	‘get dry’	*əc-x̌aw̓*	‘already dried’
d.	*nik̓•ək̓*	‘get cut’	*əc-nik̓*	‘already cut’

[14] CS roots do not typically have positive adjectival readings when they take C_1C_2 reduplication and/or the *-t* suffix. This usually results in a plural or pluractional reading rather than a characteristic ‘positive’ reading of a single entity. There are exceptions, though.

(i)

a.	**√naq̓ʷ*	‘steal’	**naq̓ʷ-t*	‘stolen’	**nəq̓ʷ•náq̓ʷ-t*	‘stolen’
b.	**√c̓axʷ*	‘spill’	**c̓axʷ-t*	‘spilled’	*c̓əxʷ•c̓axʷ-t*	‘always spilling’
c.	**√x̌aq̓*	‘pay’	**x̌aq̓-t*	‘paid’	*x̌əq̓•x̌aq̓-t*	‘always paying’
d.	**√p̓ic̓*	‘pinch’	**p̓ic̓-t*	‘pinched’	**p̓əc̓•p̓ic̓-t*	‘pinched’
e.	**√k̓ʷul̓*	‘make/fix’	**k̓ʷul̓-t*	‘made/fixed’	**k̓ʷəl̓•k̓ʷul̓-t*	‘made/fixed’
f.	**√q̓ay̓*	‘write’	**q̓ay̓-t*	‘written’	*q̓əy̓-q̓ay̓-t*	‘always writing’
g.	**√t̓l*	‘tear’	*t̓il-t*	‘torn’	*təl-t̓il-t*	‘multiple torn’
h.	**√nik̓*	‘cut’	*nik̓-t*	‘be cut’	*nək-nik̓-t*	‘cut up’

Overall, I assume that the *ə*c- stativizer occurring directly before a root is a necessary and sufficient condition for diagnosing a CS root: this foregrounds a change-of-state if one is available in the root. Hence (11c-d) involve CS roots, but (11a,b) do not. This however implies that CS roots can sometimes be coerced into positive adjectives (11c-d), as with *x̌əẃx̌áẃt* 'dry'. While this is important to consider, I set it aside for now.

There is at least some morphological evidence for a distinction between PC and CS roots, and there is an important semantic distinction as well: CS roots entail change, while PC roots do not.

2 Change-of-State and v_{become}

2.1 Restitution vs. Repetition

Beavers & Koontz-Garboden (2020), building on work by Dowty (1979) and Rappaport Hovav & Levin (2010), posit that a fundamental difference between PC and result roots in English is that the former do not entail change, whereas the latter do. A key diagnostic used to support this distinction comes from so-called 'restitution' tests.

To illustrate the test, examples which involve inchoative (12a) and causative (12b) uses of deadjectival PC roots like *sharp* are typically judged felicitous with *again* in a context where, for example, a knife was manufactured sharp, and only underwent one event of sharpening. In this case, the sentences in (12) do not assert that the *event* of sharpening occurred again, only that the *state* of being sharp obtains again as the result of a single event. For this 'restitutive' reading, the argument is that *again* must be scoping over the PC root, to the exclusion of any introduced verbal structure (Figure 4, based on Beavers & Koontz-Garboden 2020).

(12) a. The knife was sharpened again.
b. John sharpened the knife again.

These sentences are also felicitous in a context, for example, where John has repeatedly sharpened the knife over several years. This 'repetitive' reading involves two or more sharpening events. *Again* in this case must be attaching higher, above the point at which change is introduced to the PC root (v_{become} for state passives; Figure 5).

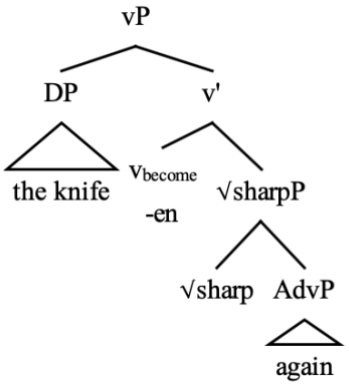

Figure 4. Restitutive Attachment

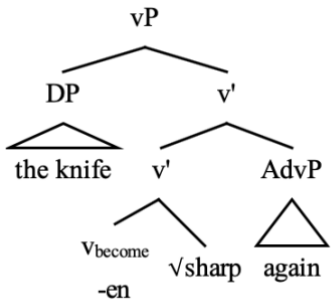

Figure 5. Repetitive Attachment

As Beavers & Koontz-Garboden (2020) discuss, repetition asymmetrically entails restitution (e.g. *getting sharpened again* entails *becoming sharp again*), which supports the idea that the syntactic point of attachment for adverbials like *again* corresponds to semantic scope.

Crucially, result roots generally allow only repetitive readings. Cases like (13) involving result roots such as *melt* are judged infelicitous with *again* in contexts where an event of change occurs only once. Consider a context where "an ice cream factory manufactures ice cream from a package of ingredients by adding water and then freezing the result. After adding the contents of the package to water and freezing it, Kim lets it melt into a liquid state" (Rapaport Hovav & Levin 2010; Beavers & Koontz-Garboden 2020:85).

(13) a. #The ice-cream was melted again.
b. #Kim melted the ice-cream again.

Although the liquid state existed prior to Kim's melting the ice-cream, the state itself, to the exclusion of the event which led to the state, remains inaccessible to *again.* In other words, *two* melting events must have occurred, which leads to infelicity in the given context. The absence of any restitutive reading with result roots follows even on the low restitutive attachment site (Fig. 4), if result roots themselves entail change.

Nsyilxcn roots show a tendency towards a similar distinction. PC roots easily allow restitutive readings. In (14), only one event of becoming wet is entailed in the context given, and in (15) only one event of becoming white is entailed. Similar facts hold for (16). Several of the examples here (and below with CS root examples) are causative (in the sense of 12b/13b), as opposed to inchoative (12a/13a), since these are more natural for fluent speakers in these contexts.[15]

(14) *Context:* Susan caught a fish from the lake that had been born there, then after it dried out she realized what kind it was and threw it back in again.

a. **əɬ-ɬʕaʔ̓-nt-ís** iʔ qaqxʷəlx.
again-wet-DIR-3ERG DET fish
'She made it wet again.' (Delphine Derrickson-Armstrong | VF)

b. way̓ **əɬ-ɬ<ʔ>ʕaʔ̓.**
already again-wet<INCH>
'It got wet again.' (Delphine Derrickson-Armstrong | Dave Michel)

(15) *Context:* John built a house using white stones. John painted it yellow, then he painted it white again.

[15] Gloss abbreviations used in this paper are as follows: ADJT – adjunct; C – complementizer; C2 – final reduplication; CAUS – causative transitivizer; CISL – cislocative; CMPD – compound connector; CONT – continuative; DET – determiner; DIR – directive transitivizer; DUB – dubitative; EMPH – emphatic; EPIS – epistemic; ERG – ergative subject; EVID – evidential; FAC – factual; FUT – future; INCH – inchoative; INDP – independent; INTR – intransitive; IPFV – imperfective; LOC – locative; MID – middle; N.CTR – non-control; NEG – negative; NMLZ – nominalizer; OBJ – object; OBL – oblique; PASS – passive; PL – plural; POSS – possessive; PROS – prospective; SG – singular; STAT – stative; SUBJ – intransitive subject; VF – volunteered form. Interlinearized examples without 'VF' were constructed by the author, and judged grammatical, except in cases marked by an asterisk '*'.

əɬ-p<ʔ>iq iʔ citxʷ.
again-white<INCH> DET house
'It got white again.' (Delphine Derrickson-Armstrong)

(16) *Context:* Kim takes a photo that is too large to use as a Facebook profile photo. She shrinks it to a more appropriate size, but thinks it does not look good. So she restores it to its original size and puts it on her personal website instead. Kim enlarged the photograph again. (Context from Beavers & Koontz Garboden 2020)

Kim ks-k̓ʷuɬ̓-m-iʔst-s iʔ sk̓ɬq̓əy̓ncút-s, uɬ k̓ʷək̓ʷiyumaʔ-st-s,
Kim PROS-make-MID-N.CTR-3POSS DET picture-3POSS and small-CAUS-3ERG
uɬ ixíʔ **ɬ-silxʷaʔ-st-s**.
and she again-large-CAUS-3ERG
'Kim made a photo, then she made it smaller, then she made it larger again.'
(Delphine Derrickson-Armstrong | VF)

CS roots, in contrast, typically allow only repetitive readings. In (17) the result state of being fixed (i.e. functioning) existed for the TV prior to its breaking, but restitution of that state is not possible with *əɬ-* 'again', to the exclusion of the event of 'causing to function' (i.e. 'fix') which led to the state. Similar facts hold for (18-19). Again, most of the examples below are causative, since these are more natural for speakers.

(17) *Context:* Last week, Mary bought a new TV and a new laptop. Three days later the laptop was working fine, but the TV wasn't. Very upset, Mary brought her tools and then.... (Based on Spathas 2017).

Mary **(#əɬ-)k̓ʷuɬ̓-s** iʔ snyaʔyáx̌aʔtn.
Mary (#again)-fix-(DIR)-3ERG DET television
'Mary fixed the television.'
DM: [With əɬ-], sounds like it was broken twice. (Dave Michel | VF)

(18) *Context:* Leah kills a rabbit, takes it home and skins and butchers it and then puts the fresh meat in the freezer for three days. She then takes it out and puts it on the table to thaw. (Rapaport Hovav 2010).

Leah **(#əɬ)-ʕam-st-ís** iʔ spəplínaʔ iʔ sɬiqʷ-s.
Leah (#again)-thaw/melt-CAUS-3ERG DET rabbit DET meat-3POSS
'Leah thawed the rabbit meat.' (Delphine Derrickson-Armstrong)

(19) *Context:* This morning, John accidentally spilled the milk, later on he got a cleaning rag and he wiped up the milk again.

a. John **(#əɬ)-k̓ɬ-ʔip̓-əs** iʔ sqʔim iʔ c̓xʷ•axʷ.
John (#again)-under-wipe-(DIR)-3ERG DET milk DET spill•C2.INCH
'John wiped up the milk again that spilled.'
DD: the *əɬ* means he did it again, sounds like he did it twice.
(Delphine Derrickson-Armstrong)

b. way̓ **(#əɬ)-əc-ʔip̓** iʔ sqʔim.
already again-STAT-wipe DET milk
'The milk is wiped up again.'
DD: A little awkward, they wiped it once and they wiped it again.
(Delphine Derrickson-Armstrong | VF w/o *əɬ-,* judged odd with *əɬ-*)

It should be noted that this test yields only a somewhat strong tendency in Nsyilxcn, and that there are exceptions going in both directions. This is unsurprising, given that in English too, judgements here are not entirely clear. For example, my own intuition around the result root *wiped up* is that it is fine to say, after my son spills his milk, *I wiped it up again,* even if there is just one wiping event. The contrast illustrated above between PC and CS roots nevertheless suggests that Nsyilxcn CS roots entail a change-of-state, similarly to English result roots.

2.2 v_{become} and Change-of-State

Beavers & Koontz-Garboden's (2020) model change-of-state though a BECOME operator that applies to a state and event argument, i.e. BECOME(s,e). This is part of their lexical semantics of a result root, and also a component of a functional head v_{BECOME} (20) (see also Alexiadou et al 2004, Folli & Harley 2005), which applies to both PC and result roots.

(20) $[\![v_{BECOME}]\!] = \lambda P \lambda x \lambda e \exists s[P(x,s) \wedge BECOME(s,e)]$

In simple terms, BECOME(s,e) "is true iff at the beginning of *e* the state *s* does not hold and at the end of *e* the state *s* does hold." (ibid:36). More accurately, there is a scalar state *s* that arises from an individual *x* undergoing "incremental transitions" as part of an event of change *e*, such that at the beginning of *e*, the degree to which *x* holds *s* is below some verbal standard, and at the end of *e,* the degree is above some verbal standard. Regarding the scalar state *s,* it "is treated as some eventuality that must occur and will have certain properties that hold of it (e.g. P in [20]), sufficient to account for the common diagnostic of change of state as yielding contradictions when asserting that the change occurred but that the relevant state has not obtained" (ibid:33).

Formally, the truth conditions for BECOME(s,e) are spelled out in (21a) (ibid:45), where "...the event must stand in a Figure/Path Relation [Krifka 1998, Beavers 2012] to the theme and an appropriate subpart of the scale, where for any scalar state *s* the individual x_s is its patient, δ_s is its scalar dimension [(e.g. for height, length, straightness, temperature, etc)], d_s is the degree to which x_s holds δ_s in *s*, and S_s is the set of degrees for the scale of *s*." The truth conditions in (21a) link the scalar state *s* to the Figure/Path Relation in (21b) (Beavers 2012), which ensures a homomorphism between the individual *x,* an event *e,* and the degree to which they hold some property *δ.*

(21) a. **BECOME(s,e)** is true iff s holds at the end of e and at the beginning of e there is a state s' such that there is a degree d' on δ_s where $d_{xs}^{\delta s} >$ d' and $d_{xs}^{\delta s} = stnd'_V(\delta_s)$ and e is in a Figure/Path Relation with x_s and the continuous, ordered set of degrees $S' \subseteq S_s$ of δ_s containing d′ and whose maximal degree is d_s.

b. **Figure/Path Relation**: An event e, patient x, and continuous, ordered set of degrees S on some dimension δ stand in a Figure/Path Relation (FPR) iff every unique part x' ≤ x corresponds to a unique subevent e' ≤ e, the sum of all such subevents constitutes e, and

each e' stands in a Movement Relation with a continuous subset S' ⊆ S, where S' includes x' 's initial degree of *δ* in e and where the maximal degree in S' is x' 's final degree of *δ* in e.

Overall, "change of state involves coming to be in a state of holding some specific d ∈ S of δ greater than the degree held at the beginning of the event" (Beavers & Koontz-Garboden 2020:36). For (21a), so long as $d_s > d'$, a change has occurred, and v_{BECOME} is satisfied.

Beavers & Koontz-Garboden (2020) propose that PC roots like *sharp* have the semantics in (22a), and result roots like *melt* have the semantics in (22b). Given the truth conditions in (21a), (22b) may be paraphrased as meaning that there is an event *e* in which *x* goes incrementally from holding some degree *d'* of a state *s* of meltedness below the verbal standard for being melted, to some degree *d* of a state *s* of meltedness above the verbal standard.

(22) a. ⟦√sharp⟧ = λxλs[*sharp*(x,s)] PC root
b. ⟦√melt⟧ = λxλs[*melted*(x,s) ∧ ∃e[BECOME(s,e)]] result root

v_{become} (20) applies to both PC and result roots, and introduces a change-of-state. With PC roots, this derives a deadjectival verb (23a). With result roots (23b), the change-of-state is redundant but truth-conditionally non-problematic (Beavers & Koontz-Garboden 2020:82). In both cases, v_{become} derives a predicate of events from a predicate of states.

(23) a. $[\![v_{BECOME}$ √sharp⟧ = λxλeλs[BECOME(s,e) ∧ *sharp*(x,s)]
b. $[\![v_{BECOME}$ √melt⟧ = λxλeλs[BECOME(s,e) ∧ *melt*(x,s) ∧ ∃e'[BECOME(s,e')]]

Beavers & Koontz-Garboden (2020:43) generalize across (23a,b) noting that "there is always a condition that the (final) state is one of holding a degree of the relevant property that is at or above some standard determined by scale type, word category, and pragmatic context."

A similar approach seems plausible for modeling change-of-state in Nsyilxcn, though with some differences. First, I propose that *v* does not necessarily derive only a predicate of events in Nsyilxcn, in contrast to v_{BECOME} (section 3). Second, I propose that Nsyilxcn roots do not come preequipped with a verbal or positive standard (contra Beavers & Koontz-Garboden 2020) and that therefore a specified degree standard should not be included as part of the truth conditions of an entailment of change (Kennedy & Levin 2008), unlike in (21a). Verbal degree standards in Nsyilxcn are introduced at v (Section 4). This requires some deconstruction of (20) and (21).

3 Inchoative *v* versus Null *v* in Nsyilxcn

This section provides evidence that Nsyilxcn inchoativizers are *v* heads which introduce or ensure a change-of-state and derive a predicate of events, similarly to v_{become} in (20), and that they alternate with a semantically distinct null *v* head, which does not derive a predicate of events. That the semantics of *v* can vary in this manner is crucial to what follows.

To begin with, stativized CS roots and positive adjectives derived from PC roots pattern as predicates of states, while inchoatives of both types pattern as predicates of events. This is briefly demonstated below through tests involving punctual adverbs (see Lyon 2023 for other tests.). Consider that a punctual adverb anchors internally to the homogenous state of a positive adjective derived from a PC root (24a), but will anchor to the event transition in the corresponding inchoativized PC root (24b). (24a) is judged infelicitous since there is no sequential reading, as

required by the context. Stativized CS roots (25a) resemble positive adjectives (24a) in terms of their temporal overlap effects, and inchoativized CS roots (25b) pattern with PC inchoatives (24b).

(24) *Context: You place something heavy into a box, which then makes the box heavy.*

a. #ixíʔ łaʔ n-wt-nt-ix^{w} iʔ l knəxnáx, uł **nʕast.**
that when LOC-put.in-DIR-2SG.ERG DET in box and heavy(POS)
'When you put that in the box, it was *already* really heavy.'
(Delphine Derickson-Armstrong)

b. ixíʔ łaʔ n-wt-nt-ix^{w} iʔ l knəxnáx, uł **n<ʔ>ʕas**.
that when LOC-put.in-DIR-2SG.ERG DET in box and heavy<INCH>
'When you put that in the box, it *got* heavy.' (Delphine Derickson-Armstrong)

(25) a. iʔ snkłc̓aʔsqáx̌aʔ **əc-√naq̓^{w}** l sntəx̌^{w}əx̌^{w}qín.
DET horse STAT-get.stolen at noon
'The horse was *already* stolen by noon.' (Delphine Derickson-Armstrong)

b. iʔ snkłc̓aʔsqáx̌aʔ **náq̓^{w}•əq̓^{w}** l sntəx̌^{w}əx̌^{w}qín.
DET horse get.stolen•C2.INCH at noon
'The horse *got* stolen at noon.' (Delphine Derickson-Armstrong | VF)

Next, in contrast to positive adjectives (26), *v* is present for inchoativized PC and CS roots (27) (Kratzer 1994, Anagnostopoulou 2003, Alexiadou et al 2004, 2015). This is shown by the fact that only the latter can occur with manner adverbials (27a,b) and non-agentive instruments of causation (27c,d) (Davis & Demirdache 1997:108 for St'át'imcets).

(26) *kn **łʕat̓** t k̓ək̓alíʔ.
1SG.SUBJ wet(POS) OBL slow
'I am slowly wet from the rain.' (Delphine Derickson-Armstrong)

(27) a. kn **ł<ʔ>ʕat̓** t k̓ək̓alíʔ.
1SG.SUBJ wet<INCH> OBL slow
'I'm getting wet slowly from the rain.' (Delphine Derickson-Armstrong)

b. kn **ník̓•ək̓** t x^{w}us.
1SG.SUBJ get.cut•C2.INCH OBL quick
'I got cut quickly.' (Delphine Derickson-Armstrong)

c. **ł<ʔ>ʕat̓** iʔ lasmíst iʔ t sq̓it.
wet<INCH> DET shirt DET OBL rain
'The shirt got wet by the rain.' (Delphine Derickson-Armstrong)

d. kn **ník̓•ək̓** iʔ t ník̓mən.
1SG.SUBJ get.cut•C2.INCH DET OBL knife
'I got cut by a knife.' (Delphine Derickson-Armstrong, cf. N. Mattina 1996:91)

Although stativized CS roots are predicates of states, they differ from positive adjectives in often[16] allowing non-agentive, phrasal event modifiers (28) (cf. N. Mattina 1996; Anagnostopolou 2003 for Greek). This follows if stativized CS roots also contain *v* (Embick 2004, 2023).

(28)a. **əc-√naq̓ʷ** iʔ kəwáp t xʷúsxʷəst.
STAT-get.stolen DET horse OBL quick
'The horse was quickly stolen.' (Delphine Derickson-Armstrong)

b. way̓ **əc-√nik̓** iʔ sp̓íc̓ən iʔ t k̓rk̓riẇstn.
already STAT-get.cut DET rope DET OBL scissor
'The rope was cut by the scissors.' (Delphine Derickson-Armstrong)

Given that inchoativizers introduce the change-of-state required for event-related adverbial modification in PC roots (27), that the inchoative infix <*ʔ*> is sensitive to PC roots (1.1), as well as the fact that <*ʔ*> is in complementary distribution with other inchoativizers that target roots (2.1-2.2), I treat inchoativers as *v* heads which adjoin directly to roots, similarly to Embick's (2004) analysis of the *-en* morphology on deadjectival verbs like *dark-en* (Figure 6) (I assume that roots do not project phrasal structure (Marantz 2009, Embick 2023), though this is not crucial for this paper).

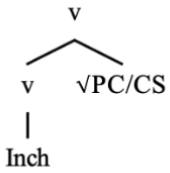

Figure 6. Inchoatives in *v*

Nsyilxcn *v* is not always realized by an inchoativizer, however. First, consider that the stativizer can optionally co-occur with the inchoativizer on both CS (29a,b) and PC roots (29c,d).[17] Thus the strict complementary distribution posited to hold between the stativizer and inchoativizer in Lyon (2023) does *not* in fact hold.

(29) a. i-slaxt **(əc)-x̌áq̓•əq̓** t spiʔsc̓iɬt
1SG.POSS-friend STAT-pay•C2.INCH OBL yesterday
'My friend got paid yesterday.' (Delphine Derickson-Armstrong | VF w/o *əc-*)

[16] These are not always acceptable, and inchoatives are sometimes preferred here. Similar facts lead Embick (2023) to posit a small *v* structure for adjectival passives in English. Stat adjoins directly to a *v* head, rather than taking a full *vP* as an argument. The lack of a *vP* projection forces phrasal event modification to occur higher than StatP. This derives the marginality of event-modified statives, except in cases where the event modifier bears direct relevance to a description of the state (McIntyre 2015, Biggs & Lopes 2024). I abstract away from these issues in this paper, but have data showing that 'state relevance' is operative in Nsyilxcn.

[17] Surface similar cases to those in (29) involving a *(ə)c-* prefix can be analyzed as imperfective inchoatives, where the transitional event is in-progress, or habitual (see Lyon 2023). The bolded predicates in (29) are not predicates of transitional events, however. The availability of *wiʔ* 'to finish' in (23c), in fact, requires that the event not be in progress.

b. way̓ **(əc)-t̓l-ap** iʔ q̓əy̓mín.
already STAT-tear-INCH DET paper
'The paper is torn.' (Delphine Derickson-Armstrong | VF w/o *əc-*)

c. **(əc)-wiʔ-s-təɬ•áɬ** iʔ wlwlim.
STAT-finish-CMPD-straight•C2.INCH DET metal
'The wire is already straightened.' (Delphine Derickson-Armstrong)

d. way̓ **(əc)-p<ʔ>aq** iʔ citxʷ.
already STAT-white<INCH> DET house
'The house has gotten white.' (Delphine Derickson-Armstrong)

To be clear, PC roots like those in (29c-d) do not take a *əc-* stativizer without first taking an inchoativizer (1.1). This shows that in contrast to an inchoativizer, stativizer *əc-* requires a change-of-state but is not sensitive to the type of root. Given that the inchoativizer is a *v* head, this implies that the stativizer is higher than *v* (Figure 3, repeated below). This hypothesis receives additional support from the position of event modifying compounding roots like *wiʔ* 'to finish' in cases like (29c) (discussed further below).

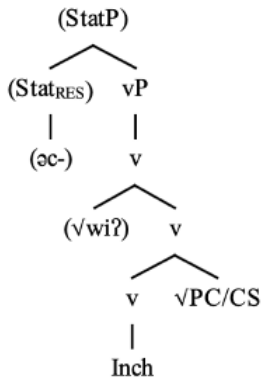

Figure 3. Stativized Inchoative *v* Structure

In the absence of inchoative marking however, the stativizer is crucially required with CS roots (30). In other words, bare patient-oriented CS roots are not permitted in the language.[18]

(30)a. lut kn t̓a kɬ-kəwáp ałíʔ ***(əc)-naq̓ʷ** in-kəwáp.
NEG 1SG.SUBJ NEG.FAC have-horse because STAT-get.stolen 1SG.POSS-horse
'I don't have a horse because it is stolen.' (Delphine Derickson-Armstrong | VF)

b. way̓ ***(əc)-x̌aq̓** iʔ səxʷk̓ʷúl̓əm.
already STAT-paid DET worker
'The worker is paid.' (Delphine Derickson-Armstrong | VF)

c. ***(əc)-wiʔ-s-q̓áy̓**, cakʷ lut łə nɬiptm-n.

[18] These examples also show that *wiʔ* is just a modifier, not an inchoativizer.

STAT-finish-CMPD-write BOUL NEG if forget-(DIR)-1SG.ERG
'It would've been already written if I hadn't forgotten it.'
(Delphine Derickson-Armstrong | VF)

d. way̓ ***(əc)-wiʔ-s-ʔiq̓** iʔ siṗiʔ.
already STAT-finish-CMPD-scrape DET hide
'The hide is already tanned.' (Delphine Derickson-Armstrong | VF)

Given that statives contain *v,* I propose that the inchoative *v* in (29) alternates with a null *v* in (30) (Figure 2, repeated below). Null *v* is not just a null version of the inchoativizers in (29) however: It is 'defective' in the sense that it cannot derive a predicate of events from a CS root in the same way that an inchoativizer can, assuming that inchoativizers in Nsyilxcn are basically the equivalent of Beavers & Koontz-Garboden's (2020) v_{BECOME}.

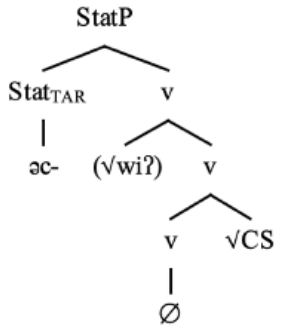

Figure 2. Stativized null *v* Structure

What then is null *v*, if not a null inchoativizer? In attempting to answer this question, it is important to note that Figure 3 structures are interpreted as resultant statives, in the sense of Parsons (1990) and Kratzer (2000), in contrast to Figure 2 structures which are typically interpreted as target statives.[19] This interpretive difference helps to determine a semantics for null *v,* as I show below.

As originally described in Parsons (1990) (see also Kratzer 2000, Alexiadou et al 2015, Davis, Huijsmans & Mellesmoen 2020 for Salish), *target states* are in principle reversible, and describe a state that must continue to affect an argument relative to a reference time in order to be felicitously used. When the *əc-* stativizer combines directly with a CS root (Fig. 2), it derives a target stative (Lyon 2023). This is demonstrated by the fact that these are compatible with the adverb *still,* which requires a state that is in principle reversable (31), as well as by examples showing that they cannot be used in the present tense in contexts for which the state no longer holds (32-33).

[19] Not all CS roots taking *əc-* necessarily have 'independently identifiable' target states, e.g. *əc-tr̓aq* 'x has been kicked'. I argue that these roots do, however, still have a scalar result state *s* by virtue of the fact that they entail a change-of-state. In other words, a scalar result state may or may not also be an 'independently identifiable' target state. Regardless of the nature of the scalar state, when stativizer *əc-* applies to a CS root in the absence of an inchoativizer, the state must hold at a reference time. See discussion in section 6.

(31) in-kəwáp **əc-naq̓ʷ** t spiʔsc̓íɬt, uɬ putíʔ ʕapnaʔ **əc-naq̓ʷ**.
1SG.POSS-horse STAT-get.stolen OBL yesterday and still now STAT-get.stolen
'My horse was stolen yesterday, and it's still stolen now.'
(Delphine Derickson-Armstrong | VF)

(32) *Context: A cup breaks and scatters, then I clean the pieces up and glue it back together.*[20]

ʕapnáʔ **əc-pakʷ** iʔ lpot.
now STAT-get.scattered DET cup
'The cup has (now) been scattered.' (Delphine Derickson-Armstrong)

(33) *Context: A worm got stepped on and squashed, but then it heals and moves on.*

əc-p̓ac̓ iʔ mámlaʔ náx̌əmɬ pútiʔ c-xʷəlxʷált.
STAT-get.squashed DET worm but still IPFV-alive
'The worm has been squashed but it is still alive.' (Delphine Derickson-Armstrong)

Kratzer (2000) treats target state participles in German (e.g. *aufpump-* 'to get inflated')[21] as involving change-of-state roots that come pre-equipped with unsaturated state and event arguments (34a). The target stativizer (34b) functions to existentially close the event variable, and to foreground the underlying state (34c).

(34) a. λsλe.[BECOME(e,s) ∧ P(x,s)] *underived target state participle*
b. $\lambda R_{<s<s,t>>}\lambda s\exists e[R(e,s)]$ *target stativizer*
c. λsλe.[BECOME(e,s) ∧ P(x,s)] *target state participle*

In contrast, a resultant state simply entails that an event has culminated at some point prior to the reference time (like the English perfect). Thus, a target state entails a resultant state (by virtue of the fact that an event has occurred) (Parsons 1990), but the reverse does not hold. Resultant states are not reversable, and allow, but do not require, a result state to continue affecting an argument at a reference time. In Nsyilxcn, when stativizer *əc-* combines with an inchoativized predicate (Figure 3), it yields a resultant stative.[22] The examples in (35) are judged good in a context in which the state no longer affects an individual. Note that PC roots such as *qʷin* 'green' (35c) *only* form resultant statives since PC roots *require* inchoativization prior to taking the stativizer (sec 2.3).

(35) a. *Context: Looking at a picture of a painted car that has had all of the paint removed.*

əc-míx̓•əx̓ iʔ p̓uyxən.
STAT-paint•C2.INCH DET car

[20] Because tense is null in Nsyilxcn, the adverb *ʕapnáʔ* 'now' helps to force a present tense reading of the stative. Storyboards were used to elicit (32-33) (Burton & Matthewson 2015).

[21] Kratzer (2000,2005) originally used CAUSE(e,s) to represent the relation between a transitional event and a target state. Because CAUSE(e,s) in Kratzer's sense is equivalent to BECOME(e,s), and in order to make this study maximally comparable to current literature, I use BECOME(e,s) in my representations.

[22] There is some variation in how *əc-* is preferentially interpreted when prefixed to an inchoative. DM more easily allows stative interpretations, while DD has a stronger tendency to interpret *əc-* as the imperfective here. DD nevertheless volunteers and accepts these as statives sometimes, as shown in (35).

‘The car has been painted.’ (Delphine Derickson-Armstrong | VF)

b. *Context: A frozen lake has melted, but is now refrozen.*

iʔ	sxʷuynt	**əc-ʕam-áp**	iʔ	t	x̌yałnxʷ.
DET	ice	STAT-melt-INCH	DET	OBL	sun

‘The ice has been melted by the sun.’ (Delphine Derickson-Armstrong | VF)

c. *Context: A lake turns green in the summer, and clears in the winter. It is now winter.*

iʔ	siwłkʷ	way̓	**əc-qʷ<ʔ>in**.
DET	water	already	STAT-green<INCH>

‘The water has already turned green.’ (Delphine Derickson-Armstrong)

As further evidence for this distinction, while target statives are acceptable with *púti?,* stativized inchoatives are not (36). This follows if the latter are non-reversable, resultant statives. The consultant’s comments in (36a,b) show that *púti?* forces the imperfective interpretation of the *əc-* prefix in the context of an inchoativizer (see Lyon 2024 for discussion of the imperfective).

(36)a. way̓ **əc-t̓ak̓ʷ** snk̓lip, uł púti? **əc-t̓ak̓ʷ / *əc-t̓k̓ʷ•ak̓ʷ**.
already STAT-laid.down coyote and still STAT-laid.down / STAT-laid.down•C2.INCH
‘Coyote has fallen, and he’s still down.’ (Delphine Derickson-Armstrong | VF əct̓ak̓ʷ)
DD: No, with ct̓k̓ʷak̓ʷ he is still falling.

b. iʔ siwłkʷ **c̓xʷ•axʷ**, uł púti? **əc-c̓axʷ / *əc-c̓xʷ•axʷ**.
DET water spill•C2.INCH and still STAT-spill / STAT-spill•C2.INCH
‘The water spilled and it is still spilled.’ (Delphine Derickson-Armstrong | VF əcc̓axʷ)
DD: With cc̓xʷaxʷ it’s still spilling…. it never stopped.

c. in-kəwáp **əc-naq̓ʷ** t spiʔsc̓íłt, uł putíʔ ʕapnaʔ
1SG.POSS-horse STAT-steal OBL yesterday and still now
əc-naq̓ʷ / * əc-naq̓ʷ•əq̓ʷ
STAT- steal / STAT- steal•C2.INCH
‘My horse was stolen yesterday, and it’s still stolen now.’ (Delphine Derickson-Armstrong)

d. púti? **əc-t̓il̓ / #əc-t̓l-ap** iʔ q̓əy̓mín.
still STAT-tear / STAT-tear-INCH DET paper
‘The page is still torn (no-one has taped it yet).’ (Delphine Derickson-Armstrong)

Kratzer notes that when a verb has a target state passive, it usually has a resultant state passive as well (2000:11). In Nsyilxcn, the interpretation of a stative varies depending on whether or not *v* hosts an inchoativizer or is null (Figures 2-3). This essentially follows Kratzer’s (2000) approach in deriving resultant state participles from stems with a target state argument, where a ‘V’ head closes the state argument. Taking again the underived participle in (37a), one function of the inchoativizer (in *v*) is to close the underlying target state argument, foregrounding the event

argument (37b) and yielding an inchoative predicate (37c).[23] Kratzer's resultant stativizer, which applies only to predicates of events (37d), then optionally applies (Fig. 3). This closes the event argument and places the event runtime prior to a reference time *t*, yielding (37e). It is underspecified whether the target state as well as the event, or just the event, is situated prior to the reference time.

(37)	a.	$\lambda s \lambda e.[\text{BECOME}(e,s) \wedge P(x,s)]$	*underived target state participle*
	b.	$\lambda R_{<s<s,t>>} \lambda e \exists s[R(e,s)]$	*inchoativizer*
	c.	$\lambda e \exists s.[\text{BECOME}(e,s) \wedge P(x,s)]$	*inchoative predicate*
	d.	$\lambda P_{<s,t>} \lambda t.\exists e[P(e) \wedge \tau(e) < t]$	*resultant stativizer*
	e.	$\lambda t \exists e \exists s.[\text{BECOME}(e,s) \wedge P(x,s) \wedge \tau(e) < t]$	*resultant stative*

Given these semantics, we now are able to assign a semantics for null *v.* I will first present my proposal, before discussing potential alternatives.

I propose that null *v* is an identity function on change-of-state (CS) roots, specifically. The null *v* head in (38a) is an identity function that ranges over a CS root with two eventuality variables open, an event and a state (38b), similar to an underived target state participle. The result is a null *v* structure with open event and state variables (38c). This then serves as an argument for the target stativizer in (34b). This approach prevents null *v,* and ultimately stativizer *əc-* from applying to underived PC roots, and runs parallel to existing analyses of categorizing head *a* as an identity function on PC roots (Embick 2004, Beavers & Koontz Garboden 2020).

(38) **Nsyilxcn null v structure**

a.	$[\![\emptyset_v]\!]$	=	$\lambda R \in D_{<e,<s,<s,t>>>} \lambda x \lambda s \lambda e[R(x,s,e)]$	null *v: identity function*
b.	$[\![\sqrt{\text{melt}}]\!]$	=	$\lambda x \lambda s \lambda e[\textit{melted}(x,s) \wedge \text{BECOME}(s,e)]$	*CS root*
c.	$[\![\emptyset_v(\sqrt{\text{melt}})]\!]$	=	$\lambda x \lambda s \lambda e[\textit{melted}(x,s) \wedge \text{BECOME}(s,e)]$	*null v structure*

The inchoativizer which applies to CS roots (39a) also ranges over roots with two eventuality variables open (39b), but it closes the state argument unlike the null *v*. This yields the inchoativized CS root in (39c), a predicate of events, which can serve as an argument for the resultant stativizer in (37d).[24]

(39) **Nsyilxcn inchoative v structure**

a.	$[\![\text{inch}_v]\!]$	=	$\lambda R \in D_{<e,<s,<s,t>>>} \lambda x \lambda e \exists s[R(x,s,e)]$	*inchoative v (CS roots)*
b.	$[\![\sqrt{\text{melt}}]\!]$	=	$\lambda x \lambda s \lambda e[\textit{melted}(x,s) \wedge \text{BECOME}(s,e)]$	*CS root*
c.	$[\![\text{inch}_v(\sqrt{\text{melt}})]\!]$	=	$\lambda x \lambda e \exists s[\textit{melted}(x,s) \wedge \text{BECOME}(s,e)]$	*inchoative v structure*

Both null *v* (40a) and inchoative *v* predicates (40b) invariably allow event modification prior to stativization, so the event variable must be available up until the point that the stativizer applies.

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[23] This is equivalent to Beaver & Koontz-Garboden's (2020) analysis of a predicate which v_{become} has applied to.

[24] Note that the inchoativized CS root in (39c) is semantically identical to Beavers & Koontz-Garboden's result root (iib), after it composes with v_{BECOME} (iia), but without the redundant change-of-state in (iic). (This is because the event variable is unbound in (39b), but bound in (iib).)

(ii) a. $[\![v_{BECOME}]\!] = \lambda P \in D_{<e,<s,t>>} \lambda x \lambda e \exists s[P(x,s) \wedge \text{BECOME}(s,e)]$

b. $[\![\sqrt{\text{melt}}]\!] = \lambda x \lambda s[\textit{melted}(x,s) \wedge \exists e[\text{BECOME}(s,e)]]$

c. $[\![v_{\text{BECOME}}\ \sqrt{\text{melt}}]\!] = \lambda x \lambda e \exists s[\textit{melted}(x,s) \wedge \text{BECOME}(s,e) \wedge \exists e'[\text{BECOME}(s,e')]]$

For example, the compounding root *wiʔ* 'to finish' in (40) occurs inside of the stativizer,[25] and entails that the events of writing (40a) and straightening (40b) are finished, not that the states resulting from these events are finished.

(40)a. **əc-wiʔ-s-q̓áy̓**, cak^{w} lut łə nłiptm-n.
STAT-finish-CMPD-write BOUL NEG if forget-(DIR)-1SG.ERG
'It would've been already written if I hadn't forgotten it.'
(Delphine Derickson-Armstrong | VF)

b. **(əc)-wiʔ-s-təɬ•áɬ** iʔ wlwlim.
STAT-finish-CMPD-straight•C2.INCH DET metal
'The wire is already straightened.' (Delphine Derickson-Armstrong)

The above approach seems plausible, but why not assume Beavers & Koontz Garboden's (2020) result root semantics for Nsyilxcn CS roots, as in (41a)? A null *v* could reintroduce an event argument (41b), yielding (41c). (This has a redundant change-of-state, similar to their ⟦v_{BECOME} √melt⟧ in (23b), but with an unsaturated state variable). After all, (41c) can equally well serve as an argument for the target stativizer in (34b).

(41) **alternative 1**
a. ⟦√melt⟧ = λxλs[*melted*(x,s) ∧ ∃e[BECOME(s,e)]] *result root*
b. ⟦$\emptyset_v$⟧ = λP ∈ $D_{<e,<s,t>>}$ λxλsλe[P(x,s) ∧ BECOME(s,e)] *null v*
c. ⟦$\emptyset_v$(√melt)⟧= λxλsλe[*melted*(x,s) ∧ BECOME(s,e) ∧ ∃e'[BECOME(s,e')]] *null v structure*

The main argument against this alternative is that if CS roots are predicates of states, as in (41a), the null *v* in (41b) should be able to range over PC roots as well, but this is not the case: PC roots in Nsyilxcn never take stativization unless they are first inchoativized.

Conversely, why not assume Davis' (2024:311) proposed CS root semantics for St'át'imcets, as in (42a),[26] along with a null *v* which introduces a scalar state argument (42b), yielding (42c)? According to Davis (2024), (42a) should be true if there is an event *e* of *x* getting melted which culminates. (42c) should then be true if the event, additionally, results in a scalar state *s.*

(42) **alternative 2a**
a. ⟦√melt⟧ = λxλe[*get.melted*(x,e)] *CS root*
b. ⟦$\emptyset_v$⟧ = λP ∈ $D_{<e,<s,t>>}$λxλsλe[P(x,s) ∧ BECOME(s,e)] *null v*
c. ⟦$\emptyset_v$(√melt)⟧ = λxλsλe[*get.melted*(x,e)(s) ∧ BECOME(s,e)] *null v structure*

Assuming that (42b) only ranges over eventive predicates, not stative predicates, then (42c) looks very similar to my proposed (38c), and can serve as an argument for the target stativizer. As such, this alternative is important to consider.

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[25] There is evidence that *wiʔ* adjoins to *v* as opposed to directly to the root, and that Figures 2 and 3 are correct. If *wiʔ* adjoined directly to the root, then the expected C2 inchoativization pattern would be e.g. **wiʔəʔsq̓ay̓* 'finished being written' as opposed to grammatical *wiʔsq̓əy̓áy̓.* Furthermore, *wiʔ* does not attach to bare PC roots (though see N. Mattina 1996 for examples of s-level, positive adjectives being coerced into eventive predicates by *wiʔ*), and so the fact that cases involving inchoativized PC roots like *wiʔ-s-təɬ•áɬ* 'finished being straightened' are grammatical shows that *wiʔ* applies higher than the inchoativizer.
[26] I exclude intensionality from Davis' representation, for the ease of comparison.

A deeper question here is whether the change-of-state in CS roots requires reference to a resulting scalar state, as I have proposed following Beavers & Koontz Garboden (2020), or whether a culminating, transitional event is sufficient to entail a change-of-state, as implied by Davis (2024). Recall from 2.2 that the scalar state *s* "is treated as some eventuality that must occur and will have certain properties that hold of it [e.g. *being melted* in [42]), sufficient to account for the common diagnostic of change of state as yielding contradictions when asserting that the change occurred but that the relevant state has not obtained" (Beavers & Koontz-Garboden 2020:33). For both Nsyilxcn inchoatives derived from CS roots (43a), and St'át'imcets bare CS roots (43b), event culmination is an entailment. In Nsyilxcn, the patient argument must also hold a relevant state at the end of the event, and I assume this is also the case in St'át'imcets. Thus the meat in (43a) must be in a state of having been dried, and the fence in (43b) must presumably be in a state of having been fixed.

(43) a. **Nsyilxcn**

#ǩəw•áẇ	iʔ	słiqʷ,	naǩəmɬ	lut	talíʔ	ṫa	**əc-ǩáẇ**.
dried•C2.INCH	DET	meat	but	NEG	really	NEG.FAC	STAT-dried

'It's dried but it hasn't really dried.' (Delphine Derickson-Armstrong)

b. **St'át'imcets**

***mays**	ti=q̓láǩan=a,	ƛ̓uʔ ʔáy=ƛ̓uʔ	kʷ=s=ka-máys=c-a.
get.fixed	DET =fence=EXIS	but NEG=EXCL	D/C=NMLZ=CIRC-get.fixed=3POSS-CIRC

'The fence got fixed, but it couldn't get fixed.'
Speaker's comment: "Contradiction." (Davis 2024:310)

If (42a) is intended to entail that the patient hold a relevant state at the end of the event, but only that this state is somehow lexicalized or semantically inaccessible, then (42a) is semantically equivalent to (44a), which is also the equivalent of an Nsyilxcn inchoative (39c) and Beavers & Koontz-Garboden's (2020) v_{become} applied to a result root. For (44a) there is no question that it is an entailment of the root that the patient hold the relevant state at the end of the event. But in order to derive the correct predicate type for the target stativizer in this case, the null *v* has to *reintroduce* a state argument, as well as a change-of-state (44b).

(44) **alternative 2b**

a.	⟦√melt⟧	=	λxλe∃s[*melted*(x,s) ∧ BECOME(s,e)]	*CS root*
b.	⟦$\emptyset_v$⟧	=	λP ∈ $D_{<e,<s,t>>}$λxλsλe[P(x,s) ∧ BECOME(s,e)]	*null v*
c.	⟦$\emptyset_v$(√melt)⟧	=	λxλsλe∃s'[*melted*(x,s') ∧ BECOME(s',e) ∧ BECOME(s,e)]	*null v structure*

The upshot here is that under either (42) or (44), null *v* functions to introduce an additional state variable, but to a predicate which *already* entails a result state (presumably in 42, actually in 44). But what is the additional state, if not the state which is already entailed by the root? In (44c) an event *e* entails both *s'* and *s,* but only the state entailed by the root (s') need be a result state of being *melted* held by *x*. Unless we stipulate that *s = s', s* need not be a state of being *melted,* it could be any state, and the problem is that it is this *s* that is the argument for the target stativizer.[27] The

[27] Embick (2009) argues against Kratzer's (2000) approach, and proposes that the stativizer introduces a state argument to a predicate of events. Assuming this approach for Nsyilxcn, and that both null v and inchoative v structures are predicates of events, however, incorrectly levels the distinction between stativized roots (target statives) and stativized inchoatives (resultant statives) discussed above.

redundancy in BECOME(s,e) is truth-conditionally problematic here, in contrast to Beavers & Koontz-Garboden's (2020) (23b) above.

I conclude that for Nsyilxcn the most straightforward way of explaining their derivations into resultant and target statives is by including both an event and scalar state as unbound variables in a CS root (45a). Inchoative *v* derives a predicate of events (45b), but null *v* (as an identity function/empty categorizing head) does not.

(45) a. ⟦√melt⟧ = λxλsλe[*melted*(x,s) ∧ BECOME(s,e)] *CS root*
b. ⟦inch$_v$(√melt)⟧ = λxλe∃s[*melted*(x,s) ∧ BECOME(s,e)] *inchoative v structure*
c. ⟦∅$_v$(√melt)⟧ = λxλsλe[*melted*(x,s) ∧ BECOME(s,e)] *null v structure*

There's one other major wrinkle to account for: Inchoativized PC roots differ from inchoativized CS roots in terms of their culmination entailments (section 4). I model this distinction, while incorporating the generalizations above, using a degree semantics (section 5).

4 Inchoativization, Culmination Entailments, and Gradability

In this section I provide evidence that PC inchoatives correspond to degree achievements in languages like English in resisting culmination entailment, while inchoativized CS roots entail culmination.[28] This fact, together with the proposal in the literature that roots require degree specification (Kennedy & Levin 2008), motivates my current analysis within a degree framework.

Inchoatives built from PC roots default to a culminative, maximal interpretation, but they resist culmination entailment (46), regardless of the morphological form of the inchoativizer. This follows if PC roots are gradable predicates (Dowty 1979, Abusch 1986, Hay et. al 1999, see Davis 2011 for St'át'imcets), and if PC inchoativizers do not require a maximal degree of change.[29]

(46) a. kn **ɬ<ʔ>ʕaʔ** náx̌əmɬ lútiʔ kn ʔa **ɬʕaʔ**.
1SG.SUBJ wet<INCH> but not.yet 1SG.SUBJ NEG.FAC wet(POS)
'I'm getting wet, but I'm not wet yet.' (Delphine Derickson-Armstrong | Dave Michel)

b. **n<ʔ>ʕas** iʔ knəxnáx t kʔəkʔalíʔ náx̌əmɬ lut talíʔ ʔa **c-nʕas**.
heavy<INCH> DET box OBL slow but NEG very NEG.FAC IPFV-heavy(POS)
'The box is getting heavy slowly, but it isn't really heavy.'
(Delphine Derickson-Armstrong | VF)

c. iwa **ʔtsʕa-p** iʔ kʔtiɬmən, naxʔəmɬ lut talíʔ ʔ **ʔtəs•tʕást**.
even hard-INCH DETglue but NEG very NEG.FAC C1C2•hard(POS)
'Even though the glue got hard, it isn't really hard.'
(Delphine Derickson-Armstrong | Dave Michel)

d. kn **nʔaʔm•mcn**, naxʔəmɬ lut talíʔ kn ʔ **nʔaʔmcn.**
1SG.SUBJ thirsty• C2.INCH but NEG really 1SG.SUBJ NEG.FAC thirsty(POS)
'I got thirsty but not that thirsty.' (Delphine Derickson-Armstrong | Dave Michel)

e. **cʔ<ʔ>ałt** iʔ sniwʔt naxʔəmɬ lut talíʔ ʔ **cʔałt**.

[28] This was observed in Lyon (2023), but not adequately explained.
[29] There does not seem to be a distinction between open and close scale adjectives, in this respect.

cold<INCH>DETwind but NEG really NEG.FAC cold(POS)
'The wind is getting cold, but it's not cold yet.' (Delphine Derickson-Armstrong | VF)

In stark contrast, inchoativized CS roots entail culmination (47), again regardless of the morphological form of the inchoativizer.

(47) a. #iʔ siwɬkʷ **c̓xʷ•axʷ**, uɬ púti ʔ **c̓xʷ•axʷ.**
DET water spill•C2.INCH and still spill•C2.INCH
#'The water spilled and it is still spilling.' (Delphine Derickson-Armstrong)

b. #snk̓lip **t̓k̓ʷ•ak̓ʷ** uɬ púti ʔ **t̓k̓ʷ•ak̓ʷ**.
coyote lay.down•C2.INCH and still lay.down•C2.INCH
#'Coyote fell and he's still falling down.' (Delphine Derickson-Armstrong)

c. **#x̌əw•áw̓ / #x̌əw̓-áp** iʔ sɬiqʷ, nax̌əmɬ lut talíʔ t̓a **əc-x̌áw̓**.
dried•C2.INCH / dried-INCH DET meat but NEG really NEG.FAC STAT-dried
'It's dried but it's not really dried.' (Delphine Derickson-Armstrong)

Despite this contrast, CS roots are themselves gradable in at least some cases. This indicates that the culmination/maximality entailment in (47) is an effect of CS root inchoativization, and not a requirement of the roots themselves, in contrast to Davis' (2024) analysis of St'át'imcets CS roots.

The first observation is that a target stative can be negated by another instance of the same target stative without any contradiction. This indicates that CS roots can be gradable. In (48a), a scalar state of being cut affects the rope at speech time, but the state does not necessarily hold to the maximal degree. The second occurrence of the target stative in (48a) can be changed to a resultant stative by the addition of inchoative marking (48b), with only a subtle change in meaning. The difference between the two is that while target state *əc-nik̓* only *implies* a maximal degree of change (i.e. it is cancellable), resultant state *əc-nik̓•ək̓* entails maximality (48b).

(48) a. way̓ iwá **əc-nik̓** iʔ sp̓ic̓n nax̌əmɬ lut talíʔ t̓a **əc-nik̓**.
already even STAT-cut DET rope but NEG really NEG.FAC STAT-cut
'Even though the rope is cut, it's not really cut (all the way) through.'
(Delphine Derickson-Armstrong | VF)

b. way̓ iwá **əc-nik̓** iʔ sp̓ic̓n nax̌əmɬ lut talíʔ t̓a **əc-nik̓•ək̓**.
already even STAT-cut DET rope but NEG really NEG.FAC STAT-cut•C2.INCH
'Even though the rope is cut, it's not really cut (all the way) through.'
DM: It's cut but it's not quite cut through... (Delphine Derickson-Armstrong)

That CS root inchoativizers entail maximality, and that this maximality is inherited in a resultant stative, is shown by the fact that it is not possible to reverse (48b). (49a) below is unacceptable because if the rope is cut to the maximal degree, as entailed by *əc-nik̓•ək̓,* saying that it does not possess at least some degree of having been cut is a contradiction. (49b) was volunteered as a correction.

(49) a. #way̓ **əc-nik̓•ək̓** iʔ sp̓ic̓n nax̌əmɬ lut talíʔ t̓a **əc-nik̓.**
already STAT-cut•C2.INCH DETrope but NEG really NEG.FAC STAT-cut
'The rope is #(totally) cut, but it's not really cut.'

(Delphine Derickson-Armstrong | Dave Michel)

b. lut talíʔ **əc-nik̓•ək̓** iʔ sp̓ic̓n naxʷəmɬ way̓ **əc-nik̓**.
NEG really STAT-cut•C2.INCH DET rope but already STAT-cut
'The rope isn't (totally) cut, but it is already cut.' (Dave Michel | VF)

Non-stativized inchoatives derived from CS roots follow the same pattern, as shown in (50). This suggests that result inchoativizers require a maximal degree of change from an otherwise gradable CS root, and that a resultant stative (49) inherits the degree specification of its inchoative argument.

(50)a. #**x̌əw̓•áw̓** iʔ sɬiqʷ, naxʷəmɬ lut talíʔ t̓a **əc-x̌áw̓**.
dried•C2.INCH DET meat but NEG really NEG.FAC STAT-dried
'The meat got #(totally) dry but it isn't really dry.' (Delphine Derickson-Armstrong)

b. way̓ **əc-x̌aw̓** iʔ sɬiqʷ naxʷəmɬ lut talíʔ t̓ **x̌əw̓•aw̓**.
already STAT-dried DET meat but NEG really NEG.FAC dried•C2.INCH
'The meat is already dry, but it isn't really (totally) dry.'
(Delphine Derickson-Armstrong | VF)

The semantic analysis in the next section treats inchoativizers and the target stativizer as introducing a verbal degree standard to a root (or root which has combined with a null *v*) which otherwise has only a *root*-supplied scale-specific standard. As Kennedy & Levin (2008) and others argue, root-supplied standards are not enough in and of themselves: these predicates must combine with degree morphology which introduces a positive or verbal standard. I propose that PC root inchoativizers require a greater-than-minimum degree of change, CS root inchoativizers require a maximum degree of change, and that the target stativizer introduces a verbal positive standard (Piñon 2005, Kennedy & Levin 2008). The resultant stativizer is not a degree head, but rather applies only to event-denoting predicates whose degree arguments have been saturated.

5 Degree Analysis

My semantic analysis is situated within a degree-based framework, for several reasons. This incorporates the idea of scalar change, which Beavers & Koontz-Garboden's (2020) treatment of BECOME, as introducing a change-of-state, relies upon. It also allows for a formal expression of the observation that inchoatives derived from CS roots entail culmination but those derived from PC roots resist culmination entailments (cf. Dowty 1979, Abusch 1986, Hay et. al 1999).[30] Finally, I suggest that it offers an additional way of explaining why Nsyilxcn roots cannot be used in bare form, and as a means of addressing cross-linguistic variation on this point (section 6).

I propose that Nsyilxcn PC roots lexicalize a measure function m (51) (Cresswell 1977, Kennedy 1999). These measure the degree to which an individual *x* is in a scalar state *s* of holding the property measured by *m*. Thus the PC root *ɬʕat̓* 'wet' (51) denotes a function from degrees to a set of individuals *x* possessing some state of 'wetness' *s*. PC roots adjoin to a categorizing head *a*, which is an identity function on *m* (49a) (Embick 2004), but the output requires a positive degree standard to be interpretable, just as in English (Kennedy & Levin 2008). A positive head sets the degree to which *x* has *s* at or above a contextually specified standard (52b). (52c) denotes a positive

[30] For Salish specifically, Davis (2011) discusses how St'át'imcets adjectives are sometimes gradable, and Nederveen (2023) implements a scalar analysis of Secwepemctsin control and non-control predicates.

adjective, such that there is a state *s* in which *x* holds a degree *d* of wetness at or above the positive standard for wetness, with what counts as the positive standard varying pragmatically. The semantics in (51-52) are an interpretation of the structure in Figure 1, shown again below.

(51) $[\![\sqrt{\text{ɬʕat̓}}]\!] = \text{m} = \lambda d\lambda x\lambda s.[\textit{wet}(x,s)] \geq d$

(52) a. $[\![\emptyset_a]\!] = a = \lambda g \in D_m\ \lambda d\lambda x\lambda s.g(x,s) \geq d$

b. $[\![\emptyset]\!] = \text{pos} = \lambda g \in D_m\ \lambda x\lambda s.g(x,s) \geq \text{stnd}(g)$

c. $[\![\emptyset\text{-}\sqrt{\text{ɬʕat̓}}]\!] = \text{pos}(a) = \lambda x\lambda s.\textit{wet}(x,s) \geq \text{stnd}(\textit{wet})$

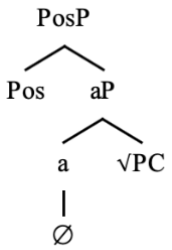

Figure 1. Adjectival Structure

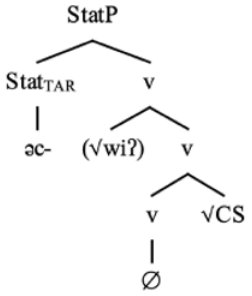

Figure 2. Verbal Structure (Target Stative)

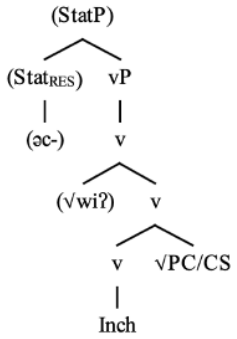

Figure 3. Verbal Structure (Inchoative vP/Resultant Stative)

Beavers & Koontz-Garboden's (2020) analysis of result roots, discussed above in section 2, builds on Kennedy & Levin's (2008) treatment of degree achievements, which utilizes a measure-of-change function. This is a specialized difference function which "measures the amount that an object changes along a scalar dimension as a result of participating in an event." (ibid:18). This is rendered formally in (53a), with the prose description in (53b) (see Nederveen 2023 for applications of 53 in agentive control and non-control predicates in Secwepemctsín (Salish).).

(53) a. *Measure of change*
For any measure function **m**, $\mathbf{m}_{\Delta} = \lambda x\lambda e.\text{m}^{\uparrow}_{\text{m(x)(init(e))}}(\text{x})(\textit{fin}(\text{e}))$

b. "A measure of change function $\mathbf{m}_{\Delta}$ takes an object 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. It does this by mapping its individual argument x onto a derived scale whose minimal element is the degree to which x measures m at the initiation of e. The output is a degree that represents the positive difference between the degree to which x measures m at the beginning of e and the degree to which it measures m at the end of e; if there is no positive difference, it returns zero." (Kennedy & Levin 2008:18-19)

The truth conditions for Beavers & Koontz-Garboden's (2020) BECOME(s,e), discussed in section 2, essentially integrate a scalar state and a verbal degree standard into Kennedy & Levin's (2008) measure-of-change function (53). For Nsyilxcn, I include a scalar state as part of a measure-of-change function (54) as a way of directly modeling a change-of-state entailment in CS roots and

as a means of deriving the difference between target and resultant states discussed above in section 3, but I do not integrate any verbal standard.[31] This is because while CS roots entail a change-of-state, they do not specify the *degree* of change (Kennedy & Levin 2008): this is the role of the degree head, e.g. an inchoativizer or stativizer, as shown in Section 4.

(54)a. *Measure of change (Nsyilxcn CS roots)*
For any measure function **m**, $\mathbf{m}_{\Delta} = \lambda x \lambda e \lambda s.\mathrm{m}^{\uparrow}_{\mathrm{m(x)(init(e),s)}}(x)(\mathit{fin}(e),s)$

b. $\mathbf{m}_{\Delta}$ takes an object x, an event e, and a scalar state s, and returns the degree that represents the amount that x changes in the state s of holding the property measured by m as a result of participating in e. $\mathbf{m}_{\Delta}$ is true iff s holds at the end of e and at the beginning of e there is a state s' such that there is a degree d' on δ_s where $d^{\delta s}_{xs} >$ d' and e is in a Figure/Path Relation with x_s and the continuous, ordered set of degrees $S' \subseteq S_s$ of δ_s containing d′ and whose maximal degree is d_s.[32]

In a nutshell, while Nsyilxcn PC roots lexicalize measure functions (55a), CS roots lexicalize measure-of-change functions (55b). In both cases, further derivation involving a degree head (e.g. a positive, inchoativizer or stativizer) supplies the appropriate verbal standard (Kennedy & Levin 2008).

(55) a. $[\![\sqrt{\text{ɬʕat̓}}]\!] = \mathrm{m} = \lambda d \lambda x \lambda s.[\mathit{wet}(x,s)] \geq d$ *PC root*

b. $[\![\sqrt{\text{nik̓}}]\!] = \mathrm{m}_{\Delta} = \lambda d \lambda x \lambda s \lambda e.[\mathit{cut}_{\Delta}(x,e,s)] \geq d$ *CS root*

Similar to Beavers & Koontz-Garboden's (2020) v_{become}, Nsyilxcn *v* heads always introduce (or require) a change-of-state, but in the guise of a measure-of-change function m_{Δ}. These *v* heads can differ however with respect to whether they range over measure or measure-of-change functions, and whether they introduce a verbal standard or not.

First, Nsyilxcn PC inchoativizers are semantically parallel to Embick's (2004) analysis of the suffix *-en* as v_{become} in the deadjectival verb *flatten.* They range only over measure functions (56a), require the degree-of-change to be above the verbal minimum, and saturate the state variable inherited from the PC root, deriving a predicate of events. Applied to a PC root *ɬʕat̓* 'wet' (55a), the inchoativizer in (56a) entails that the degree to which *x* is in a scalar state of wetness exceeds the minimum amount of change (i.e. 0) for an event of becoming wet, yielding (56b).

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[31] Beavers & Koontz-Garboden integrate a verbal standard into BECOME(s,e) in part to ensure that in restitutive cases, comparison to the same standard occurs. These tests have yet to be done in Nsyilxcn. However, it is hard to resist Kennedy & Levin's (2008) view that roots lack verbal standards, given that inchoativizers contribute different standards.

[32] Alternatively "a measure of change function m_{Δ} takes an object x and an event e and a state s and returns the degree that represents the amount that x changes in the state s of holding the property measured by m as a result of participating in e. It does this by mapping its individual argument x onto a derived scale whose minimal element is the degree to which x is in a scalar state s of holding the property measured by m at the initiation of e. The output is a degree that represents the positive difference between the degree to which x is in a scalar state s of holding the property measured by m at the beginning of e and the degree to which x is in a scalar state s of holding the property measured by m at the end of e; if there is no positive difference, it returns zero."

(56) a. $[\![INCH_v{}^{PC}]\!]$ = inch = $\lambda g \in D_m\ \lambda x \lambda e \exists s.g_\Delta(x,e,s) > \min(g_\Delta)$

b. [[√ɬ<ʔ>ʕat̓]] = inch(m) = $\lambda x \lambda e \exists s.wet_\Delta(x,e,s) > \min(wet_\Delta)$

This derives the absence of any culmination entailment for PC inchoatives that have scales with intermediate values. Just as with English degree achievements, the preferred interpretation of an inchoativized PC root is maximal, since the maximal intepretation entails the minimal interpretation, and as such is more informative (Kennedy & Levin 2008:22).

Second, inchoativizers which apply to CS roots are also in *v* position, but these range only over measure-of-change functions, require a maximal degree of change, and foreground the change event through existential closure of the CS root's state argument. Applied to a CS root *nik̓* 'cut' (55b), the inchoativizer in (57a) entails that the degree to which *x* is in a scalar state of being cut meets the maximum degree-of-change for an event of getting cut, yielding (57b).

(57) a. $[\![INCH_v{}^{CS}]\!]$ = inch = $\lambda g \in D_{m\Delta}\ \lambda x \lambda e \exists s.g_\Delta(x,e,s) = \max(g)$

b. [[√nik̓•ək̓]] = inch(m_Δ) = $\lambda x \lambda e \exists s.cut_\Delta(x,e,s) = \max(cut_\Delta)$

This derives the culmination entailment for CS inchoative predicates

It is worth briefly reiterating that the <*ʔ*> inchoativizer is limited to PC roots, but all inchoativized PCs (including those derived by *–(a)p* and C2) resist culmination entailment. Since there is no other level of a *v* structure where a functional head could be sensitive to this distinction, it makes sense that inchoativizers merge directly with the root (Figure 3). I should also make clear that although both PC and CS roots inchoativize with *–(a)p* and C2 reduplication, the degree standards introduced by these inchoativizers differ depending on the root type, or in other words, whether the inchoativizer is ranging over m (56a) or m_Δ (57a). Whether there are in fact two sets of homophonous but semantically distinct *–(a)p* and C2 inchoative markers, which I basically assume here, or whether perhaps a CS root (m_Δ) triggers a type shift in (55a) accompanied by a strengthening of the degree standard, is a question I leave for future research.

Third, *v* can be a null, identity function which applies specifically to CS roots (58, cf. Figure 2 and section 3). This is parallel to the null categorizing *a* head as an identity function on PC roots (52a, cf. Figure 1). The null *v* head does not contribute a degree standard, or derive a predicate of events, which accounts for the inability of CS roots to be used in bare form in Nsyilxcn. As desired, the event variable remains open for head modification by compound roots like *wiʔ* 'to finish', prior to stativization, and the state variable remains open for the target stativizer (see section 3).

(58) a. $[\![\emptyset_v]\!]$ = v = $\lambda g \in D_{m\Delta} \lambda d \lambda x \lambda e \lambda s.g_\Delta(x,e,s)$

b. [[ø-√nik̓]] = v(m_Δ) = $\lambda d \lambda x \lambda e \lambda s.[cut_\Delta(x,e,s)] \geq d$

The target stativizer introduces a positive verbal standard (Piñon 2005) to CS roots which have combined with the null *v*. It foregrounds a state argument present in the root (Kratzer 2000), by existentially closing the event variable (59). As the closest Nsyilxcn equivalent of a state passive, these are similar totarget state participles in other languages in representing the outcomes of a scalar change. As a verbal positive (Piñon 2005), the stativizer specifies the degree of change to be at or above the verbal standard: this is implied to be maximal, but maximality is cancellable, as shown above in section 4.

(59)a. ⟦ə c-$^{\text{TRGT.STAT}}$⟧= Stat = $\lambda g \in D_{m\Delta} \lambda x \lambda s \exists e.g_{\Delta}(x,e,s) \geq stnd(g_{\Delta})$ *target stativizer*

b. ⟦ə c-Ø-√nik̓⟧= Stat(v(m_{Δ})) = $\lambda x \lambda s \exists e.cut_{\Delta}(x,e,s) \geq stnd(cut_{\Delta})$ *target stative*

Finally, when the stativizer combines with an inchoativized PC or CS root, it derives a *resultant* stative (Parsons 1990, Kratzer 2000, Davis et. al 2020). The resultant stativizer is not a degree head, but only applies to a predicate of events whose degree argument has been saturated. Applying (60a) to the inchoativized CS root in (57b) yields (60b).

(60) a. ⟦ə c-$^{\text{RSLT.STAT}}$⟧ = Stat = $\lambda P \in D_{<s,t>} \lambda t.\exists e[P(e) \wedge \tau(e) < t]$ *resultant stativizer*

b. ⟦ə c-√nik̓•ək̓⟧ = Stat(inch(m_{Δ}))
= $\lambda t.\exists e \exists s.cut_{\Delta}(x,e,s) = \max(cut_{\Delta}) \wedge \tau(e) < t$ *resultant stative*

This analysis provides an interesting point of discussion for addressing variation between Nsyilxcn and other Salish languages, as I now discuss.

6 Cross-Salish Variation, Predictions, and Conclusion

In certain other Salish languages (e.g. St'át'imcets, Davis 2024; ʔayʔaǰuθəm, Huijsmans 2022), bare CS roots can be used as intransitive predicates, with a meaning very close or identical to that seen with Nsyilxcn inchoativized CS roots. This is shown in St'át'imcets (61).

(61) **mays** ta=káoh=a. **St'át'imcets**
get.fixed DET=car=EXIS
'The car got fixed.' (Davis, in prep, ch 53)

I suggest that by allowing cross-linguistic variation with respect to whether or not null *v* introduces a degree standard (62a,b), we can explain why certain languages such as St'át'imcets allow bare CS roots, while maintaining the same root semantics across Salish languages (63). Under this view, null *v* in St'át'imcets introduces a degree standard like a CS inchoativizer in Nsyilxcn (57a), as well as Kratzer's (2000) 'V' head but with the addition of a degree specification. 'Bare' CS roots in St'át'imcets are thus not in fact truly bare, they are null-derived inchoatives with a culmination entailment.

(62) a. $[\![\emptyset_v]\!]$ = $\lambda g \in D_{m\Delta} \lambda d \lambda x \lambda e \lambda s.g_{\Delta}(x,e,s)$ **Nsyilxcn**
b. $[\![\emptyset_v]\!]$ = $\lambda g \in D_{m\Delta} \lambda x \lambda e \exists s.g_{\Delta}(x,e,s) = \max(g_{\Delta})$ **St'át'imcets**

(63) $[\![\sqrt{CS}]\!]$ = $\lambda d \lambda x \lambda s \lambda e.[m_{\Delta}(x,e,s)] \geq d$ **Salish change-of-state root**

There are some implications to this approach which I now discuss.

First, Davis (2024:311) contrasts St'át'imcets bare CS roots which entail culmination with overtly derived inchoatives based on these roots which do not entail culmination (64).

(64)	**Bare CS roots**	**Derived inchoative**	
	ʕʷəl 'get lit'	*ʕʷəl-p*	'burn'
	ɬiʕ 'get scattered'	*ɬí<ʔ>əʕ'*	'scatter'
	kəɬ 'get removed'	*kəɬ-p*	'come off'

qap 'get softened'	*qa<ʔ>p* 'go soft'
c̓aẇ 'get washed/baptized'	*c̓á<7>əẇ* 'wash out'

If St'át'imcets CS roots themselves entail culmination as Davis claims, then the inchoativizer must somehow remove the culmination entailment. It is unclear, however, how this might be achieved compositionally. If however one assumes the CS root I propose in (63), the meaning in (65a) for null *v* derived inchoatives (i.e. 'bare' roots), and an inchoativizer (in complementary distribution with null *v*) which introduces a greater than minimal degree-of-change standard[33] to a CS root (65b), the semantic contrast follows straightforwardly.

(65) a. $[\![\emptyset_v(\surd CS)]\!] = \lambda x \lambda e \exists s.g_\Delta(x,e,s) = max(g_\Delta)$ **St'át'imcets** (64, column 1)
b. $[\![INCH_v{}^{CS}(\surd CS)]\!]\!] = \lambda x \lambda e \exists s.g_\Delta(x,e,s) > min(g_\Delta)$ **St'át'imcets** (64, column 2)

This approach also correctly predicts that imperfective *wa7* in St'át'imcets will target the transitional event in a null-derived inchoative (66a), in the same way that imperfective *əc-* targets the transitional event in an Nsyilxcn inchoative (66b) (Lyon 2023). These are both derived, predicates of events.

(66) a. **wa7** **mays** ta=n-kaoh=a. **St'át'imcets**
IPFV get.fixed DET=1SG.POSS-car=EXIS
'My car is being fixed.' (Davis, in prep, ch 53)

b. i-slaxt **əc-x̌áq̓•əq̓** ʕapná?. **Nsyilxcn**
1SG.POSS-friend IPFV-get.paid•INCH now
'My friend is getting paid now.' (Delphine Derrickson-Armstrong)

Next, Davis et al. (2020) claim that St'at'imcets stativizer *es-* derives a resultant, rather than a target state (see 59,60 above). Hence *es-mays* in (67) below is argued to denote a non-reversible event of getting fixed that has culminated at some point in the past.

(67) **es-mays** ta=n-kaoh=a. **St'át'imcets**
STAT-get.fixed DET=1SG.POSS-car=EXIS
'My car has been fixed.' (Davis, in prep, ch 53)

This interpretation of (67) straightforwardly follows if a null *v* derived inchoative predicate *mays* (i.e. 65a) is the argument for a resultant stativizer *es-* (60a), yielding (68).

(68) $[\![\text{es-mays}]\!] = \text{Stat}(\emptyset_v(\surd CS)) = \lambda x \lambda t \exists e \exists s.[fixed_\Delta(x,e,s) = max(fixed_\Delta) \wedge \tau(e) < t]$

An issue with the approach in (68) arises however from the fact that St'át'imcets stativizer *es-* does not co-occur with an overt inchoativizer (Davis, p.c.), in contrast to Nsyilxcn. The problem here is that if stativizer *es-* can combine with a null *v* derived inchoative predicate (65a), it should be able to occur with an *overt* inchoativizer as well (65b), but this is not the case.

[33] This is similar to the Nsyilxcn PC inchoativizer in (56a), but ranging over m_Δ rather than m. This also raises the interesting possibility that although <ʔ> applies to CS roots in some languages, and PC roots in others, it may share a common semantics which resists culmination entailment.

I suggest instead that St'át'imcets stativizer *es-* can occur in *v* position, lower that *əc-* in Nsyilxcn, but with the same semantics as Nsyilxcn (59a).[34] It thus merges directly with CS roots, similarly to both overt and null inchoativizers. This lower position predicts the complementary distribution of stativizers and inchoativizers, both overt and null: There is no null *v* in St'át'imcets *es-* statives, contra (68). The difference between St'át'imcets null-derived inchoatives and stativized roots, then, is as follows:

(69) a. $[\![\emptyset_v(\sqrt{\text{mays}})]\!]$ = $\lambda x \lambda e \exists s.\mathit{fixed}_{\Delta}(x,e,s) = \max(\mathit{fixed}_{\Delta})$ **St'át'imcets (61)**
b. $[\![\text{es-}_v(\sqrt{\text{mays}})]\!]$ = $\lambda x \lambda s \exists e.\mathit{fixed}_{\Delta}(x,e,s) \geq \text{stnd}(\mathit{fixed}_{\Delta})$ **St'át'imcets (67)**

However (69b) predicts that St'át'imcets statives should have *target* state interpretations available, rather than the resultant state interpretations demonstrated in Davis et al (2020).

There is a further contrast between Nsyilxcn and St'át'imcets which bears, I believe, directly on this issue. The Nsyilxcn imperfective and stativizer do not co-occur, which makes sense if they are competing for the same event variable. Indeed Nsyilxcn stativizer *əc-* seems to be in complementary distribution with viewpoint aspect, more generally (Lyon 2023, 2024). St'át'imcets however allows imperfective auxiliary *wa7* to co-occur with stativizer *es-* (70a), which is consistent with the idea just put forward that *es-* can occur in a lower, *v* position. As predicted by (69b), when imperfective *wa7* occurs with a stativized predicate, it targets the resulting state (70a), not the event transition as in the case of a null-derived inchoative (70b, cf. 69a).

(70)a. **wa7** **es-mays** ta=n-kaoh=a. **St'át'imcets**
IPFV STAT-get.fixed DET=1SG.POSS-car=EXIS
'My car *is* fixed (temporarily).' (Davis, in prep, ch 53)

b. **wa7** **mays** ta=n-kaoh=a. **St'át'imcets**
IPFV get.fixed DET=1SG.POSS-car=EXIS
'My car is *being* fixed.' (Davis, in prep, ch 53)

Given that St'át'imcets stativizer *es-* can co-occur with (im)perfective viewpoint aspect, I suggest that (71a. cf. 67) and (71b, cf. 70a) represent a contrast between (null) perfective and imperfective statives, and that (69b) is the correct analysis of an *es-* stative. The resultant state intepretation in perfective (71a) arises from the fact that the reference time contains the runtime of the result state argument, potentially as a proper superset: The car may or may not *still* be *fixed* at reference time. By contrast with imperfective (71b), the runtime of the result state contains the reference time, which leads to the inference that the state is temporary or reversable: a target state, in other words.

(71) a. **es-mays** ta=n-kaoh=a. **St'át'imcets**
STAT-get.fixed DET=1SG.POSS-car=EXIS
'The car has been fixed.' (Davis, in prep, ch 53)

$\lambda x \lambda t \exists s \exists e.[\mathit{fixed}_{\Delta}(x,e,s) \geq \text{stnd}(\mathit{fixed}_{\Delta}) \wedge \tau(s) \subseteq t]$ **(pfv) target stative**

b. **wa7** **es-mays** ta=n-kaoh=a. **St'át'imcets**
IPFV STAT-get.fixed DET=1SG.POSS-car=EXIS
'My car *is* fixed (temporarily).' (Davis, in prep, ch 53)

[34] A different position for stativizer *es-* may be warranted for stative causatives (see Davis et al, 2020).

$\lambda x \lambda t \exists s \exists e.[\mathit{fixed}_{\Delta}(x,e,s) \geq \text{stnd}(\mathit{fixed}_{\Delta}) \wedge t \subseteq \tau(s)]$ **(ipfv) target stative**

Resultant state intepretations in St'át'imcets thus actually derive from an interaction between a scalar (target) state and perfective aspect, rather than something more akin to a perfect, as in Nsyilxcn. The analysis outlined for (68), in contrast, cannot explain why the imperfective targets the resulting state in (71b), nor why the *es-* stativizer happens to be in complementary distribution with inchoative markers.

Looking at the issue this way, Salish languages do not differ with respect to whether their derived statives denote target and/or resultant states because of the number of eventuality arguments in their roots (as suggested in Lyon 2023), or solely as a result of the lexical meaning of a stativizer, but rather the interpretation should depend on (a) whether or not null *v* contributes a degree standard, and (b) whether or not the stativizer is in complementary distribution with inchoativizers and (im)perfectives in any one particular language.

It should be noted that part of Davis et al's (2020) motivation for treating *es-* prefixed predicates in St'át'imcets as deriving a resultant stative in the sense of Kratzer (2000) is that *es-* applies even in cases where no target state is clearly identifiable. To illustrate, their example (18) involves a CS root *qam̓t* 'get hit'. They demonstrate that the derived stative *es-qam̓t* 'x has been hit' can be used in a context where a bottle has been hit by a bullet but not broken or necessarily damaged in any way. There is no physically identifiable target state affecting the bottle, only the result state of the event having occurred. The Nsyilxcn CS root *naq̓*^{w} 'get stolen' is arguably similar: The derived stative *əc-naq̓*^{w} 'be stolen' can be true of some horse so long as it is 'stolen' at the reference time, but there is no physically identifiable state affecting the horse, other than perhaps its absence from the owner's herd, and so if the result state can be characterized as a target state, it is a weak one at best.[35]

The change-of-state semantics I have adopted in this paper, however, do not require the scalar state in a root to be 'physically identifiable', or a strong target state in other words. For example, under the current analysis St'át'imcets *es-qam̓t* 'x has been hit' will be true if *x* possesses a degree *d* of a state *s* of 'having been hit' at or above the verbal threshold for an event *e* of 'getting hit', and imperfective *wa7* and the null perfective can apply to this state like any other scalar state in the language, target or otherwise (Davis' ex. 18 actually includes a contracted form of *wa7*). Similar facts hold for Nsyilxcn *əc-naq̓*^{w} 'x is stolen': though the scalar state is at best a weak target state, the state must nevertheless hold at reference time (since viewpoint aspect cannot shift the reference time in this case). Thus, St'át'imcets *es-* and Nsyilxcn *əc-* do not clearly distinguish between CS roots whose scalar state argument denotes a target state, and those that denote a weak result state.[36]

One could try and propose that there are two types of CS roots: those with a clear target state argument, and those without any state argument at all (corresponding to my revised m_{Δ} (54) and Kennedy & Levin's original m_{Δ} (53), respectively). Under such an analysis, roots like Nsyilxcn *naq̓*^{w} and St'át'imcets *qam̓t* would presumably not have an underlying state argument, since there is not necessarily any clearly identifiable target state. But then one is left with the task of explaining why Nsyilxcn *əc-naq̓*^{w} 'be stolen', for example, patterns exactly like other stativized roots with clearer target states in requiring the scalar state to hold at reference time and allowing extension of

[35] Cases like *əc-tr̓aq* 'x is kicked' in Nsyilxcn are perhaps a clearer case in point.

[36] ʔayʔaǰuθəm may actually do this, however. This is because not all CS roots in this language take stative marking, in contrast to Nsyilxcn and St'at'imcets, only those with a clearly identifiable target state that continues to affect the patient (Davis et al 2020:116). This restriction could be written into the semantics of the ʔayʔaǰuθəm stativizer.

that state with *puti?* 'still', while resultant stative *əcnaq̓ʷəq̓ʷ* just requires the event to have culminated and does not allow an extension, again exactly like resultant statives formed from roots that *do* have clear target states. One is also left to explain what imperfective *wa7* is targeting in St'át'imcets *wa7 esqam't* (Davis et al 2020:ex18), if not a state variable.

I think the most straightforward solution to this issue for both Nsyilxcn and St'át'imcets is to assume that the scalar state *s* in a CS root will be a target state if one is available, and a weak result state otherwise. It seems to me that both Nsyilxcn *əc-* and St'át'imcets *es-* require a scalar state to hold at reference time, barring inchoativization in Nsyilxcn (which closes the state variable, forcing a resultant stative, where a target state specifically may or may not continue to hold) and barring perfective aspect in St'át'imcets (which encloses the scalar state within the reference time as a non-proper subset, where a target state may or may not continue to hold), following arguments I have made above. To be clear, weak result states *always* hold *because* they are non-reversible: the Nsyilxcn inchoativizer and St'át'imcets perfective will make no difference in these cases, and the semantics I have proposed are flexible enough to allow for this possibility. Overall, whether the scalar state *s* in a CS root denotes a target state or weak result state depends on the property itself and our real-world knowledge about the property, but this is not a compositional issue, I argue, nor does it necessitate treating CS roots with target states vs. weak result states as anything other than lexicalized measure-of-change functions with scalar result states.

To summarize this section, positing a lower *v* position for St'át'imcets stativizer *es-* is supported by the fact that it can co-occur with (im)perfective viewpoint aspect. This also correctly predicts its complementary distribution with null and overt inchoativizers in the language. Allowing null *v* to vary cross-linguistically in whether or not it introduces a degree standard predicts the existence of 'bare' CS roots in some Salish languages, while at the same time maintaining the same base root semantics across Salish.

The theory put forward in this paper predicts that if a Salish language uses bare CS roots, it must have a null *v* which provides a degree standard so that the bare root is interpretable. Stativizers in a language may or may not occur as *v* heads, depending on whether or not they are in complementary distribution with overt (and null) inchoativizers in *v*. In St'át'imcets they can be, I have argued, and this in turn predicts the co-occurence of stativizers with higher aspectual operators like the (im)perfective. But one could imagine a Salish language (language 3 below) which (a) allows bare roots like St'át'imcets, but also (b) allows stativizers and inchoativizers to co-occur like Nsyilxcn. Without positing multiple, semantically distinct null *v* heads, this theory makes a prediction that such a language should only derive resultant statives in the sense of Kratzer (2000). Conversely, one could imagine a Salish language (language 4 below) which (a) does not allow bare roots like Nsyilxcn, but also does not allow stativizers and inchoativizers to co-occur, like St'át'imcets. The prediction here is that there is a null *v* identity function applying to CS roots, but that one could not use the stativizer to establish its existence, though perhaps one could through some other means. Other languages are predicted not to be possible. It will be interesting to see if, and how, this typology pans out.

Table 1. Towards a Typology for Salish

		bare roots	null v w/ stnd	Stat in v	Stat/Inch Co-occur	Stat/(I)pfv Co-occur	Target Statives
1	**Nsyilxcn**	*	*	*	√	*	√
2	**St'át'imcets**	√	√	√	*	√	√
3	**predicted** √	√	√	*	√	*	*
4	**predicted** √	*	*	√	*	√	√

5	**predicted ***	√	√	*	√	*	√
6	**predicted ***	√	*	√/*	√/*	√/*	√/*
7	**predicted ***	*	√	√/*	√/*	√/*	√/*

In conclusion, positing a null *v* that can vary cross-linguistically as to whether it derives a predicate of events, and introduces a degree standard, helps to address cross-linguistic variation in the availability of bare CS roots as natural predicates. Positing a scalar state *s* as part of the semantics of CS roots straightforwardly predicts the change-of-state entailments, and also allows for both target and resultant state interpretations, in principle, depending on the semantics of null *v.* Finally, analyzing the roots themselves as measure, or measure-of-change functions in need of degree specification (Kennedy & Levin 2008), rather than having the roots themselves provide a degree standard (Beavers & Koontz-Garboden 2020) allows for a full expression of inchoativizers (and null *v* in some languages) to determine the specified degrees. I have attempted to pursue a balanced approach which recognizes differences between English and Nsyilxcn, while preserving the same root semantics across Salish, yet still allowing for a certain amount of variation.

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