

DEEP UNACCUSATIVITY AND ZERO SYNTAX IN ST'ÁT'IMCETS

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1. Introduction¹

This paper makes the following universal claims:

- (I) All predicates are based on roots which are lexically associated with a single, internal argument.
- (II) All transitive and all unergative predicates are derived by morphosyntactic operations, which may be phonologically null.

I will provide evidence for both claims from St'át'imcets (Lillooet), a member of the Northern Interior branch of the Salish family.² Salish languages are particularly pertinent for the analysis of sub-lexical syntax, since they give overt morphological expression to many operations which are covert in highly lexicalized languages such as English. I will show that the claims in (I-II) are equally applicable to English-type languages, given the independently available mechanism of zero-morphology (Pesetsky 1995).

(I-II) have obvious implications for the proper formulation of the unergative / unaccusative distinction. Salish evidence is consistent with an approach such as that of Hale and Keyser (1993, this volume), in which *unaccusatives* are primitive and unergatives derived. I-II challenge accounts such as Levin and Rappaport-Hovav (1995), who treat *unergatives* as primitive and (a significant subset of) unaccusatives as derived, or more traditional analyses where *both* are distinct types of primitive intransitive (Rosen 1984, Grimshaw 1987, Van Valin 1990, Zaenen 1993). The issue of argument mapping in Salish and its place in a cross-linguistic typology forms part

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(2) St'át'imcets is spoken in southwestern mainland British Columbia. It has currently probably fewer than two hundred remaining fluent speakers, all over fifty years of age. There are two major dialects, Upper or "Fountain" (abbreviated henceforth as U) and Lower or "Mount Currie" (abbreviated as L).

of the broader theoretical question of whether argument selection properties are derived directly from the meaning of a predicate (as encoded in the form of a Lexical Conceptual Structure) or are mediated by (sometimes abstract) morpho-syntactic structures and operations. I will argue, following Davis and Demirdache (1995), that argument structure mapping takes place directly from event structure representations, generated by an aspectual calculus adapted from that of Pustejovsky (1991). Under this conception, thematic roles are derivative; predicates are lexically equipped with a single, underspecified "theme" argument (see also Déchaine 1993), and other theta roles—in particular, that of *agent*—are added via aspectual operations (see Minkoff and Demirdache this volume for related discussion).

Aside from its relevance to a general theory of argument structure, the paper also addresses a parallel debate within Salishan linguistics as to the appropriate classification of roots. On the one hand, it has been claimed that argument structure differences between predicates are part of the meaning of roots, and are thus irreducible properties of lexical items (Thompson and Thompson 1992, Gerdtz 1991, Howett 1993, Thomason and Everett 1993, Thomason 1994). On the other hand, it has been argued that argument structure in Salish is radically decompositional; under this conception, all roots have the same (minimal) argument structure, with differences being derived from different affixation possibilities (Egesdal 1993, Davis 1994b).³ The debate has centred around a small set of agentive un-

(3) Mattina (1994) argues that a verbal 'base' rather than a root should be taken as the appropriate elementary unit of lexical (de-)composition in (Colville Okanagan) Salish. She takes a base to be "a form of any morphological complexity which corresponds to a single lexeme", where lexeme is an arbitrary form-meaning association. Her criteria for rejecting the root as a viable unit of meaning are based on the non-compositionality of many root + suffix combinations. However, her approach is far too restrictive, in that it eliminates all but completely productive and compositional morphological operations. Though clearly there are non-compositional forms in St'át'imcets, and these may get reanalyzed as roots, such cases are overwhelmingly outnumbered by fully compositional combinations. Moreover, non-compositionality is not restricted to a particular level of the lexicon, or even the lexicon itself; the existence of non-compositional (idiomatic) structures in the syntax, for example, does not preclude an analysis of their internal structure. In fact, Mattina's bases seem to cut across established morphological divisions in arbitrary ways; on her analysis the Okanagan reflexive suffix, for example is both base- and stem-forming.

A further argument for employing the root rather than the base as the fundamental unit of morpho-syntax can be made on the basis of a kind of back-formation process which I have observed with several fluent St'át'imcets speakers. These speakers reanalyze opaque root + suffix combinations to create new unaccusative roots. Two examples are given below:

- (i) $\sqrt{zw} + a + t \rightarrow \sqrt{zwat} =$ "be known" (ii) $\sqrt{may} + \check{s} \rightarrow \sqrt{may\check{s}} =$ "be built"

Evidence that reanalysis has taken place comes from (a) the existence of the original root in forms such as the following:

- (iii) $\sqrt{zw} + a + tmic^w =$ "to know the land" (iv) $\sqrt{may} + t =$ "to build"

and (b) the existence of the (opaque) suffixal element in a number of other forms, such as

- (v) $\sqrt{inw} + a\check{x} + t =$ "to say what?" (intr.); cf. (vi) $n + \sqrt{k^w\check{i}l} + \check{s} + t\check{a}n =$ "creator"; cf.
 $\sqrt{inw} + a + n =$ "to say what?" (tr.) $\sqrt{k^w\check{i}l} + in =$ "to prepare (tr.)"

The existence of the back-formed roots in (i) and (ii) thus shows us that new roots may be formed from opaque [root + affix] combinations, and that these roots are invariably ascribed intransitive (more specifically, unaccusative) meanings. This constitutes a powerful argument for the psychological reality of the root, rather than the base, as the elementary unit of morphological composition.

affixed intransitives, termed *control roots* (Thompson 1985). If control intransitives are primitive, then roots must be lexically specified as either unaccusative or unergative. I will argue, on the contrary, that control intransitives are derived, showing that their behaviour precisely parallels the class of overtly derived intransitives variously referred to in the Salishan literature as “middles” (Thompson and Thompson 1992), “anti-passives” (Gerdtts 1988), and “low transitivity predicates” (Thomason and Everett 1993).⁴

The paper is organized as follows. In section 2, I present a brief overview of the structure of the St'át'ímcets predicate. Section 3 discusses the basic morphological division between transitive and intransitive predicates. Section 4 discusses non-control roots, and section 5 introduces the various classes of derived intransitive. Section 6 presents an aspectual analysis of in/transitivity in St'át'ímcets, closely based on that of Davis and Demirdache (1995). In section 7 I turn to a detailed analysis of control roots, showing that they are best analyzed as being derived by zero-morphology. Finally, in 8 I consider the implications of the analysis presented here for a general theory of zero morphology and lexical representation.

2. Structure of the predicate in St'át'ímcets

The St'át'ímcets word displays complex internal structure. A simplified schema is given below:⁵

- (1) [[procl[nom1[[[nom2[sta[[loc[[ROOT] asp]] lex] abst]] in/trans] obj] erg] subj] encl]]
- 4 3 2 1 1 2 3 4

Four word-internal domains can be distinguished, based on evidence from both prosodic and morphological criteria. The innermost, (1), contains the root, the only element which is obligatory in all predicates. The stem-level domain, (2), contains a variety of aspectual and other affixes, including transitivity markers and intransitivity markers, but excluding pronominal affixes. The latter occupy (3), the outermost affixal domain, which is equivalent to the level of the morphological word. Domain (4),

(4) While it is possible that other Salish languages may turn out to differ from St'át'ímcets, it is likely that the generalizations made here characterize other members of the family. Certainly, the evidence currently available is compatible with the position I adopt: this includes work on Nt̄eʔkepmx̄čín (a.k.a. Thompson; Northern Interior; see Thompson 1985, Thompson and Thompson 1992, Howett 1993), Halkomelem (Central/Coast; see Gerdtts 1988, 1991), and Séliš (a.k.a. Flathead/Montana Salish; Southern Interior; see Thomason & Everett 1993, Thomason 1994, Egedal 1993). More systematic comparative work is obviously necessary in order to define more precisely the permissible range of variation between Salish languages.

(5) Abbreviations are as follows: ABS=abstract suffix, ACT=active intransitivity marker, AUT=autonomous intransitivity marker, ASP=aspectual, CAU=causative transitivity marker, CHA=characteristic suffix, CMP=completive marker, CNJ=conjunctive subject clitic, DES=desiderative, DET=determiner, DEV=developmental suffix, DIR=directive transitivity marker, FRE=final reduplication, IMM=immediate suffix, INC=inchoative marker, IND=indirective transitivity marker, IRR=irrealis marker, ERG=ergative, IRE=iterative reduplication, LEX=lexical suffix, LOC=locative prefix, MID=middle suffix, NOM1=syntactic nominalizer, NOM2=lexical nominalizer, OOC=out-of-control marking, OBJ=object suffix, OBL=oblique, QUO=quotative marker, PAS=passive, PL=plural, POS=possessive, PRG=progressive, EXI=existential, REL=relational transitivity marker, RFL=reflexive suffix, SG=singular, STA=stative prefix, SUB=subject, TRE=total reduplication.

which contains various pro- and en-clitics, is the maximal domain of word-level stress assignment and corresponds to the prosodic word.

Stem-level affixation has a variety of functions in St'át'imcets. The three most important ones are (a) aspectual modification (b) lexical suffixation and (c) in/transitivization.

(a) *Aspect* pervades St'át'imcets grammar, being marked stem-internally by reduplication, infixation, prefixation, and suffixation, stem-externally by clitics, and word-externally by aspectual auxiliaries. The main stem-level aspectual markers are given in Table 1 below (for a more complete survey, see van Eijk 1985):

Table 1
Stem-level aspectual markers

FORM	TYPE	NAME	GLOSS	MEANING
(ə)š-	prefix	stative	STA	resulting state
-p/-ʔ-	suffix/infix	inchoative	INC	change of state
-əm	suffix	characteristic	CHA	continuing state
-t	suffix	immediate	IMM	continuing state
[C ₁ C ₂][C ₁ VC ₂]	reduplication	total redup.	TRE	inherent state
[C ₁ C ₂][C ₁ C ₂][C ₁ C ₂]	reduplication	iterative redup.	IRE	iteration
[VC ₁][C ₁]	reduplication	final redup.	FRE	process
-wíłx	suffix	developmental	DEV	change of state

Several of these markers will be discussed at greater length below, so I defer further comments until then.

(b) *Lexical suffixes* are an areal phenomenon of the Pacific Northwest; they consist of a large set (> 100 in St'át'imcets) of referential suffixes which modify the meaning of a root. There are two types of lexical suffix, somatic (body-related) and non-somatic; the two types may be distinguished by their relation to intransitivizers, which induce a medio-reflexive (self-directed) reading with somatic but not with non-somatic suffixes (discussed in more detail below).

(c) St'át'imcets, like other Salish languages, encodes transitivity through a set of *transitivizers* and *intransitivizers*. Transitivizers convert a stem into a (morphologically dyadic) transitive predicate; intransitivizers convert a stem into a derived intransitive predicate. Transitivizers will briefly be discussed in 3 below; intransitivizers will be extensively discussed in section 5.

Stem-external affixes, which attach only to transitivized stems, consist of object suffixes (including reflexive and reciprocal markers) and the third person ergative suffix *-aš*. Other person markers (subjects and possessors) may function as clitics rather than affixes. Subject and possessive markers further differ from person affixes in attaching to both transitive and intransitive stems.

3. Transitives vs intransitives

The principle transitivizers in St'át'imcets are given below:

Table 2
*Transitivizers*⁶

FORM ⁷	NAME	GLOSS
-Vn(ʔ), -Vnš	directive	DIR
-š/č	causative	CAU
-min(ʔ)	relational	REL
-xiit	indirective	IND

All predicates without a transitivizer in St'át'imcets are formally intransitive; they cannot appear with object suffixes or the third person ergative marker, even when their meaning might entail two arguments.⁸

- (2) a. *qaɲim=ʔkan* b. **qaɲim-tumi=ʔkan* c. *qaɲim-ənš-tumi=ʔkan*
 hear=1SG.SUB hear-2SG.OBJ=1SG.SUB hear-DIR-2SG.OBJ=1SG.SUB
 "I heard." "I heard you." "I heard you."
- (3) a. *ʔúqwaʔ* b. **ʔúqwaʔ-aš* c. *ʔúqwaʔ-anš-aš*
 drink drink-ERG drink-DIR-ERG
 "S/he drank." "S/he drank it." "S/he drank it up."

The ungrammatical cases in (2b) and (3b) differ from their grammatical counterparts in (2c) and (3c) only in the absence of a (directive) transitivizer. It is important to note that this is a formal requirement; the *meaning* of the (b) cases is perfectly coherent. In fact it is even possible to supply an overt object Determiner Phrase with formally intransitive predicates like those in (2-3b), as long as there is no corresponding object pronominal morphology:

- (4) *qaɲim=ʔkan* *kewu=wáʔ* *ʔiq*
 hear=1SG SUBDET=PRG come
 "I heard someone coming"

(6) There are a several minor transitivizers which act like combinations of the principle types illustrated in Table 2. The transitivizer *ənš-anš*, for example, has a directive meaning (i.e., it indicates full control over the action) but causative morphology (it takes causative object suffixes); I gloss it as directive for the purposes of this article.

(7) FORM refers to the usual morphophonological realization of an (in)transitivizing suffix. 'V' indicates that the vowel in the suffix is variable; it is generally realized either as a copy of the root vowel or one of the unmarked vowels ə/a. Glottalization of resonants, indicated by a parenthesized apostrophe, is also variable, and depends on stress and other phonological factors.

(8) Examples are transcribed in standard North West coast phonemic script. Underlined vowels are retracted. Affixal boundaries are indicated by a dash (-), clitic boundaries by an equals sign (=).

- (5) ?úqwa? k^wu=kápi ti=k^wúkwipi?=*a*
 drink DET=coffee DET=chief=EXI
 "The chief drank coffee."

Following van Eijk (1985), such cases will be referred to as *with-object* constructions. They will play an important part in the discussion below.

Intransitive predicates may be cross-classified along two dimensions. The first is morphological; it distinguishes *unsuffixed* from *suffixed* intransitives, the latter containing an overt intransitivizer. The principle intransitivizers are given in Table 3 below:

Table 3
Intransitivizers

FORM	NAME	GLOSS
-V <i>m</i> (')	middle	MID
- <i>xal</i>	active	ACT
- <i>læx/ ilx</i>	autonomous	AUT

The second dimension is that of *control* (see Demirdache this volume). For our purposes, control may be equated with agency; for discussion of possible distinctions between the two notions, see Thompson (1976, 1985). All suffixed intransitives are control predicates; however, unsuffixed intransitives are divided up into control and non-control subclasses. We thus have the following distribution:

Table 4
Morphological and semantic properties of intransitive predicates

	+ CONTROL	- CONTROL
SUFFIXED	√	*
UNSUFFIXED	√	√

Table 4 shows an incomplete correlation between control and derivational status; while all suffixed intransitives are [+control], unsuffixed intransitives can apparently be either [± control]. I shall argue that this initial picture is misleading, since "unsuffixed" control intransitives are in fact derived by zero morphology. If such an analysis is correct, then all control predicates are morphologically derived; this will allow us to maintain a uniform view of the St'at'imcets lexicon as containing only unaccusative (non-agentive) roots, with all other forms being derived by affixation.

Most of the rest of the paper will be devoted to establishing this claim. In the following sections, I first introduce the various classes of intransitive predicate,

beginning with non-control cases, before turning first to suffixed and then to non-suffixed control intransitives. I will show that both morphological and syntactic evidence argues for a classification of intransitive predicates that treats all the control cases as derived, in opposition to the non-derived non-control cases.

4. Non-control intransitives

There are more than two thousand non-control intransitive predicates in St'át'imcets; in fact, this class comprises the vast majority of roots in the language. Aside from nominals (6a), the class includes predicates with an adjective-like stative interpretation as in (6b), predicates of psychological state as in (6c), location and change of location predicates (6d), weather verbs (6e), change of state predicates (6f) and a set of both eventive and stative patient-oriented predicates (in 6g) described by van Eijk (1985) as "passive in character".

- (6) a. Nominal predicates:⁹
- | | | | |
|--------------------------|-------------------|-------------------------|-------------------------|
| <i>míxatʰ</i> | "(to be) a bear" | <i>tmix^w</i> | "(to be) land, earth" |
| <i>q^wuʔ</i> | "(to be) water" | <i>šawt</i> | "(to be) a slave" |
| <i>ʔ^wəlín</i> | "(to be) a belly" | <i>ʔúšaʔ</i> | "(to be) a huckleberry" |
- b. Adjectival predicates:¹⁰
- | | | | |
|------------------------|----------------------|-------------------------|-------------------------|
| <i>kəx</i> | "to be dry" | <i>k^wliʔ</i> | "to be green or yellow" |
| <i>q^wəl</i> | "to be cooked, ripe" | <i>x^wzum</i> | "to be big" |
| <i>qəl</i> | "to be bad" | <i>i^wip</i> | "to be cold (object)" |
- c. Psychological predicates:
- | | | | |
|--------------------------|----------------|-------------|---------------|
| <i>páq^wuʔ</i> | "to be afraid" | <i>qlil</i> | "to be angry" |
| <i>ʔáx^wil</i> | "to feel cold" | <i>ihin</i> | "to be proud" |
- d. Location and change of location predicates:
- | | | | |
|------------|--------------------------------|------------------------|-----------------------|
| <i>ʔəp</i> | "to be under" | <i>čix^w</i> | "to get there, reach" |
| <i>lak</i> | "to lie in a particular place" | <i>ʔiq</i> | "to get here, arrive" |
- e. Weather predicates:
- | | | | |
|------------|------------------------|------------------------|-------------------|
| <i>xəʔ</i> | "to be cold (weather)" | <i>k^wiš</i> | "to fall/to rain" |
|------------|------------------------|------------------------|-------------------|
- f. Change of state predicates:
- | | | | |
|------------------------|------------------------|------------------------|-------------------------|
| <i>ʔax^w</i> | "to recover, get well" | <i>x^wak</i> | "to wake up, be awoken" |
| <i>ʔuq^w</i> | "to die" | <i>ʔak</i> | "to rise (water)" |

(9) Nominals form a distinct class of intransitives in St'át'imcets, as argued by van Eijk and Hess (1986), Demirdache and Matthewson (1995), Matthewson and Davis (1995). Though I shall exploit some N-V diagnostics at points, the issue is for the most part irrelevant to the central claims of the paper.

(10) The label "adjectival" is not meant to imply a commitment to the existence of adjectives as a separate morphosyntactic class in St'át'imcets (though see Demirdache and Matthewson 1995); in fact, my classification of adjectives as unaccusative rather than unergative predicates tends to indicate that they are a sub-class of stative verbs (see Baker 1996).

g. Patient-oriented predicates (antitransitives):

<i>qam̥t</i>	“to be hit by a thrown object”	<i>ʔwal</i>	“to be left behind”
<i>ʔuš</i>	“to be discarded”	<i>šək</i>	“to be hit with a stick or whip”
<i>ʔaʔx̣</i>	“to be seen”	<i>tʉp</i>	“to be punched”

While all the roots in (6) may be used as predicates without (overt) derivational morphology, most non-control roots are bound. Bound roots may surface only if they have undergone one or more of the aspectual processes summarized in Table 1. Nevertheless, I will continue to use the term “unsuffixed” for all predicates which lack an overt in/transitivizer, since their control (agentive/non-agentive) status is not affected by such aspectual modification. This can be seen in (7), where I give some typical paradigms with bound roots:

(7) a.	\sqrt{pnt}	“boil”	
	$\acute{s}pnt$	“boiled”	(stative)
	$pnt.\acute{o}t$	“boiling”	(final reduplication)
b.	$\sqrt{zax^w}$	“melt”	
	$za-ʔ-x^w$	“melt”	(inchoative)
	$zax^w.zax^w$	“soft, melted consistency”	(total reduplication)
c.	\sqrt{zaw}	“annoy”	
	$zaw-t$	“annoyed”	(immediate)
	$zaw-ʔ-\acute{aw}$	“get fed up”	(inchoative)

Note that not all aspectual processes apply to all roots. This is partly a function of lexical semantics, but also of idiosyncratic variation in affixation possibilities.

4.1. Non-control intransitives are unaccusative

In this section, I claim that all non-control intransitive predicates take a single argument, to which they assign an internal theta role: that is, they are unaccusative.

While the uncontroversially unaccusative predicates in (6a-f) pose no immediate problem for this analysis, the patient-oriented predicates in (6g), whose counterparts in English are canonically transitive, do not appear at first sight to be likely candidates for unaccusative status. We shall term these cases *antitransitives*. The English glosses in (6g) suggest that antitransitives might be detransitive, i.e. derived from underlyingly transitive predicates by a type of lexical passivization process. However, St’ár’imcets has a syntactic passive; it turns out that a comparison of antitransitives with passives reveals a number of contrasts that can only be accounted for if passives are detransitized while antitransitives are fundamentally intransitive.

First of all, antitransitives are morphologically non-derived: they consist of bare roots (though these may be extended by lexical and aspectual suffixes, with no effect on argument structure). In marked contrast, passives are uniformly derived

from transitivized predicates, which invariably contain an overt transitivizer. (8) gives passive equivalents of the antitransitives in (6g).

- (8) a. *qám̃t-š-tum̃*
hit-CAU-3SG.PAS
“S/he was hit (by a thrown object).”
- b. *ʔwal-ən-čáləm*
leave-DIR-1SG.PAS
“I was left behind.”
- c. *ʔuš-č-tánəm̃wit*
discard-3PL.PAS
“They got thrown out.”
- d. *šək-ən-čim*
hit-DIR-2SG.PAS
“You got hit (with a stick or whip).”
- e. *ʔac̃x-ən-túmuləm*
leave-DIR-1PL.PAS
“We were seen.”
- f. *xəwat-ən-tam̃ʔkál ap*
know-DIR-2PL.PAS
“You folks were known.”

The morphological distinctness of passives and antitransitives is mirrored in the syntax. Since antitransitives are unaccusatives, we expect to find no implicit agent effects of the type that typically surface with passives. In other words, we should be able to replicate the English unaccusative-passive contrast illustrated in (9):

- (9) a. The boat sank (*by the French). b. The boat was sunk (by the French).

This is indeed the case. Passive agents may be introduced by an oblique marker,¹¹ as shown in the textual examples in (10), which are taken from van Eijk and Williams (1981).

- (10) a. *ʔáq̃=k̃wu?* *ʔayʔ* *ʔáq̃=k̃wu?* *ʔáti?*
cross=QUO then cross=QUO to.there
ʔac̃x-n-ə̃m=k̃wu? *ʔə=ki=ʔuxʷalmixʷ=a*
see-DIR-PAS=QUO OBL=PL.DET=native-EXI
“Well then he crossed over, he crossed over there, and he was seen by the people”.
- b. *miʔ=ʔuʔ=ʔáta?* *š=čún-tanəm̃wit* *ʔə=ti=škixəʔʔ=ih=a...*
so=then=there NOM1=tell(DIR)-3PL.PAS OBL=DET=mother=3PL.POS=EXI
“So then that’s what they were told by their mother.”

In contrast, antitransitives do not permit oblique agents:

- (11) a. **qám̃t* *(l)=ta=šqáyxʷ=a* *ta=twə́w̃.w̃ət=a*
get.hit (OBL)=DET=man=EXI DET=boy=EXI
“The boy was hit by the man.”

(11) There are two oblique markers in St’át’imcets, both derived from locative prepositions. The first, based on the directional preposition *ʔə=* is characteristically employed by older speakers, and thus shows up frequently in textual examples; however, it seems to be in the process of being replaced as a marker of oblique DPs by the locational preposition *ʔ=*, at least in the grammars of speakers younger than sixty.

- b. $qám\acute{t}-š-tum$ $l=ta=šqáyx^w=a$ $ta=twó\acute{w}.wó\acute{t}=a$
 get.hit-CAU-3PAS OBL=DET=man=EXI DET=boy=EXI
 "The boy was hit by the man."

Where an oblique is present with an antitransitive predicate, it is interpreted as a locative or sometimes as an instrument, but never as a volitional actor; hence the absence of an agentive interpretation in (12a), in contrast to the agentive interpretation of the oblique with the passive in (12b):

- (12) a. $?xan^2=ʔkan$ $l=ta=míxaʔ=a$
 get.hurt=1SG.SUB OBL=DET=bear=EXI
 "I got hurt by the bear." (only ok if bear is dead, and I tripped on it, for example)
- b. $xan^2-š-tum^2xáləm$ $l=ta=míxaʔ=a$
 get.hurt-CAU-1SG.PAS OBL=DET=bear=EXI
 "I got hurt by the bear." (i.e., it attacked me)

I conclude that, on the basis of both morphological and syntactic evidence, antitransitives are unaccusatives, thus forming a unitary morpho-syntactic class with the other non-control roots in (6).

5. Suffixed control intransitives

We now turn to control (agentive) intransitives, beginning with those which are suffixed with an overt intransitivizer. As can be seen in Table 3 above, there are three main intransitivizers, labelled *active*, *autonomous*, and *middle*. Subsections 5.1, 5.2, and 5.3 will deal with each of them in turn; 5.4 will deal with cases where lexical suffixes appear without an overt intransitivizer.

5.1. Active intransitives

Active intransitives are suffixed with the intransitivizer *-xal*:

- (13) $káx-xal$ "to dry" (intr.) $?úš-xal$ "to discard" (intr.)
 $číp-xal$ "to cool" (intr.) $páq^wuxal$ "to scare" (intr.)
 $čix^w-xal$ "to bring things" (intr.) $šək-xál$ "to hit with a stick (intr.)"

-xal creates an atelic intransitive predicate with an agentive subject and an implied object; the latter is generally interpreted as generic, non-specific, or collective, and may be expressed overtly through the *with-object* construction. This is shown in (14-15):

- (14) $kíč-xal$ $k^wux=po\acute{t}ák$ $?i=?ux^walmíx^w=a$
 lay-ACT DET=potato PL.DET=people=EXI
 "The people plant potatoes."

- (15) *puł-xal=łkán=keł* *kewu = ?ú. ?ša?*
 boil-ACT=1SG.SUB=IRR DET=egg
 "I will boil some eggs."

The use of the non-referential determiner *kewu* is typical of DPs in the *with-object* construction, as are both the generic reading of the object in (14) and the irrealis mood in (15). In fact, active intransitives are generally restricted to these environments. In telic contexts they are replaced by directive transitives:

- (16) *puł-un²=łkán=tu?* *?i= ?ú. ?š? = a*
 boil-DIR=1SG.SUB=CMP PL.DET=egg=EXI
 "I boiled some (specific) eggs."

I will henceforth refer to the class of intransitive predicates which entail an understood object (and therefore take the *with-object* construction) as *implied-object* intransitives.

When suffixed to stems containing lexical suffixes, both the active intransitivizer and the directive transitivizer yield an interpretation paraphrasable as "to act on the referent of the suffix", as shown in (17-19) below. However the contrast between the non-delimited reading of actives (the b cases) and the delimited reading of directives (the c cases) is retained:

- (17) a. $\sqrt{šup}$ "to be scratched"
 b. *šup-xn-xal* "to scratch people's feet" (in general)
 c. *šup-xn-an* "to scratch someone's foot" (in particular)
- (18) a. \sqrt{caw} "to be washed"
 b. *caw²-áka?-xal* "to wash people's hands" (in general)
 c. *caw²-ák?-an* "to wash someone's hands" (in particular)
- (19) a. \sqrt{kax} "to be dry"
 b. *kax-al²iw²s-xal* "to dry people's whole bodies" (in general)
 c. *kax-al²iw²s-an* "to dry someone's whole body" (in particular)

An important and distinctive property of active intransitives concerns the distribution of two near-homophonous *š*-prefixes: one of these marks stative aspect (see the examples in 7 above), while the other is nominalizing.¹² *š*-prefixed predicates suffixed with the active marker are invariably interpreted as nominal rather than stative, as shown in (20).

- (20) (a) *Active intransitive* (b) *Non-control*
š-məč-xál = "something written" (e.g., a letter) *š-məč* = "written"
š-puł-xal = "something boiled" (e.g., potatoes) *š-puł* = "boiled"
š-tix-xal = "something put on the table" (e.g., plates) *š-tix* = "set (of table)"

(12) In fact, there are two separate types of nominalization in St'át'ímcets, and in Salish more generally. One is derivational, and creates nouns, the other is inflectional, and creates nominalized subordinate clauses. While the same *š* nominalizer is responsible for both, it is a prefix when used derivationally and a proclitic when used inflectionally. I gloss the syntactic nominalizer as "NOM1" and the lexical nominalizer as "NOM2" throughout this paper.

The forms in (20a), unlike those in (20b), act like ordinary nouns; for example, they can co-occur with an adjectival modifier in the complex nominal predicate construction (21), head relative clauses (22), and take possessive pronominal morphology in predicate position (23), all of which are diagnostic tests for nounhood in St'át'imcets (see Demirdache and Matthewson 1995, Matthewson and Davis 1995).

- (21) *ʔáma š-məč-xál ti=ʔacx-ən=án=a ʔi=nátx^w=aš*
 good NOM2-write-ACT DET=see-DIR=1SG.CNJ=EXI when=day=3.CNJ
 "It was a good piece of writing that I saw yesterday."
- (22) *čəf.čf-ən-áš ni=š-məč-xál=a ni=ʔum²-ən=án=a*
 tear.TRE-DIR-ERG DET=NOM2-write-ACT=EXI DET=giveDIR=1SG.CNJ=EXI
 "He tore up the writing that I gave him."
- (23) *n-š-məč-xál ni=čəf.čf-ən-áš=a*
 1SG.POS-NOM2-write-ACT DET=tear.TRE-DIR-ERG=EXI
 "My writing was what he tore up."

Note that the contrast between the nominal interpretation of *š*-prefixed active intransitives and the stative interpretation of *š*-prefixed non-control predicates is clearly related to the implied object property, since the nominal derived from an active intransitive refers to its understood object, which is absent in the (fundamentally intransitive) non-control cases.

5.2. Autonomous intransitives

The second main set of derived intransitives in St'át'imcets is suffixed with *-ləx*, which has a stressed allomorph *-ilx*. Following Thompson and Thompson (1992), I refer to this as the *autonomous* suffix.¹³ The autonomous suffix is incompatible with other intransitivizers or the directive transitivity: compare the autonomous examples in (24-26) with the somatic suffix-intransitivizer combinations in (17-19).

- (24) a. $\sqrt{šup}$ "to be scratched"
 b. *šúp-ləx(*-xal/*-am²/*-aŋ)* "to scratch oneself"
- (25) a. \sqrt{caw} "to be washed"
 b. *cáw-ləx(*-xal/*-am²/*-aŋ)* "to wash oneself"
- (26) a. \sqrt{kax} "to be dry"
 b. *káx-ləx(*-xal/*-am²/*-aŋ)* "to dry oneself"

The autonomous intransitivizer creates self-directed predicates with a reflexive interpretation, as seen in (27):

(13) This reflects the fact that the St'át'imcets form is clearly cognate with its *Ntəʔkəpmxčín* counterpart *·jəx*, and emphasizes that it is not, as van Eijk (1985) suggests, a deviant lexical suffix (with a meaning such as 'body'), but a bona fide intransitivizer.

- | | | | | |
|------|---|---------------------|--|---------------|
| (27) | $\check{\text{X}}\acute{\text{a}}\text{l-l}\acute{\text{a}}\text{x}$ | “to stop (oneself)” | $\text{t}\acute{\text{a}}\text{t-l}\acute{\text{a}}\text{x}$ | “to stand up” |
| | $\text{l}\acute{\text{a}}\text{f}^{\text{w}}\text{-i}\text{l}\text{x}$ | “to hide (oneself)” | $\overset{2}{\check{\text{q}}^{\text{w}}\text{ə}\check{\text{x}}\text{'-i}\text{l}\text{x}$ | “to dance” |
| | $\text{x}^{\text{w}}\acute{\text{a}}\text{k-l}\acute{\text{a}}\text{x}$ | “to wake (oneself)” | $\overset{2}{\check{\text{X}}}\overset{2}{\text{k}}\text{i}\text{w-l}\acute{\text{a}}\text{x}$ | “to climb” |

I refer to this as the *medio-reflexive* interpretation.

Autonomous intransitives do not take an overt object:

- | | | | |
|------|--|--------------------------------|-----------------------------------|
| (28) | $\text{l}\acute{\text{a}}\text{f}^{\text{w}}\text{-i}\text{l}\text{x}$ | $\check{\text{s}}\text{-John}$ | $(*\check{\text{s}}\text{-John})$ |
| | hide-AUT | NOM2-John | (*NOM2-John) |
| | “John hid (*John).” | | |

They also contrast with active intransitives with respect to $\check{\text{s}}$ -prefixation; instead of the nominal reading associated with the latter, $\check{\text{s}}$ -prefixation of autonomous intransitives yields a resulting state interpretation parallel to that associated with ordinary non-control predicates:

- | | | | | |
|------|---|---------------------------|---|----------------------------|
| (29) | $\check{\text{s}}\text{-}\overset{2}{\check{\text{X}}}\acute{\text{a}}\text{l-l}\acute{\text{a}}\text{x}$ | = “stopped” (animate) | cf. $\check{\text{s}}\text{-}\overset{2}{\check{\text{X}}}\acute{\text{a}}\text{l}$ | = “stopped” (inanimate) |
| | $\check{\text{s}}\text{-}\text{k}\acute{\text{i}}\check{\text{c}}\text{-l}\acute{\text{a}}\text{x}$ | = “lying down” (animate) | cf. $\check{\text{s}}\text{-}\text{k}\acute{\text{i}}\check{\text{c}}$ | = “lying down” (inanimate) |
| | $\check{\text{s}}\text{-}\text{t}\acute{\text{i}}\text{x-l}\acute{\text{a}}\text{x}$ | = “sitting down at table” | cf. $\check{\text{s}}\text{-}\text{t}\acute{\text{i}}\text{x}$ | = “set” (table) |
| | $\check{\text{s}}\text{-}\text{l}\acute{\text{a}}\text{f}^{\text{w}}\text{-i}\text{l}\text{x}$ | = “hiding” (animate) | cf. $\check{\text{s}}\text{-}\text{l}\acute{\text{a}}\text{f}^{\text{w}}$ | = “hidden” (inanimate) |

These stative predicates fail tests for noun-hood: they cannot occur in the final position of a complex predicate (30), act as the head of a relative clause (31), or take possessive morphology in predicate position (32):

- | | | | | |
|------|---|--|---|---|
| (30) | $*\text{?}\acute{\text{a}}\text{m}\acute{\text{a}}$ | $\check{\text{s}}\text{-}\text{l}\acute{\text{a}}\text{f}^{\text{w}}\text{-i}\text{l}\text{x}$ | $\text{t}\acute{\text{i}}=\text{p}\acute{\text{u}}\text{n-an}=a$ | $\text{?i}=\text{n}\acute{\text{a}}\text{t}\text{x}^{\text{w}}=a\check{\text{s}}$ |
| | good | NOM2-hide-AUT | DET=find(DIR)-1SG.CONJ=EXI | when=day=3.CNJ |
| | * “It was a good hiding (place) that I found yesterday.” | | | |
| (31) | $*\text{p}\acute{\text{ə}}\text{l}^{\text{p}}\text{-p-}\check{\text{s}}=\text{k}\acute{\text{a}}\text{n}$ | $\text{n}\acute{\text{u}}\text{k}^{\text{w}}\text{u}\text{n}^{\text{2}}$ | $\text{n}\acute{\text{i}}=\check{\text{s}}\text{-}\text{l}\acute{\text{a}}\text{f}^{\text{w}}\text{-i}\text{l}\text{x}=a$ | |
| | lost-INC-CAU=1SG.SUB | again | DET=NOM2-hide-AUT=EXI | |
| | $\text{n}\acute{\text{i}}=\text{p}\acute{\text{u}}\text{n-an}=a$ | | | |
| | DET=find(DIR)=1SG.CNJ-EXI | | | |
| | * “I lost the hiding (place) that I found.” | | | |
| (32) | $*\text{n-}\check{\text{s}}\text{-}\text{l}\acute{\text{a}}\text{f}^{\text{w}}\text{-i}\text{l}\text{x}$ | $\text{n}\acute{\text{i}}=\text{p}\acute{\text{ə}}\text{l}^{\text{p}}\text{-p-}\check{\text{s}}\text{-}\acute{\text{a}}\text{n}=a$ | | |
| | 1SG.POS- NOM2-hide-AUT | DET=lose-INC-CAU-1SG.CNJ=EXI | | |
| | * “My hiding (place) was what I lost.” | | | |

The stative $\check{\text{s}}$ -prefix is not compatible with all autonomous predicates. It only attaches to those with an underlyingly telic event structure (i.e. one involving a change of state leading to a resulting state), as in (29). Atelic predicates may not be $\check{\text{s}}$ -prefixed at all, as shown in (33):

- | | | |
|------|--|---------------------------------|
| (33) | $(*\check{\text{s}}\text{-})\text{n-}\overset{2}{\check{\text{q}}}\acute{\text{a}}\text{y-l}\acute{\text{a}}\text{x}$ | = to swim (no stative variant) |
| | $(*\check{\text{s}}\text{-})\overset{2}{\check{\text{q}}^{\text{w}}\text{ə}\check{\text{x}}\text{'-i}\text{l}\text{x}$ | = to dance (no stative variant) |
| | $(*\check{\text{s}}\text{-})\overset{2}{\check{\text{f}}}\acute{\text{ə}}\text{f}^{\text{w}}\text{-i}\text{l}\text{x}$ | = to jump (no stative variant) |

Note that the autonomous intransitivizer is not associated with a particular aspectual interpretation. It generally inherits the aspectual characteristics of the root to which it attaches, in contrast to the active intransitivizer, which invariably yields an atelic predicate.

In Table 5, I summarize the differences between active and autonomous intransitives.

Table 5
Diagnostic properties of active and autonomous intransitivizers

	interpretation	allow overt-object	aspect	s-prefixation	allow lexical suffix
active (- <i>xal</i>)	implied object	yes	atelic	nominal	yes
autonomous (- <i>lax</i>)	medio-reflexive	no	undefined	stative/*	no

5.3. Middle intransitives

The third class of suffixed intransitives is suffixed with *-Vm(ʹ)*. This is the St'át'imcets version of a pan-Salish morpheme most frequently glossed as *middle*, a term which I adopt here. In St'át'imcets, middle-marked predicates may be interpreted either like implied object or like medio-reflexive intransitives, depending on the stem to which they attach:

(34) *Implied object middles:*

<i>ləŋʷ-úm</i>	“to hide (stuff)” (intr.)	<i>xʷil-əm</i>	“to seek” (intr.)
<i>ʔəqʷl-úm</i>	“to sew” (intr.)	<i>táw-əm</i>	“to sell” (intr.)
<i>kʷúl-əm</i>	“to make” (intr.)	<i>ʔáçx-əm</i>	“to see” (intr.)

(35) *Medio-reflexive middles:*

<i>šáxʷ-əm</i>	“to take a bath”	<i>šúp-um</i>	“to breathe”
<i>čáxʷ-am</i>	“to wade”	<i>xáʔ-əm</i>	“to go up hill”
<i>múç-um</i>	“to stoop”	<i>ʔumik-əm</i>	“to go upstream”

The implied-object middles in (34), like active intransitives, may express their understood object overtly, as shown in (36):

- (36) a. *niʔ* *ti=šmúʔač=a* *táw-əm* *ti=cúqʷačʹ=a*
 FOC DET=woman=EXI sell-MID DET=fish=EXI
 “It’s the woman that sold the fish.”
- b. *xʷil-əm* *kʷu=míçáʔ* *ti=wáʔ* *pix-əm*
 seek-MID DET=bear DET=PROG hunt-MID
 “The hunter is looking for a bear.”

- c. $k^w\acute{u}l\text{-}\acute{e}m$ $t\acute{i}=c\acute{l}a?=\acute{a}$ $t\acute{i}=\acute{s}y\acute{a}q\check{c}?\text{-}\acute{a}$
 make-MID DET=basket=EXI DET=woman=EXI
 "The woman is making a basket."

\check{S} -prefixation yields a nominal interpretation with implied-object, again like active intransitives:

- (37) $\check{s}\text{-}l\acute{e}f^w\text{-}\acute{u}m$ = "something hidden" (cf $\check{s}\text{-}l\acute{e}f^w$ = "hidden")
 $\check{s}\text{-}q^w\acute{e}l\text{-}\acute{e}m$ = "something cooked" (cf $\check{s}\text{-}q^w\acute{e}l$ = "cooked, ripe")
 $\check{s}\text{-}?\acute{i}\check{\lambda}\text{-}\acute{e}m$ = "something one sings" (cf $\check{s}\text{-}?\acute{i}?\acute{i}\check{\lambda}$ = "singing")

In contrast, the medio-reflexive middles in (35) may not take an object DP: either an oblique marker must be introduced, as in (38a), or an object is simply ungrammatical, as in (38b):

- (38) a. $x\acute{a}\check{\lambda}\text{-}\acute{e}m$ $*(l=)t\acute{i}=\check{s}\text{-}q^w\acute{e}m=\acute{a}$ $t\acute{i}=\acute{w}\acute{a}?$ $p\acute{i}x\text{-}\acute{e}m^{\check{m}}$
 climb-MID $*(OBL=)DET=NOM2\text{-}mountain=EXI$ DET=PRG hunt-MID
 "The hunter climbed the mountain."
 b. $*\acute{s}\acute{u}p^{\check{m}}\text{-}um$ $k^w\acute{u}=\check{s}\text{-}p\acute{u}\check{\lambda}t$ $?\acute{i}=\acute{w}\acute{a}?$ $\acute{t}ap\text{-}an^{\check{m}}\text{-}\acute{i}ta\check{s}$
 breathe-MID DET=NOM2-smoke PL.DET=PRG put.out-DIR-PL.ERG
 $t\acute{i}=\check{s}\text{-}f^w\acute{e}l\text{-}f^w\acute{e}l\text{-}p=\acute{a}$
 DET=NOM2-forest.fire-INC=EXI
 "The ones who put out the forest fire were breathing smoke."

Moreover, with medio-reflexive middles \check{s} -prefixation is either ungrammatical or yields a resulting state interpretation:

- (39) $(*\check{s}\text{-})\check{c}\acute{a}x^w\text{-}am$ "to wade" (no \check{s} -prefixation permitted)
 $(*\check{s}\text{-})x\acute{a}\check{\lambda}\text{-}\acute{e}m$ "to go up hill" (no \check{s} -prefixation permitted)
 $\check{s}\text{-}m\acute{u}c^{\check{m}}\text{-}um$ "stooped" (stative \check{s} -prefixation)

Thus, middle-marked predicates show ambivalent behaviour: they either act as though they were suffixed with the active intransitivizer (in which case they allow an object and yield a nominal interpretation with \check{s} -prefixation), or they behave as if they were suffixed with the autonomous intransitivizer (in which case no object is possible and \check{s} -prefixation never yields a nominal interpretation). The most obvious explanation for this ambivalence is that the middle suffix is ambiguously interpreted as either an active or an autonomous intransitivizer, a hypothesis supported by morphological evidence in the form of predicates which take either middle and active marking, as in (40), or middle and autonomous marking, as in (41).

- (40) a. $q^w\acute{e}l\text{-}\acute{e}m$ ~ $q^w\acute{e}l\text{-}x\acute{a}l$ "to cook, roast" (intr.)
 b. $k^w\acute{u}l\text{-}\acute{e}m$ ~ $k^w\acute{u}l\text{-}x\acute{a}l$ "to make, create" (intr.)
 c. $n\acute{z}\acute{a}w^{\check{m}}\text{-}\acute{e}m$ ~ $n\acute{z}\acute{a}w^{\check{m}}\text{-}x\acute{a}l$ "to draw water"
 (41) a. $m\acute{a}t\text{-}am$ ~ $m\acute{a}t\text{-}l\acute{e}x$ "to rest"
 b. $l\acute{a}p\text{-}\acute{e}m$ ~ $l\acute{a}p\text{-}l\acute{e}x$ "to cover oneself with a blanket"

In these cases, the alternating suffixes are in free variation, confirming the ambiguous behaviour of the middle marker $-Vm(?)$. On the other hand, predicates which allow both the active ($-xal$) and autonomous ($-lax$) intransitivizers always show a regular and predictable contrast in meaning:

- (42) a. $\check{z}ux^w-xal$ “to move (stuff)” $\check{z}ux^w-lax$ “to move (oneself)”
 b. $\check{c}aw-xal$ “to wash (stuff)” $\check{c}aw-lax$ “to wash (oneself)”
 c. $kewis-xal$ “to drop (stuff)” $kewis-lax$ “to drop, lower (oneself)”

While in general the middle suffix can either induce an implied-object or a medio-reflexive reading, depending on the root, there are cases where it is morphologically restricted to one or the other. When it is suffixed to a stem containing a somatic lexical suffix, the middle invariably yields a medio-reflexive interpretation paraphrasable as “to act on one’s body part”:

- (43) a. $\sqrt{šup}$ “to be scratched” $\check{š}up-xn-am$ “to scratch one’s foot”
 b. \sqrt{caw} “to be washed” $\check{c}aw-ak?_2-am$ “to wash one’s hands”
 c. \sqrt{kax} “to be dried” $kax-aliw’s-əm$ “to dry one’s whole body”

This interpretation is significant because it contrasts with the implied object interpretation yielded by the combination of a somatic lexical suffix with the active intransitivizer $-xal$ (cf. 17-19), and is clearly related to the standard medio-reflexive interpretation of the autonomous suffix $-lax$ (cf. 24-26).

In contrast, there are two environments where the middle yields only an implied-object reading. One case involves roots which normally take $-xal$ and switch to $-Vm(?)$ if the stem undergoes diminutive or augmentative reduplication (marked by a period in the examples below) :

- (44) a. $\check{š}aq-xal$ “to split wood”
 $\check{š}aq.\check{š}q-əm$ “to split wood into many pieces”
 b. $\check{c}áš-xal$ “to feel by touching”
 $\check{c}á.\check{c}š-əm$ “to feel around for something”
 c. $nšix-xal$ “to move food from one pot to another”
 $nší.\check{š}x-əm$ “to move food from one pot to several others”

As the glosses indicate, the middle-marked reduplicated forms retain the object-oriented interpretation of the active intransitive forms on which they are based.

The second case involves nominals. When the middle suffix is added to a nominal root, the resulting combination is interpreted as “to hunt, gather, collect, get the referent of” the stem (see van Eijk 1985: 145).

- (45) a. $pu?y’ax^w$ = “mouse” $pu?y’ax^w-ám$ = “to catch mice”
 b. $pápa$ = “paper, mail” $pápb-am$ = “to get the mail”
 c. $(š)\check{c}úq^waz’$ = “fish” $\check{c}úq^waz’-am$ = “to fish”

To summarize, the interpretation of the middle suffix varies between that of the active (implied object) and autonomous (medio-reflexive) intransitivizers. When it

attaches directly to a non-nominal root, its interpretation depends on the semantics of the root itself, as shown in (34-35). On the other hand, when the root is extended by a somatic lexical suffix, as in (43), the middle has an exclusively medio-reflexive interpretation; in contrast, when the stem is reduplicated, as in (44), or is attached to a nominal root, as in (45), it receives an exclusively implied-object interpretation. This distribution is summarized in Table 6:

Table 6
Distribution of the middle-marker Vm(°):

	√V	√V +diminutive	√V +somatic suffix	√N
medio-reflexive	+	-	+	-
object-oriented	+	+	-	+

5.4. Intransitives derived via lexical suffixation

There is a fourth class of derived intransitive predicate, which unlike the other three, does not involve an overt intransitivizer. Instead, members of this class seem to be derived directly by lexical suffixation:

- (46) a. $\sqrt{c\underline{x}}$ = “to be clean”
 $-al\underline{c}$ = lex.suff. “inside of house, room”
 $\overset{2}{c\underline{x}}-al\underline{c}$ = “to clean the house”
- b. $\sqrt{t\underline{a}ʔ}$ = “to be close”
 $-q\underline{s}$ = lex.suff. “nose, (by metaphorical extension) point, direction”
 $\overset{2}{t\underline{a}ʔ}-q\underline{s}$ = “to get across the water”
- c. $\sqrt{k\underline{ax}}$ = “to be dried”
 $-(a)\overset{2}{t\underline{a}ʔ}$ = lex. suff. “inside of body, (by metaphorical extension) flesh, mind”
 $\overset{2}{k\underline{ax}}-\overset{2}{t\underline{a}ʔ}$ = “to dry meat”

As can be ascertained from the glosses, these [root + lexical suffix] combinations are agentive, and thus resemble derived intransitives. In fact, I suggest that they are derived intransitives. To be precise, they contain a concealed middle marker, a zero-variant of the $Vm(°)$ intransitivizer. I give three arguments for this contention: (i) the relevant forms are not based on agentive roots; (ii) the lexical suffixes are not inherently agentive (iii) in some cases, an overt middle suffix is in free variation with a zero-marked (covert) alternant.

(i) In most cases, when one of the roots in (46) surfaces without an intransitivizer, as in (47), it has a non-control reading:

- (47) a. $\dot{c}^2\acute{x}:\acute{x}:\acute{a}m$ = "to be clean" (total reduplication; $-am$ = characteristic)
 b. $\acute{s}:\acute{a}?$ = "to be close" (\acute{s} - = stative)
 c. kax = "to be dry"

(Note that two of the roots in (47) have undergone aspectual operations —total reduplication in (47a) and stative prefixation in (47b)— which do not affect the control status of the predicate.)

(48) shows the roots in (46-47) with different lexical suffixes; again, these cases have a non-control interpretation.

- (48) a. $n-\dot{c}^2x-\acute{a}^2\acute{a}?$ = "laxative" (literally, "clean inside") ($\acute{a}^2\acute{a}?$ = "inside")
 b. $n-\acute{a}?$ - k = "to have one's back against something" ($n\dots-k$ = "back")
 c. $n-\acute{k}x-\acute{in}was$ = "island" (literally, "dry place inside") ($\acute{in}was$ = "inside")

Finally, in (49-50), we see that an intransitivizer is obligatory in other derivations with an agentive reading involving the same roots. The cases in (49) involve lexical suffix plus middle marking, the cases in (50) active and autonomous intransitivizers.

- (49) a. $\dot{c}^2x-\acute{a}^2k*(-\acute{a}m)$ = "to clean the graveyard" (lex.suff. $-a^2k$ "surface")
 b. $\acute{a}?$ - $xn*(-\acute{a}m)$ = "to get close to where one is going" (lex.suff. $-xn$ "foot")
 c. $n-\acute{k}ax-k*(-\acute{a}m)$ = "to dry one's back" (lex.suff. $n\dots-k$ "back")
- (50) a. $\dot{c}^2\acute{x}$ $*(-xal)$ = "to clean (stuff)" (active)
 b. kax $*(-xal)$ = "to dry (stuff)" (active)
 c. $\acute{a}?$ $*(-ilx)$ = "to get close to something" (autonomous)

I conclude that the meaning of the root cannot be responsible for the control (agentive) reading of the forms in (46).

(ii) However, it turns out that the lexical suffixes are not the source either, since when attached to other roots, these same suffixes yield a non-control reading, as in (51). A control reading obtains only when a middle marker is also added, as in (52):

- (51) a. $k^w\acute{a}m-p-\acute{a}q\acute{s}$ = "blunt point" ($\sqrt{k^w\acute{a}m}$ "blunt")
 b. $n-\dot{c}^2x-\acute{a}^2\acute{a}?$ = "laxative" ($\sqrt{\dot{c}^2x}$ "clean")
 c. $n\acute{a}q^w-\acute{a}l\check{c}$ = "warm in the house" ($\sqrt{n\acute{a}q^w}$ "warm")
- (52) a. $n\acute{i}\acute{s}-q\acute{s}-am$ = "blow one's nose" ($\sqrt{n\acute{i}\acute{s}}$ "?")
 b. $n-\dot{c}^2x-\acute{a}^2\acute{a}?$ - $\acute{a}m$ = "to take a laxative" ($\sqrt{\dot{c}^2x}$ "clean")
 c. $pal?$ - $\acute{a}l\check{c}-\acute{a}m$ = "to visit people" ($\sqrt{pal?}$ "one")

(iii) If neither the root nor the lexical suffix is responsible for the control reading of the examples in (46), then the only remaining logical possibility is that there is some other (phonologically null) element contributing agentive force. There is direct evidence for the existence of such an element: the middle suffix is optionally available (without change of meaning) on many lexically suffixed predicates with an agentive reading:

- (53) a. \sqrt{pax} = "to shave, peel"
 - alq^w = lex. suff. "log, long object"
 $páx-alq^w(-əm)$ = "to shave a log"
- b. $\sqrt{tuq^w}$ = "to take off"
 - $usá?$ = lex. suff. "fruit, round object"
 $tú.tuq^w-usá?(-əm)$ = "to peel fruit"
- c. $\sqrt{?áma}$ = "good"
 - $ált$ = lex. suff. "child, human being"
 $?amb-ált(-əm)$ = "to fancy someone as a parent for one's children"

This alternation is easily explained if we assume the existence of a zero-allomorph of the middle intransitivizer. In that case, "intransitivizing" lexical suffixes are simply morphophonological variants of the productive combination of lexical suffix plus middle intransitivizer. As we shall see in section 7, this possibility provides us with a more wide-reaching explanation for the distribution of unsuffixed control intransitives.

6. On the status of derived intransitives

We have yet to address the issue of whether derived intransitives are syntactically or lexically derived. If syntactically derived, the predicate will be detransitivized in the sense that the suppressed internal argument will be syntactically active, i.e. the predicate will remain syntactically transitive. If lexically derived, the predicate will be *intransitive* in the sense that the suppressed argument will be syntactically inert. The next two sections will examine first active and then medio-reflexive derived intransitives, with the aim of establishing that both are *intransitive*, i.e. they are lexically derived.

6.1. Active intransitives are not anti-passives

We begin with actives. Many authors, including Gerdts (1988), Kroeber (1991), Thomason and Everett (1993), have claimed that Salish active intransitives are antipassives: in other words, they are detransitivized constructions, involving suppression or absorption of a patient theta role, just as passive involves suppression or absorption of the agent role. Under such an analysis, the availability of an overt object for active-type intransitives follows from their underlying transitivity, just as passive agents are licensed by the underlying transitivity of passivized predicates. In spite of its initial attractiveness, it turns out that there is both morphological and syntactic evidence against an antipassive analysis, and in favour of a lexical treatment of actives.

The most obvious evidence for the lexical analysis is provided by morphology. Unlike passives, which must be based on transitivized stems, active intransitives show no morphological reflexes of transitivity. In fact, they parallel rather than

contain directive transitives, since both are formed by affixation to non-control roots. This is shown in (54):

(54)	<i>Gloss</i>	<i>Unaffixed</i>	<i>Active/middle</i>	<i>Directive</i>
	“(be) dry”	$\acute{k}ax$	$\acute{k}ax-xal$	$\acute{k}ax-an^{\dot{}}$
	“(be) afraid”	$páqwu?$	$páqwu?xal$	$páqwu?-an$
	“(be) cooked”	$\acute{q}wəl$	$\acute{q}wəl-əm-xál$	$\acute{q}wəl-ən$
	“(be) punched”	$típ$	$típ-xal$	$típ-un^{\dot{}}$
	“(be) seen”	$\acute{?}ac^{\dot{}}x$	$\acute{?}ac^{\dot{}}x-əm$	$\acute{?}ac^{\dot{}}x-ən$

These paradigms are not irregular; while not every root occurs without affixation, the active intransitive/directive transitive alternation is fully productive.

Next, we turn to syntax, concentrating on properties of the object in the *with-object* construction. We have seen that an oblique marker may be present with a passive agent (see 10 above). Under an antipassive analysis, we expect the patient of an active intransitive to behave similarly. This is not the case: an oblique marker is ungrammatical with an overt object:

- (55) a. $\acute{k}ax-xal$ ($*ə=/l=$) $k^wu=?$ $\acute{?}uša?$
 dry-ACT ($*OBL=$)DET=huckleberry
 “S/he dried some huckleberries.”
- b. $\acute{?}uqwa?$ $ta=nk^yáp=a$ ($*ə=/l=$) $k^wu=q^wú?$
 drink DET=coyote=EXI ($*OBL=$)DET=water
 “The coyote drank some water.”

Another difference surfaces with syntactic movement. In general, direct arguments of a predicate (subjects of intransitives, subjects and objects of transitives) may be freely extracted in WH-questions, focus cleft constructions, and relative clauses without inducing any special morphology on the predicate. This is shown in the WH-questions in (56):¹⁴

- (56) a. $\acute{s}wat$ $k^wu=?ac^{\dot{}}x-ən-čítb-aš$ b. $\acute{s}wat$ $k^wu=?ac^{\dot{}}x-ən=ax^w$
 who DET=see-DIR-2SG.OBJ-ERG who DET=see-DIR=2SG.CNJ
 “Who saw you?” “Who did you see?”

The agent of a passivized predicate may be also be extracted:

- (57) $\acute{s}wat$ $k^wu=?ac^{\dot{}}x-ən-əm$ \acute{s} -Bill $l=ta=čítx^w=a$
 who DET=see-DIR-PAS NOM2-Bill OBL=DET=house=EXI
 “Who was Bill seen by in his house?”

In contrast, the object of a derived intransitive may not be freely extracted: it always induces (syntactic) nominalization, as shown in the WH-questions in (58):

(14) For arguments that direct extraction of both subjects and direct objects in S'tát'imcets is possible, see Davis (1994a); for a contrasting viewpoint, see Roberts (1994).

- (58) a. *štám* *k^wu=š=kaáx-xal=šu*
 what DET=NOM1=dry-ACT=2SG.POS
 "What did you dry?"
- b. *štám* *k^wu=š=ʔúq^waʔ=š* *ta=nk^yáp=a*
 what DET=NOM1=drink=3SG.POS DET=coyote=EXI
 "What did the coyote drink?"

The contrast between (57) and (58) shows us that, unlike passive agents, the objects of active intransitives do not count as direct arguments in the syntax (see Hukari 1994 for similar conclusions on Halkomelem). This provides further evidence against a detransitive ("anti-passive") analysis of derived intransitives, and in favour of an intransitive (lexical) analysis.

6.2. Medio-reflexives are not syntactic reflexives

I now turn to the derivation of medio-reflexive (autonomous-type) intransitives, which I will also claim are lexically derived intransitives.

St'át'imcets has a straightforwardly detransitivizing reflexive morpheme, *-čút*, shown in (59):

- (59) a. *i²x-uš-an-čút* *tí=š-yáqčʔ=a* *l̄=tí=n-k^wan-úš-tən̄=a*
 see-face-*DIR-RFL* DET=NOM2-woman=EXI OBL=DET=LOC-look-face-
 thing=EXI
 "The woman looked at herself in the mirror."
- b. *iaw-akʔ-ám=wit* *niʔ=š²uʔ* *š=ʔuq^w-uñ-čút=i*
 wash-hand-MID=3PL then=so NOM1=undress-*DIR-RFL*=3PL.POS
 "They washed their hands and got undressed."

The presence of the directive transitivizer (*Vn*(²)) betrays the transitive origin of these forms, while the absence of ergative marking in (59a) and the presence of the third person intransitive plural marker =*wit* and the subordinate third person possessive plural =*i* in (59b) are diagnostic of final intransitivity. *-čút* reflexives, then, are canonically de-transitive.

In marked contrast, autonomous-marked (medio-reflexive) predicates show no signs of underlying transitivity. This can easily be seen with predicates which take both types of reflexive:

- (60) a. *wəq²-tuʔ=š²uʔ* b. *wəq^w-ilx=tuʔ=š²uʔ*
 fall.in.water=CMP=so fall.in.water-AUT=CMP=so
 "He fell in the water." "He threw himself in the water."
- c. *wəq^w-an-čút=tuʔ=š²uʔ*
 fall.in.water-*DIR-RFL*=CMP=so
 "He threw himself in the water."

(60b), with the autonomous marker *-ləx*, and (60c), with the syntactic reflexive *-čūt*, both yield self-directed agentive predicates, as opposed to the non-control reading of the (root) predicate in (60a). However, note that the predicate in (b) is constructed directly from the unaccusative root, while that in (c) is clearly derived from a transitivity form, as evidenced by the presence of the directive transitivity marker *-an*.

A further argument for the lexical status of autonomous-marked reflexives is provided by productivity. *-čūt* reflexivization is productive: any transitivity form may be syntactically reflexivized, subject to semantic plausibility. On the other hand, the medio-reflexive is not fully productive: while there exist many reflexive pairs like (60), there are an even larger number of predicates which simply do not take the autonomous suffix, even when the resulting predicate might appear to be perfectly plausible. This is shown in (61):

(61)	<i>Syntactic reflexive</i>		<i>Medio-reflexive</i>
	<i>ʒuq^w-an-čūt</i>	= "to kill oneself, commit suicide"	* <i>ʒuq^w-ləx</i>
	<i>ma[?]-ən-čūt</i>	= "to blame oneself"	* <i>ma[?]-ilx</i>
	<i>nuk^w?-an-čūt</i>	= "to help oneself"	* <i>nuk^w?-ilx</i>

I conclude that, like active intransitives, medio-reflexives are lexically rather than syntactically derived. Middles, which by hypothesis are ambiguous between active and autonomous intransitives, are *a fortiori* also lexically derived.

6.3. Control intransitives and event structure

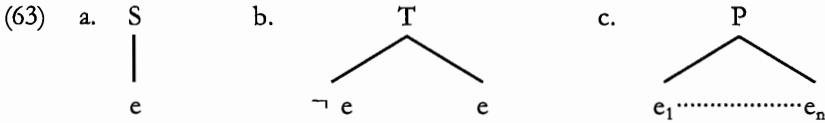
We have now established that neither active intransitives nor medio-reflexives can be derived in the syntax from (directive) transitives. As yet, however, I have provided no clue as to the nature of the lexical process or processes which actually do derive them. In this section, I will show how this can be achieved using the aspectual theory of Davis and Demirdache (1995). (I provide a much-abbreviated version of the theory: see Davis and Demirdache 1995, Demirdache this volume, for more details). It is worth emphasizing that the approach employed here is to a large extent independent of the principle goal of the paper, which is to establish the derived status of control predicates and the underived status of non-control predicates.

Recall that all roots in St'at'imcets come lexically equipped with a single internal argument. The lexical representation for a root will then be as in (62):

- (62) a. \sqrt{kax} "dry" = (dried x) b. \sqrt{tup} "punch" = (punched x)

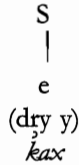
Obviously, this argument may find itself realized differently in different syntactic frames: it corresponds to the single argument of stative and inchoative predicates, the agreement-linked object in directive transitive constructions and the unexpressed (unlinked) patient in derived intransitives. We will assume that it cannot be arbitrarily deleted. This is a commonly accepted recoverability constraint on argument structure operations (see e.g. Marantz 1984).

Next, let us make the assumption that roots must be associated with some event structure in order to be realized as predicates. We adopt an aspectual calculus based on the event-structure representations of Pustejovsky (1991); see also Pustejovsky (1995), van Hout (1996). This calculus builds complex events from a set of primitive aspectual substructures, whose terminal elements are *eventualities* (e). The primitive event types include *S* (a *state* e), *T* (a *change of state* or simple transition from $\neg e$ to e), and *P* (a *process*, consisting of a set of identical eventualities e_1 to e_n). The aspectual substructures associated with each of these event types are given below:

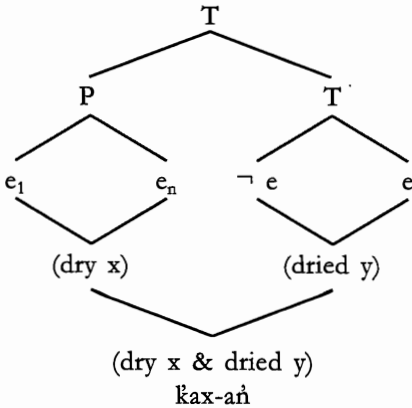


Assume that roots are lexically associated with a single event type. More complex aspectual structures are built recursively by affixation. This means that aspectual affixes (including transitivizers and intransitivizers) are event-type shifters. Thus, suppose the root $\sqrt{k'ax}$ "dry" is lexically associated with S, a state, as in (64a); we can represent the directive, the active intransitive, and the autonomous predicates derived from this root as in (64b-d), respectively:

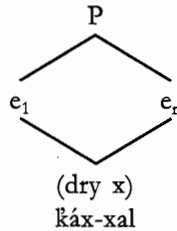
(64) a. *Bare predicate*

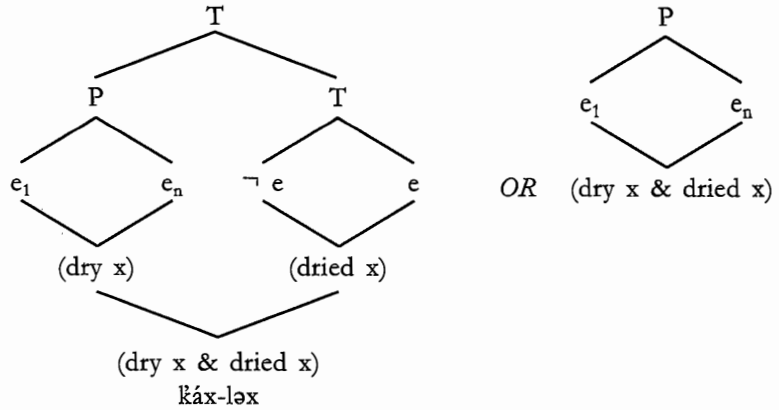


b. *Directive*



c. *Active*



d. *Autonomous*

In all three cases, an initial process subevent is added to the event structure lexically associated with the root. It is this subevent which Davis and Demirdache (1995) claim is responsible for agent control; under this conception, the theta role label *agent* is actually a set of entailments of a predicate with respect to a particular (initial process) event-structure representation.¹⁵ While the presence of an initial process renders all three predicates in (64) agentive, the three obviously differ in their treatment of the original (transition) subevent. When the root is affixed with the directive transitivity (b), the resulting predicate inherits the original transition as its final subevent, yielding a telic predicate. On the other hand, in the active intransitive case (c), the original transition subevent is suppressed;¹⁶ since there is no final subevent, the resulting predicate will be atelic. Note, however, that the original internal argument is undeletable, by hypothesis; it therefore remains aspectually unlinked, but can surface (in the *with-object* construction) as a non-delimiting adjunct predicate. (See de Hoop 1992 for a cross-linguistic analysis of such constructions). Finally, when the autonomous suffix is added, as in (d), a process of lexical reflexivization links the arguments of the two subevents together. The resulting intransitive predicate may be either telic or atelic, depending on whether the final subevent is retained (as in the directive) or suppressed (as in the active). Crucially,

(15) The lexical content of the root is mapped onto the initial process subevent by a process of *predicate cloning*, whose operation is shown formally in (i) for the directive transitivity:

- (i) a. (dried)* = $\lambda e \lambda y$ [dried' (y,e)] c. $\lambda e_1 \lambda e_2 \lambda x \lambda y$ [dry' (x,e₁) & dried' (y, e₂)]
 b. (DIR)* = $\lambda V \lambda e_1 \lambda e_2 \lambda x \lambda y$ [V (x,e₁) & V (y, e₂)]

From (a) and (b), by lambda conversion:

Here e is an event argument, y the internal argument of the predicate "dried", and x the agentive argument introduced by the directive transitivity *DIR*. V is a variable over predicates. Predicate cloning ensures that the lexical content of the root ("dried") will also be the content of the initial process subevent ("dry"): the resulting predicate will thus be a process of drying by x which causes y to become dried.

(16) I assume for concreteness that the active intransitivity simultaneously deletes the final transition subevent and adds an initial process; it is quite possible, however, that the operation can be further decomposed into two separate parts.

however, if the final sub-event is suppressed, the unlinked argument does *not* remain.

The most important consequence of this approach is that all agentive (control) predicates (both transitive and intransitive) must be morphologically derived through the mapping of aspectual substructures onto underlyingly unaccusative predicates. In other words, there are no underlyingly agentive predicates. There is straightforward morphological evidence for this conclusion in St'át'imcets, where, as we have seen, overt in/transitivizing affixes are responsible for introducing agents. On the other hand, the same analysis is far harder to motivate in a morphologically opaque language like English, which seems more amenable to an approach where roots are lexically partitioned into transitive, unaccusative and unergative subclasses, without postulating a derivational relationship between them.

In the next section, I show that in fact St'át'imcets also tolerates a degree of (English-type) morphophonological opacity, in the form of a set of control predicates which show no overt derivational morphology. I argue that in spite of appearances, these "control roots" are derived. I will then point out that exactly the same mechanisms employed to account for opacity in St'át'imcets (essentially, zero morphology) are independently available in English (see Pesetsky 1995, Hale and Keyser this volume). I conclude that the two systems are formally identical; they differ only in the degree of zero morphology employed, an independently known parameter of cross-linguistic variation (Haspelmath 1993).

7. Unaffixed control intransitives and the concealed middle hypothesis

So far, we have seen that there is a one-to-one correspondance between control and derived status in St'át'imcets: all derived intransitives are control predicates; all control predicates are derived. In the last section, we saw how this generalization could be captured in a theory where agency was entailed by a particular (derived) event structure configuration.

However, the generalization itself is put into doubt by the existence in St'át'imcets (and in all Salish languages) of a set unaffixed control intransitives, roughly corresponding to the class of unergatives in English (as pointed out for Halkomelem by Gerdts 1991). There are about 75 unaffixed control intransitives in St'át'imcets, divided into several semantic sub-classes; broadly following the verb classification of Levin (1993), these include predicates involving (a) motion (including inherent direction and manner), (b) communication (including directed communication and manner of communication), (c) perception, (d) transfer of possession, (e) creation or transformation, (f) searching or seeking, (g) social activity/performance, (h) bodily processes. A more or less complete list is given in (65):

(65) (a) *Motion predicates:*

<i>matq</i>	"to walk"	<i>šaq^w</i>	"to fly"
<i>mačx</i>	"to dodge"	<i>nux^w</i>	"to gallop"
<i>?əxič</i>	"to lie down" (L)	<i>xił-il</i>	"to kneel down"

<i>naš</i>	“to go”	<i>x^wúləl</i>	“to run away”
<i>ʔúx^wal^ʔ</i>	“to go home”	<i>mim^x</i>	“to move house”
<i>k^wúč^a</i>	“to go down to the shore”	<i>qayt</i>	“to get to the summit”
<i>ʔuʔx^w</i>	“to go inside”	<i>ʔúl.luš</i>	“to get together, meet”
<i>ʔiʔwaʔ</i>	“to accompany”	<i>mič^aʔq</i>	“to sit down”
<i>q^ʔitil</i>	“to run”	<i>šiq^wúta</i>	“to dance (Indian style)”
<i>zəq-il</i>	“to crawl”	<i>məq^ʔil-ən</i>	“to walk over s.o.’s legs”
<i>ʔáq^wut</i>	“to bend over”	<i>n-š-xim</i>	“to sneak into a woman’s house”
<i>šúx^wašt</i>	“to come down a hill”	<i>q^wəč.áč</i>	“to leave”
<i>šix</i>	“to move house”	<i>n-čitəm</i>	“to go in a particular direction”
<i>k^ʔwult</i>	“to come down a hill diagonally”	<i>wúq^wil</i>	“to go downstream in a canoe”
<i>n-zánəm</i>	“to go around in circles”	<i>ʔúmik</i>	“to go downstream”
(b) <i>Communication predicates:</i>			
<i>wəʔánw</i>	“to shout”	<i>x^wú.x^wəñ</i>	“to sigh”
<i>x^witən</i>	“to whistle	<i>čut</i>	“to say “
<i>ká.kəzaʔ</i>	“to lie”	<i>zəwin^ʔ</i>	“to talk to the water”
<i>ptak^wʔ</i>	“to tell a legend”	<i>ʔinw-at</i>	“to say what ?”
<i>ʔilal</i>	“to cry”	<i>qáʔxn</i>	“to holler”
<i>q^wal-út</i>	“to speak”	<i>š-q^wə.q^wəl</i>	“to tell a story”
<i>ʔámaš</i>	“to guess”		
(c) <i>Perception predicates:</i>			
<i>paq^w</i>	“to have a look”	<i>qaním</i>	“to hear”
<i>q^waxt</i>	“to notice”	<i>záqil</i>	“to peek”
<i>kálán^ʔ</i>	“to listen”		
(d) <i>Transfer of possession predicates:</i>			
<i>naq^w</i>	“to steal”	<i>ʔaz^ʔ</i>	“to buy”
<i>k^wúʔən</i>	“to borrow”	<i>təx^wp</i>	“to buy”
<i>xáq^ʔ</i>	“to pay”		
(e) <i>Predicates of creation and transformation:</i>			
<i>k^wuk^w</i>	“to cook”	<i>qtaš</i>	“to pit-cook”
<i>may-t</i>	“to fix”	<i>ʔilax^w</i>	“to soak salted salmon”
(f) <i>Seeking and searching predicates:</i>			
<i>ʔúš-tək</i>	“to catch fish with a dipnet”	<i>ʔiʔwəš</i>	“to fish with a rod”

(g) *Predicates of social activity:*

<i>ʔalkšt</i>	“to work”(U)	<i>šáy'šəx'</i>	“to play”
<i>payt</i>	“to fight”(L)	<i>ʔniq^w-t</i>	“to fight”(U)
<i>yax</i>	“to get dressed”(U)	<i>x^wúzaʔ</i>	“to get dressed”(L)
<i>zám.əm</i>	“to rest”	<i>š-ʔá.ʔəx'</i>	“to quarrel” (U)

(h) *Bodily process predicates:*

<i>ʔiʔən</i>	“to eat”(U)	<i>ʔúq^waʔ</i>	“to drink”
<i>q̣aʔ</i>	“to eat”(L)	<i>x^wic̣</i>	“to defecate”
<i>ʔəxən</i>	“to cough something out”	<i>k^wúsaʔ</i>	“to urinate”
<i>ptix^w-ən</i>	“to spit”	<i>ʔəx^wʔún</i>	“to cough”

(Note that a few of these forms are suffixed; however, none of the suffixes are intransitivizers, or have any argument-structure effects).

Clearly, if we accept the non-derived status of these forms at face value, we must acknowledge the existence of agentive (unergative) roots in addition to the non-agentive (unaccusative) roots introduced in section 4 above. On the other hand, if we can show that control “roots” in Salish are actually derived, then we have a potential argument in support of the universally derived status of control predicates, including unergatives.

There are several initial reasons to be suspicious of the primitive status of “control roots” in St'át'imcets. First of all, there is a huge disparity between the relative size of the two root-classes: as already mentioned, there are only around 75 control roots, but upwards of 2,000 non-control roots. Second, while we have seen three suffixes which create control intransitives from non-control roots, there are *no* comparable affixes which convert control roots into non-control derived intransitives: this suggests an asymmetrical derivational relationship between the two classes. Third, most control roots fail to conform to the canonical CVC Salish root-shape. This is shown in Table 7 below:

Table 7

Percentages of root-shapes for all roots (1) and for control roots (2):

	CVC	CVCC	CCVC	CVCVC	RESIDUE
1. all roots	65%	18%	5%	5%	7%
2. control roots	29%	15%	3%	37%	16%

The figures in the top row (1) are taken from van Eijk's (1985) overall estimate of root shapes in St'át'imcets; those in row (2) are based on all the control roots I have been able to identify in St'át'imcets. Notice that the percentage of CVC control roots is less than half of that of the overall CVC percentage; in contrast, the figures

for CVCVC constitute a far larger percentage of control roots than of roots in general. In fact, there is a strong general tendency for control roots to be “bigger” than non-control roots, as is obvious from the larger percentages on the right-hand side of row (2). This is directly connected to another important property of control roots: they contain a very high proportion of frozen affixal material, either in the shape of formatives that no longer have any clear grammatical function, or morphological operations that are used productively with non-control roots but have fused with roots in control cases. Examples of the former type include *-il*, *-aʔ*, *-ut*, *-təʔ* and *-əʔ*, all of which are simply designated as “formatives” by van Eijk (1985). Examples of the latter include all three main types of reduplication, inchoative suffixation/infixation, and lexical suffixation. In fact, fully 70% of all control roots contain some detectable affixal residue. This accounts for the high proportion of multisyllabic control roots (37%) compared to the overall proportion of multisyllabic roots (5%).

All of these reasons lead us to be suspicious of the underived status of the “roots” in (65). If, on the other hand, unaffixed control intransitives are actually derived, then their eccentric behaviour is to be expected. Their only exceptional property lies in the morphophonological opacity and/or invisibility of the affixes which derive them.

In the following sections, I give a particular explanation for this opacity: namely, that unaffixed control intransitives are actually concealed middles. We have already seen (in section 4.4) that middle marking is optional or absent with certain predicates containing lexical suffixes. It is then a short step to the claim that the control intransitives in (65) are also zero-marked middles. I further justify this claim by showing, first of all, that control intransitives display certain properties shared by all overtly derived intransitives. These include (a) incompatibility with certain aspectual markers, notably the inchoative; (b) interpretative differences associated with “out of control” marking; and (c) choice of desiderative suffix. Second, I will show that control intransitives, just like overt middles, may be partitioned into implied-object and medio-reflexive sub-classes, each with a distinctive set of properties, as described in sections 5.1-5.4 above. Finally, I give morphological evidence for the concealed middle hypothesis, based on forms that show alternations between an overt and a zero realization of the middle marker.

7.1. Properties shared by overtly and covertly derived intransitives

(a) Inchoatives. The inchoative marker denotes a non-instantaneous change of state. It attaches only to an aspectually appropriate subset of non-derived roots (i.e., those whose lexical content is compatible with a change-of-state reading; for discussion of the semantic underpinnings of this compatibility, see Haspelmath 1993, Levin and Rappaport-Hovav 1995). Some examples are given in (66). (The inchoative morpheme surfaces as a suffixed *-p* with ‘weak’ roots containing schwa, as in (66a), but as an infixal glottal stop with ‘strong’ roots containing a full vowel, as in (66b)).

- (66) a. ʕəč-p = "to get tied up" b. ʕi-ʔ-p = "to grow"
 čəš-p = "to get stretched" nu-ʔ-q^w = "to warm up"
 ləs-p = "to get caved in" za-ʔ-x^w = "to melt"

The inchoative is generally incompatible with agent control: where a change of state is imputed to an agent, either the autonomous suffix or the active intransitive suffix is used, depending on whether the event is medio-reflexive or implies an object. This yields contrasts like the following:

- (67) a. ča-ʔ-ʔ = "to cool off" čát-ləx = "to cool oneself off"
 b. ʔəʕw-p = "to bounce" ʔəʕw-ilx = "to jump"
 c. kəʔ-p = "to come off" kəʔ-ilx = "to quit"
- (68) a. xəm-p = "to dry out" xəm-xál = "to dry out (stuff)"
 b. ʕwəl-p = "to burn" ʕwəl-xál = "to burn (stuff)"
 c. ʕi-ʔ-p = "to grow" ʕip-xal = "to grow, raise (stuff)"

It follows under the present analysis that if the autonomous and the active markers are in complementary distribution with the inchoative, so will the middle marker be, since it either has an implied-object or a medio-reflexive interpretation. This is indeed the case, as can be seen in (69), where forms with lexical suffixes either appear with an inchoative marker (in non-control derivations) or a middle suffix (in control derivations):

- (69) a. ké-ʔ-l-uš = "to get hurt, embarrassed" (-uš = "face")
 kíl-uš-əm = "to do something shameful"
 b. n-ləs-p-ánaʔ = "to get entombed, caved in on" (-ánaʔ = "ear")
 n-ləs-ánʔ-am = "to entomb someone"
 c. ʕwəl-p-álq^w = "logs get burned" (-álq^w = "log")
 $\text{ʕwəl-álq}^w-əm$ = "to burn logs"

Now, under the concealed middle hypothesis, we expect unsuffixed control intransitives to be also incompatible with inchoative marking. This appears to be overwhelmingly true; there are only four apparent exceptions, shown in (70):

- (70) a. wə-ʔ-áw "to shout" b. təx^w-p "to buy"
 c. ʔi-ʔ-wəš "to fish with a rod" d. ʔi-ʔ-waʔ "to accompany"

In fact, these potential counter-examples to the generalization actually confirm it, since in all four cases the inchoative marker has fused with the root. This can be demonstrated by transitivizing the roots; whereas in general inchoative marking is incompatible with the directive and indirective transitivizers, as shown in (71), it remains present with the roots in (70), as shown in (72).

- (71) a. ʕwəl-p "to burn" (inchoative)
 b. $\text{ʕwəl}(*-p)-ən$ "to burn (something)" (directive)
 c. $\text{ʕwəl}(*-p)-xít$ "to burn (something for someone)" (indirective)

- (72) a. *wə-ʔ-áw-ən* “to shout at someone” (directive)
 b. *təx^w-p-xít* “to buy something for someone” (indirective)

(b) Out of control. Next, I will briefly examine the behaviour of the “out-of-control” clitic combination, *ka...a* which is discussed in detail in Demirdache (this volume). The interpretation of *ka...a* depends on the predicate to which it attaches. With non-control intransitives it has a strictly aspectual interpretation, meaning “suddenly, all at once”, as shown in (73):

- (73) a. *ləp* *n=š=ka=ʔát=a*
 suddenly 1SG.POS=NOM=OOC=stop=OOC
 “Suddenly I stopped (unexpectedly).”
 b. *ka=k^wíš=a* *tí=kəʔáʔb=a*
 OOC=fall=OOC DET=rock=EXI
 “The rock fell.”

With active intransitives, on the other hand, it means “to be able to”, as illustrated in (74):

- (74) a. *ka=ləp-xat=ʔkán=a* b. *ka=tix-xat=ʔkán=a*
 OOC=plant-ACT=1SG.SUB=OOC OOC=set table-ACT=1SG.SUB=OOC
 “I was able to plant.” “I was able to set the table.”

With autonomous-marked predicates, the abilitative interpretation also obtains:

- (75) a. *ka=ləʔw-ílx=kan=a* b. *ka=tix-ləx=kán=a*
 OOC=hide-AUT=SG.SUB=OOC OOC=set-table-AUT=1SG.SUB=OOC
 “I was able to hide.” “I was able to sit at the table.”

The prediction of the concealed middle hypothesis is that all middles and all unsuffixed control intransitives will show the abilitative rather than the simple aspectual reading. This prediction is borne out.

(76) *Implied-object middles:*

- ka=ʔaʔx-əm=ʔkán=a* b. *ka=ləʔw-ím=ʔkan=a*
 OOC=see-MID=1SG.SUB=OOC OOC=hide-MID=1SG.SUB=OOC
 “I was able to see.” “I was able to hide (stuff).”

(77) *Medio-Reflexive middles:*

- ka=šax^w-əm=ʔkán=a* b. *ka=xáʔ-əm=ʔkán=a*
 OOC=bathe-MID=1SG.SUB=OOC OOC=go.uphill-MID=1SG.SUB=OOC
 “I was able to bathe.” “I was able to go uphill.”

(78) *Implied-object unsuffixed control intransitives:*

- ka=náq^w=kan=a* b. *ka=k^wík^w=ʔkan=a*
 OOC=steal=1SG.SUB=OOC OOC=cook=1SG.SUB=OOC
 “I was able to steal.” “I was able to cook.”

(79) *Medio-reflexive unsuffixed control intransitives:**ka=mičaʔq=kán=a*

OOC=sit.down=1SG.SUB=OOC

“I was able to sit down.”

b. *ka=šux^wašt=kán=a*

OOC=go.downhill=1SG.SUB=OOC

“I was able to go down hill.”

(c) Desideratives. The two desiderative markers *-álmən* and *-álmən* are found only in intransitives and attach outside all other derivational affixes. *-álmən* means “want to”, *-álmən* means “almost”.¹⁷

Only *-álmən* is found with overtly derived intransitives, including active (80a), autonomous (80b), and middle (80c-d) predicates:

- (80) a. *nas-xal-álmən/*-álmən* = “to want to bring things”
 b. *taʔ-ləx-álmən/*-álmən* = “to want to stand up”
 c. *xáʔ-əm-álmən/*-álmən* = “to want to go up hill”
 d. *ʔiʔ-əm-álmən/*-álmən* = “to want to sing”

Both desiderative forms are found with unsuffixed intransitives. However, their distribution is not free: control intransitives (of both the implied-object type, as in (81a), and the medio-reflexive type, as in (81b)) select only *-álmən*, whereas non-control intransitives (82) take only *-álmən*.

- (81) a. *k^wúk^w-álmən/*-álmən* = “to want to cook”
 b. *ʔux^wal-álmən/*-álmən* = “to want to go home”
- (82) a. *čix^w*-álmən/-álmən* = “to almost get there”
 b. *čə́k*-álmən/-álmən* = “to be almost all gone”

If the control intransitives in (81) are concealed middles, then they are expected to behave in a parallel fashion to the suffixed intransitives in (80), and to contrast with the non-control intransitives in (82). This is exactly what we find.

7.2. Subtypes of concealed middles

So far, I have established that unsuffixed control intransitives share a number of properties with their suffixed counterparts, in opposition to non-control intransitives. However, it could be argued that these tests simply divide predicates along the semantic dimension of agent control, without in any way establishing the morphologically derived status of the unsuffixed control forms. In this section, I will show that the concealed middle hypothesis makes a further set of predictions which cannot be reduced in this way to the semantics of control, since they are based on a precise morphological parallel between overt and concealed middles. This parallel stems from the fact that overt middles fall into implied-object (active-type) and

(17) The reason that I refer to both these forms as “desiderative” even though the second has completely lost its desiderative force is because both are diachronically related to a single Proto-Salish desiderative morpheme, reflexes of which are attested in many Salish languages, including Halkomelem (Gerdtts 1991) and *Nʔeʔkepmxčir* (Howett 1993).

medio-reflexive (autonomous-type) subclasses, as shown in section 5.3. If unsuffixed control intransitives are zero-marked middles, then they should show the same type of ambivalent behaviour. I show that this is indeed the case.

Recall the diagnostic properties of the active and autonomous intransitivizers, summarized in Table 5, which is repeated below:

Table 5
Diagnostic properties of active and autonomous intransitivizers

	interpretation	allow overt-object	aspect	s-prefixation	allow lexical suffix
active (-xal)	implied object	yes	atelic	nominal	yes
autonomous (-lax)	medio-reflexive	no	undefined	stative/*	no

The prediction is that we should be able to distinguish between active-type and autonomous-type unsuffixed control intransitives on the basis of the criteria above, just as we can distinguish between active and autonomous middles.¹⁸ Let us turn to the active subtype first. The first diagnostic property of actives is their ability to participate in the *with-object* construction. The following control intransitives from the list in (65) may take an overt object DP:

(83) *With-object unsuffixed intransitives:*

- | | | | |
|--------------------|----------------------|----------------------|-------------------------------|
| a. <i>ʔiʔwaʔ</i> | “to accompany” | | |
| b. <i>čut</i> | “to say “ | <i>wəʔáw</i> | “to shout” |
| <i>ptakwʔ</i> | “to tell a legend” | <i>ʔinw-at</i> | “to say what?” |
| <i>qáʔxn</i> | “to holler” | <i>ʔámasʔ</i> | “to guess” |
| <i>qʷal-út</i> | “to speak” | <i>š-qʷə́.qʷəlʔ</i> | “to tell a story” |
| c. <i>paqʷ</i> | “to have a look” | <i>zəqil</i> | “to peek” |
| <i>qanim</i> | “to hear” | <i>kalánʔ</i> | “to listen” |
| <i>qʷaxt</i> | “to notice” | | |
| d. <i>naqʷ</i> | “to steal” | <i>kəwítəŋ</i> | “to borrow” |
| <i>ʔaxʔ</i> | “to buy” | <i>təxʷp</i> | “to buy” |
| <i>xəqʔ</i> | “to pay” | | |
| e. <i>kəwukəw</i> | “to cook (things)” | <i>may-t</i> | “to fix, build, create” |
| <i>ʔilaxʷ</i> | “to soak (things)” | <i>qtaš</i> | “to pit-cook” |
| f. <i>ʔiʔwəš</i> | “to fish with a rod” | <i>ʔúš-tək</i> | “to catch fish with a dipnet” |
| g. <i>šáyʔšəzʔ</i> | “to play” | <i>ʔniqʷ-ti/payʔ</i> | to fight”(U/L) |

(18) The third possible type of control intransitive, which is equivalent to predicates with a lexical suffix plus a zero middle marker (see section 4.4), yields a medio-reflexive interpretation parallel to that of autonomous-type intransitives; for the purposes of the present discussion, we will treat it as a subtype of the autonomous-type middle.

h. <i>ʔiʔən/qaʔ</i>	“to eat”(U/L)	<i>ʔuqwaʔ</i>	“to drink”
<i>phix^w-ən</i>	“to spit”	<i>ke^wisaʔ</i>	“to urinate”
<i>x^wiʔ</i>	“to defecate”	<i>ʔəxən</i>	“to cough something out”

Examples are given below (with the unlicensed object in italics):

- (84) a. *ʔuqwaʔ* *ta=nkyáp=a* *ta=q^wuʔ=a*
 drink DET=coyote=EXI DET=water=EXI
 “The coyote drank the water.”
- b. *ʔačən-íumuʔ=kan* *ʔi=wáʔ=alap* *šy'šəx' ke^wu=bingo*
 see-DIR-2PL.OBJ=1SG.SUB when (PAST)=PRG=2PL.CNJ play DET=bingo
 “I saw you guys when you were playing bingo.”
- c. *niʔ=ke^wuʔ=š^uʔ* *š=čut=š* *ʔi=ʔux^walmix^w=a*
 then=QUO=so NOM1=say=3SG.POS PL.DET=person=EXI
 “So he told the people...”
 (van Eijk & Williams 1981: 45)

There is a correspondance between the various semantic subclasses of control intransitive and their ability to take an overt object. Subclass (a) (motion) predicates are generally incompatible with an object —as we would expect if these predicates are basically medio-reflexive. (The one exception is *ʔiʔwaʔ* “to accompany”). On the other hand, subclasses (c-h), comprising perception predicates, predicates of transfer, creation or transformation, searching/seeking, social activity, and bodily process, are all compatible with an object.

We next turn to a related property of active intransitives: the nominal interpretation associated with *š*-prefixation (see section 5.1 above). Given the concealed middle hypothesis, we expect the control intransitives which take an overt object to yield a nominal interpretation under *š*-prefixation. This is indeed the case, as shown by the examples in (85):

- (85) *š-čut* = “something said” (NOT “saying”)
š-ke^wuk^w = “something cooked” (NOT “cooked”)
š-naq^w = “something stolen” (NOT “stolen”)

On the other hand, control intransitives which do not take an object yield either a stative interpretation or are ungrammatical with *š*-prefixation, again as expected:

- (86) *š-mičaʔq* = “sitting” **š-ʔux^wal* = “(going) home”
š-ʔuʔx^w = “(being) inside” **š-matq* = “walking”

Finally, recall that active intransitives, unlike autonomous intransitives, are possible with a lexical suffix. This predicts that implied-object but not medio-

reflexive control intransitives should co-occur with a lexical suffix. This prediction is also borne out; out of the predicates in (65), the following take a lexical suffix, and all are implied-object predicates:

(87)	<i>qañim</i>	= "to hear"	<i>qañim-xən</i>	= "to hear footsteps"
	<i>kałán</i>	= "to listen"	<i>n-kałán-ač</i>	= "to listen without speaking"
	<i>naq^w</i>	= "to steal"	<i>naq^w-awł</i>	= "to steal a ride"
	<i>ke^wıtən</i>	= "to borrow"	<i>ke^wıtən-inak</i>	= "to borrow a gun"
	<i>ɣaz'</i>	= "to buy"	<i>ɣaz'-q</i>	= "to buy shoes"
	<i>təx^wp</i>	= "to buy"	<i>təx^wp-alıca?</i>	= "to buy clothes"
	<i>xaq</i>	= "to pay"	<i>xaq-awıł</i>	= "to pay for transport"
	<i>čut</i>	= "to say "	<i>čut-ánwaš</i>	= "to think, feel"
	<i>may-t</i>	= "to build"	<i>may-š-alč</i>	= "to build a house"
	<i>čniq^w-t</i>	= "to fight" (U)	<i>čniq^w-t-č(-am)</i>	= "to quarrel, bicker"

Putting together the evidence we have examined from the various diagnostics for classifying derived intransitives, we can now identify the following control intransitives as "active-type" (implied-object) concealed middles:

(88)	<i>wəɣáv</i>	"to shout"	<i>čut</i>	"to say "
	<i>q^wal-ıt</i>	"to speak"	<i>ka.kəza?</i>	"to lie"
	<i>łámasš</i>	"to guess"	<i>paq^w</i>	"to have a look"
	<i>zúqıl</i>	"to peek"	<i>qañim</i>	"to hear"
	<i>kałán</i>	"to listen"	<i>naq^w</i>	"to steal"
	<i>ke^wıtən</i>	"to borrow"	<i>ɣaz'</i>	"to buy"
	<i>təx^wp</i>	"to buy"	<i>xaq</i>	"to buy"
	<i>ke^wuk^w</i>	"to cook" (things)	<i>ɣilax^w</i>	"to soak" (things)
	<i>may-t</i>	"to fix, build, create"	<i>šáy'šəz'</i>	"to play"
	<i>čniq^w-t</i>	"to fight, argue"(U)	<i>pəyt</i>	"to fight"(L)
	<i>ɣiɣwəš</i>	"to fish with a rod"	<i>ɣúš-tək</i>	"to catch fish with a dipnet"
	<i>ɣiłən/qa?</i>	"to eat"(U/L)	<i>ɣúq^wa?</i>	"to drink"
	<i>pıx^w-ən</i>	"to spit"	<i>ke^wısa?</i>	"to urinate"
	<i>ɣəxən</i>	"to cough something out"	<i>ɣiɣwa?</i>	"to accompany"

Conversely, the following control intransitives have a medio-reflexive interpretation:

(89)	<i>matq</i>	"to walk"	<i>ša^wq^w</i>	"to fly"
	<i>mačx</i>	"to dodge"	<i>nux^w</i>	"to gallop"
	<i>ɣəxıč</i>	"to lie down" (L)	<i>xıł-il</i>	"to kneel down"
	<i>naš</i>	"to go"	<i>x^wıłəl</i>	"to run away"
	<i>ɣúx^wal</i>	"to go home"	<i>mimx</i>	"to move house"
	<i>ke^wıca</i>	"to go down to the shore"	<i>qəyt</i>	"to get to the summit"
	<i>ɣułx^w</i>	"to go inside"	<i>ɣıl.luš</i>	"to get together, meet"

<i>mičaʔq</i>	“to sit down”	<i>qʔil</i>	“to run”
<i>šiqʷúta</i>	“to dance (Indian style)”	<i>zəq-il</i>	“to crawl”
<i>ʔáqʷut</i>	“to bend over”	<i>məqil-əm</i>	“to walk over s.o.’s legs”
<i>qʷəč.áč</i>	“to leave”	<i>n-š-xim</i>	“to sneak into a woman’s house”
<i>šuxʷašt</i>	“to come down a hill”	<i>ʔúmik</i>	“to go downstream”
<i>šix</i>	“to move house”	<i>n-čítəm</i>	“to go in a particular direction”
<i>kʷult</i>	“to come down a hill diagonally”	<i>wúqʷil</i>	“to go downstream in a canoe”
<i>n-zánəm</i>	“to go around in circles”	<i>záməm</i>	“to rest”
<i>ʔalkšt</i>	“to work”(U)	<i>ʔilal</i>	“to cry”
<i>yax</i>	“to get dressed”(U)	<i>xʷúzaʔ</i>	“to get dressed”(L)
<i>ʔəxʷʔún</i>	“to cough”	<i>š-ʔá.ʔəʔ</i>	“to quarrel”(U)
<i>xʷú.xʷən</i>	“to sigh”		

As pointed out in footnote (18), (89) contains two subtypes: those which are equivalent to autonomous-marked predicates, and those which are equivalent to predicates containing a lexical suffix plus the middle marker. It is not easy to differentiate these cases, since they yield similar interpretations; however, three of the forms above appear to contain frozen variants of lexical suffixes, indicating that they are of the latter type:

- (90) *mat-q* “to walk” (lex.suff. = *-q*, “behind, bottom”)
mičaʔ-q “to sit down” (lex.suff. = *-q*, “behind, bottom”)
ʔal-kšt “to work”(U) (lex.suff. = *-kšt*, “hand”)

Further evidence for the concealed middle hypothesis is provided by three types of morphological alternation. First there are a few predicates where a suffixed form is in free variation with a functionally and formally identical unsuffixed form. Examples are given below:

- (91) a. *qʷum* ~ *qʷúm-ləx* “to shrivel”
 b. *qʔil* ~ *qʔil-ləx* “to heal”
 c. *ʔúl.luš* ~ *ʔúl.luš-ilx* “to gather, meet”
 d. *ʔúmik* ~ *ʔumik-əm* “to go upstream”

Second, there are cases which involve synonymy or near-synonymy between two separate roots, which have different affixation possibilities. Some of these cases arise from dialect variation as in (92b, c); others occur in both dialects:

- | | | | |
|---------|-----------------------|-----------------|---|
| | <i>Suffixed form:</i> | | <i>Unsuffixed form</i> |
| (92) a. | <i>čáqʷ-xal</i> | “to eat“(intr.) | <i>ʔʔən/čáʔ</i> “to eat“(intr.) (U/L) ¹⁹ |

(19) Van Eijk (1987) notes that “The consultants from whom I recorded *čáqʷ-xal* translate it as “to eat some of it.” By contrast, *čáʔ* and *ʔʔən* are activity-oriented and refer exclusively to the action of eating.” In spite of this meaning difference, however, both commonly take a with-object and otherwise behave alike syntactically. I therefore assume here that the difference is not related to argument structure.

b.	<i>kéwz-úš-əm</i>	“to work” (L)	<i>ʔáikšt</i>	“to work” (U)
c.	<i>kíč-ləx</i>	“to lie down” (U)	<i>ʔəxič</i>	“to lie down” (L)
d.	<i>zám-ləx</i>	“to go around” (intr.)	<i>n-zánəm</i>	“to go around” (intr.)
e.	<i>ʕaw-ílx</i>	“to gather, meet”	<i>ʔúł.łúš</i>	“to gather, meet”
f.	<i>mát-am/-ləx</i>	“to rest”	<i>zám.əm</i>	“to rest”

A third morphological indication that middles and unsuffixed control intransitives are closely related involves cases where middle forms are reanalyzed as unsuffixed; in other words, the *-Vm*(') ending becomes part of the root. This tendency is responsible for the idiosyncratic (non-compositional) meanings of the middle in (93) below, and for cases where other suffixes which are normally in complementary distribution with the middle end up suffixed to it instead, as shown in (94):

- (93) a. *xáʔ* “difficult (task); to have difficulty (person)”
 b. *xáʔ-əm* “to go up hill”
- (94) a. *ʔiʔ-əm* “to sing”
 b. *ʔiʔ-xit* ~ *ʔiʔəm-xit* “to sing for someone”

The forms in (94) are particularly interesting, in that they show an intermediate stage of reanalysis. The applicative transitivizer *-xit* is normally in complementary distribution with all intransitivizers; the two forms in (94b) are consistent with this generalization, if the root is construed as optionally including the (reanalyzed) middle suffix.

All this evidence points in one direction: control intransitives are zero-marked middles.

8. Implications

I have now provided considerable evidence from St’át’imcets for the principle claims of this paper, repeated below:

- (I) All predicates are based on roots which are lexically associated with a single, internal argument.
- (II) All transitive and all unergative predicates are derived by morphosyntactic operations, which may be phonologically null.

In this final section I address the implications of this analysis in more general terms, concentrating on two issues; first, the status of zero morphology; second, potential explanations for why languages should consistently display a near-identical set of zero-derived intransitives (e.g., “control roots”, “unergatives”).

8.1. Zero morphology

Under the analysis proposed here, non-control roots are uniformly unaccusative; moreover, they are the only type of non-derived predicate in St’át’imcets, and by

hypothesis, universally. This implications for lexical representation: to put it simply, aside from categorial status (N vs. V) there is no need to specify argument structure at all.

There is considerable conceptual advantage to a model of the lexicon which minimizes the role of idiosyncratic information in individual lexical entries. Nevertheless, it might be objected that the one presented here simply shifts the burden of idiosyncrasy onto the morphological component, and more particularly onto the role of zero morphology. Clearly, if zero-derivation is unconstrained, then such criticisms are well-founded, since an invisible morpheme can be conjured up every time overt evidence is lacking for a desired derivation. The situation, indeed, is much the same as in syntax, where empty categories must be constrained if their use is not to lead to vacuity.

One important constraint on zero-derivation has become known as *Myers' Generalization* (Myers 1984):

(95) *Zero-derived words do not permit the affixation of further derivational morphemes.*

Pesetsky (1995) uses Myers' Generalization to account for, amongst other phenomena, the lack of 'causative' nominalizations with psych-predicates like 'annoy' or 'amuse'. According to his analysis, these are complex forms consisting of bound roots affixed with a zero causative morpheme. Thus, 'annoyance' means 'the state of being annoyed' not 'the activity of annoying', 'amusement' means 'the state of being amused', not 'the activity of amusing' and so on. This follows if the nominalizations may only be based on the underlying non-causative bound roots $\sqrt{\text{annoy}}$, $\sqrt{\text{amuse}}$, rather than their zero-derived causative counterparts 'cause to be annoyed', 'cause to be amused'.

Myers' generalization, however, is counter-exemplified by nominalization in St'át'ímcets. Recall the distinction between š-prefixing implied-object and unaccusative predicates (the former derived by zero middle-marking):

(96)	<i>Implied object</i>		<i>Unaccusative</i>
	š-čut	= "something said"	š-məč = "written"
	š-kəwuk ^w	= "something cooked"	š-puŋ = "boiled"
	š-naq ^w	= "something stolen"	š-tix = "set (of table)"
	š-ʔúq ^w a?	= "something drunk"	š-čəq = "put down (with opening up)"

š-prefixation of the implied object predicates on the left yields a nominal interpretation, in contrast to the resulting state interpretation of the unaccusative predicates on the right. However, by hypothesis, both sets of predicate are based on unaccusative roots; the difference is that the implied object predicates contain a Ø middle marker, which must be present prior to š-prefixation in order to yield the difference in interpretation. Since the nominalizing š-prefix is clearly derivational (amongst other things, it is category-changing), Myers' generalization as a general restriction on zero-derivation must be false.

However, a relativized version of the generalization (due to Pesetsky 1995, building on work by Fabb 1988) does not run into these problems. Pesetsky terms his version *Morphological Opacity*:

- (97) a. A suffix β may attach to a form headed by a suffix α only if α is opaque to β .
 b. Suffix α is opaque to suffix β iff α satisfies the opacity index of β .
 c. The opacity index of a morpheme b is:
- i. an identifying mark or variable over identifying marks (e.g. [+linate] or a wildcard [*])
 - ii. a syntactic feature (e.g. N, V, A)

The basic idea behind this approach is that, in general, derivational affixes resist attaching to derived forms, but this resistance can be overcome when certain (α) affixes are supplied with features ("opacity indexes") which allow them to conceal their derivational history from certain other (β) affixes. Forms affixed with α will then act as non-derived for the purposes of affixation by β . Opacity indexes are of two types: (i) contains morphophonological features, whilst (ii) contains syntactic features. Importantly, \emptyset -derivational affixes are *never* treated as having a type (i) opacity index (logically enough, since they are by definition morphophonologically empty) but they may have a type (ii) index.

Now, notice that the nominalizing \check{s} -prefix in St'ar'imcets is category-changing (by definition). This means that the zero-middle marker to which it attaches must have an identifying categorial feature: [+V], to be precise. But then, this feature can serve as a type (ii) opacity index, and we expect the middle-marker to be morphologically opaque—which it is, since further affixation (\check{s} -prefixation) is permitted.

Next, compare nominalizing \check{s} -prefixation to stative \check{s} -prefixation, illustrated with non-derived (unaccusative) roots on the right-hand side of (96). Unlike the nominalizer, the stative prefix makes no reference to the category of the root to which it attaches. By hypothesis, then, it cannot refer to a type (ii) opacity index. This means that the zero middle-marker is not opaque to the stative prefix, which means that it should resist stative \check{s} -prefixation. This is indeed the case: the \check{s} -prefixed unergatives (i.e., zero-derived middles) on the left of (96) have only a nominalized and not a resulting state interpretation.²⁰

Stepping back from Pesetsky's specific proposal, we can begin to see the outlines of a general theory of zero-morphology. Zero-morphemes differ from overt morphemes in that while the latter may be licensed by either morphophonological or syntactic features, zero-morphology must be licensed by syntactic features. There is an obvious link between the behaviour of zero-derivation as outlined here and commonly proposed constraints on zero-inflection. Zero-inflection is usually proposed when syntactic considerations force its existence: these considerations include systematic gaps in ϕ -feature specifications, as in person and number paradigms, as well as universal conditions on the realization of functional morphemes

(20) A problem for this analysis is the existence of medio-reflexive zero-marked middles which do permit stative \check{s} -prefixation, contrary to the predictions of Morphological Opacity. Examples are given in (i):

(i) *šmičaʔq* = "sitting" *šʔaxič* = "lying down" (L)

I offer no solution to this problem, except to note that the predicates which show this behaviour all have locative semantics. Locatives in St'ar'imcets have a number of properties which suggest they merit a more extensive investigation, but one which is beyond the scope of this paper.

such as tense, mood, and aspect (Déchaine 1993). In all of these cases, zero-inflection is licensed by syntactic features, just as Pesetsky has proposed for zero-derivation. An important question remains as to exactly which syntactic features are relevant for different levels of the grammar: in a model such as that of Hale and Keyser (1993, this volume), for example, only (lexical) categorial features are available in the derivational component (l-syntax) while functional heads and ϕ -features are introduced in the inflectional component (s-syntax). Whether this division can be maintained remains an open question.

8.2. Lexicalization and the unaccusative-unergative distinction

Finally, let us return once again to the distinction between 'non-control' and 'control' roots. I have argued at length that control roots do not really exist; contrary to appearances, they are zero-derived versions of overtly suffixed intransitives. I have, however, left unanswered the question as to why a particular, relatively small set (about 75) of intransitive predicates should be zero-derived, and not a random subset of roots. Moreover, why should the same 75 intransitives get zero-derived more generally across the Salish family? And why should these 75 in large part overlap with the class of unergative predicates identified cross-linguistically?

The answer lies in the process of lexicalization whereby a particular morphosyntactic substructure receives a separate morphophonological shape.²¹ Clearly, not all forms made available by the morphosyntax are realized phonologically. Roots may be bound, for example, which is another way of saying that they cannot be associated with an independent phonetic matrix. The same is true —by definition— for affixes. A particular pattern of association and non-association between the morphosyntax and the morphophonology is what of course defines the lexicon of a given language.

Now, let us assume that lexicalization is sensitive not only to morphological structure, but also to patterns of language use, that is, real-world knowledge and pragmatic utility. Outputs of the morphosyntactic component will get an independent morphophonological shape only if they are of 'communicative value', through frequency of usage and/or cognitive saliency. I have kept these notions deliberately vague, in order to allow a certain degree of cross-linguistic variation, since languages may differ as to which morphosyntactic representations they choose to lexicalize. For example, it is hard for English speakers to conceive of unaccusative versions of predicates like "punch", or "cut someone's throat". Yet they do surface in St'át'imcets:

- (97) $\sqrt{kətx}^w$ = "(get) severed" $kətx^w-úš$ = "to get one's throat cut"
 $\sqrt{tʰp}$ = "(get) punched" $tʰp-uš$ = "to get punched in the face"
 $\sqrt{šək}$ = "(get) whipped" $n-šək-q$ = "to get whipped on the behind"

(21) I take no position here as to exactly which model of the morphosyntax-morphophonology mapping to adopt. In fact, it seems to me that to allow non-linguistic real-world information to influence the mapping will significantly weaken whatever model we choose; this is why I view lexicalization patterns as epiphenomena, derived from the process of language acquisition rather than formal properties of the grammar.

Cross-linguistic variation in lexicalization is a real and inescapable source of difference between languages, and may even reflect culturally different ways of conceiving the world. However, and quite crucially, lexicalization does not vary without limit. On the contrary, languages tend to consistently lexicalize more-or-less the same (useful) types of predicate.

Now, one of the most salient properties of zero-derived (control) intransitive predicates is that they are semantically asymmetrical, in that they involve actions in which the focal (human) participant is far more likely to be construed as agent than as patient. This is true of implied object as well as medio-reflexive zero-derived intransitives. Implied object intransitives, while derived aspectually by “a-telicizing” a predicate (see section 6.3) are often used to defocalize an underlying object, and focalize the predicate itself; ‘eat’ and ‘drink’ are typical members of this class. Medio-reflexive zero-intransitives have a similar defocalizing effect, but this time by forcing an inclusion or identity relation between subject and underlying object, typically yielding body-centred activities such as ‘bathe’ or ‘dress’. In both cases, there is a clear asymmetry between agent, the focalized participant, and patient, the defocalized participant.

Now, under a conception of morphosyntax such as that advocated here, both classes of unsuffixed control intransitive must be derived; and since they are derived directly from roots, Morphological Opacity will not stop them from being zero-derived. It follows that the only possible class of zero-derived intransitives will be ‘control roots’ (i.e., zero-derived unergatives). Conversely, the unaccusative roots which underly them will not be lexicalized (i.e. will surface only when bound), because their (non-agentive, non-focal) argument will find few or no real world contexts of use.

It should be emphasized that the notion of semantic asymmetry appealed to here is a continuum. At one end are the control predicates, where the focal participant is strongly agentive; these are most likely to be lexicalized as zero-derived unergative intransitives. At the other, we find non-control predicates where the participant is devoid of any agency at all; these are most likely to surface as bare roots. In the middle, however, we find predicates which are more or less symmetric, in that neither agent-orientation nor patient-orientation is favoured by the inherent lexical properties of the root. It is these predicates which typically show alternations between unsuffixed unaccusatives and suffixed unergatives.

Finally, it is worth pointing out that the existence of the class of control intransitives in particular, and patterns of lexicalization more generally, are better conceived of as by-products of the process of language acquisition than as formal properties of the grammar. Children go through a period of rote-learning prior to abstracting morphological regularities from their linguistic input, and they are liable to learn the most common predicates which they encounter. Moreover, it has often been noted that unergative (control) predicates are (i) salient (ii) few in number and (iii) frequently employed —precisely the types of predicate, in fact, which are liable to be rote-learned before the productive rules of morphology are fully acquired. We might think, then, of unergatives as constituting part of a core of “relic” forms acquired early in childhood and resistant to morphophonological reanalysis. (In fact, we have already observed that unsuffixed control intransitives in St’át’imcets are

characterized by an unusual preponderance of fossilized derivational material; we can now posit a source for this phenomenon in language acquisition.)

Now, what happens when the child's morphological component is reorganized so that—in conformity with universal properties of lexical composition—all control predicates are derived? As fossilized rote-learned forms, control intransitives resist morphophonological reanalysis: but they are by no means resistant to zero-derivation, which allows them to retain their morphophonological integrity while adding the requisite syntactic features. The logical result of this developmental step is the creation of a set of zero-derived agentive predicates—in other words, control intransitives or unergatives.

9. References

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