A Unified Analysis of Relative Clauses in St'át'imcets[*]

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St'át'imcets (a.k.a. Lillooet, Northern Interior Salish) boasts an impressive array of six distinct types of relative clause: 'headless', prenominal, postposed, postnominal, nominalized locative, and conjunctive locative. The primary purpose of this paper is to show that they can all be derived from a common prenominal core. The derivation proceeds via a complex set of steps, each with independent empirical motivation. First, as shown by the distribution of fronted prepositions and determiners, a constituent minimally consisting of a DP (with a containing PP, in locative cases) undergoes A'-movement to a left-peripheral position in the relative clause, adjacent to the initial (clause-external) determiner. Second, a morphophonological filter barring a surface sequence of two determiners results in one of three outcomes: deletion of one of the two determiners (prenominal relatives); extraposition of the relative clause (postnominal relatives); or both (postposed relatives). 'Headless' relatives are analyzed simply as prenominal relatives with a null head, and both types of locative relative are shown to be special cases of postnominal relatives. The result is a unified, formally explicit and empirically grounded analysis of relative clauses in St'át'imcets, with implications for the syntax of relativization elsewhere in Salish.

KEYWORDS: Salish, St'át'imcets, relative clauses, syntax, prepositions, determiners

1. Introduction.

In recent years, there has been relatively extensive research on the syntax of relative clauses in St'át'imcets (Lillooet) and its Northern Interior Salish neighbor Thompson (River) Salish (nɬeʔkepmxcín): see in particular Demirdache and Matthewson (1995), Matthewson and Davis (1995), Kroeber (1997, 1999), Davis (2002, 2003, 2004), and Koch (2004, 2006). This work has resulted in several key findings, one of the foremost of which is the conclusion that at least some kinds of relative clause must involve syntactic movement of the relativized constituent from a base position within the clause to a left-peripheral landing site following the head and initial determiner. Crucial data in both languages come from locative (PP) relatives, which, as first shown by Kroeber (1997) for Thompson, provide overt evidence that a fronted preposition must

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be related to a clause-internal source. Examples of locative relatives from Thompson and St'át'imcets are given in (1) and (2), respectively:

(1) [ɬ=n-téw-mn [*tu*=ɬ=ʔáz-Ø-ne=ws xəʔé]]
[REM.DET=LOC-sell-INS [*from*=REM.DET=buy-TRA-1SG.ERG=3CNJ that]]
'the store from which I bought that' *(Kroeber 1999: 334)*

(2) [ti=cwemanálhcw=a [*l*=t=s=7aoz'-en-án=a ti7]]
[DET=store [*in*=DET=NOM=buy-TRA-1SG.ERG=EXIS that]]
'the store in which I bought that'[1]

A further argument for syntactic movement in relative clauses, first elaborated in Davis (2004) for St'át'imcets and subsequently replicated by Koch (2004) for Thompson, comes from what I will refer to as *determiner mismatches*. In relative clauses with two determiners such as those in (1) and (2), the second determiner is usually identical to the first. But it need not be: if the predication time of the relative clause differs from that of the head nominal – for example, if the situation time of the main clause precedes that of the relative clause – then the second determiner may reflect the situation time of its clause-internal source, rather than that of the clause-external head. This is illustrated in (3) for Thompson and in (4) for St'át'imcets.

(3) ʔex xeʔ q̓ʷíy̓w-Ø-es [*he*=sq̓ʷíyt [ɬ=xʷuy̓ ʔúpi-s
IMPF DEM pick-TRA-3ERG [*DET*=berries [*REM.DET*=going.to eat+TRA-3ERG
ɬ=skíxzeʔ-s]]
REM.DET=mother-3POSS]]
'She's picking the berries her mother's going to eat.' *(Koch 2004: 274)*

(4) wa7 q'weláw'-en-as [*i*=sq'wél=*a* lhkúnsa [*ku*=cúz'
IMPF pick-TRA-3ERG [*PL.DET*=berries=*EXIS* now [*DET*=going.to
s-ts'áqw-cal-s ta=skícza7-s=a]]
NOM-eat-ACT-3POSS DET=mother-3POSS=EXIS]]
'She's picking the berries now her mother's going to eat.'

In both these examples, the first, unmarked determiner is appropriate to the present tense/imperfective aspect of the matrix clause, but the second determiner reflects the future tense/unrealized aspect of the relative clause.[2] On the basis of examples like these, Davis and Koch conclude that the second determiner must be base-generated in object position of the

[1] All unattributed examples are from the author's own fieldwork. St'át'imcets examples are given in the Van Eijk orthography in common use in St'át'imc territory; a conversion chart to a standard American phonemic alphabet is given in Appendix 1. A list of abbreviations used in the morpheme-by-morpheme glosses is given in Appendix 2.

[2] Determiner semantics differs between the two languages, and therefore the mismatched determiners in the parallel examples in (3) and (4) are also different. In Thompson, I assume a basic three-way distinction between *(h)e*= 'present/unmarked', ɬ= 'remote (in space or time)' and *k*= 'irrealis'; any of these three determiners may additionally be preceded by the oblique marker *t*= in appropriate environments, though the combination *t*=ɬ= is very hard to distinguish from plain ɬ=, and the distinction may have become neutralized for some speakers/dialects (Koch 2004: 270). St'át'imcets also has a three-way distinction, but the determiner space is divided up differently, and is cross-cut by a distinction in number; in Appendix 3, I give a table of the St'át'imcets determiners, for ease of reference.

relative clause, from where it moves in the overt syntax to a left-peripheral position in [SPEC, CP].

Building on this previous work, I show in the present paper that the conclusions reached by Davis and Koch on the basis of 'double determiner' relative clauses like (3) and (4) can be extended to all other types of relative clause in St'át'imcets, including single determiner and 'headless' cases. What emerges is a unified picture of syntactic movement in an apparently diverse set of structures, with clear implications for the investigation of relativization strategies across Salish.

The paper is structured as follows. In Section 2, I give necessary background information on the basic syntax and morphology of relative clauses in St'át'imcets. Section 3 provides evidence for A'-movement within the relative clause, based on the classic movement diagnostics of Chomsky (1977). In Section 4 I employ evidence from the pied piping of prepositions and from determiner mismatches for the core hypotheses defended here: first, that the constituent which undergoes movement is a DP, with a containing PP in locative relatives; second, that in all six types of relative clause, the DP moves to a left peripheral position in CP; third, that the surface form of single determiner and 'headless' relatives is derived by the application of surface filters blocking a sequence of two determiners or a determiner plus a complementizer; and fourth, that all post-head relative clauses are derived by extraposition from a prenominal core. Section 5 then explores the position of the NP head of the relative in relation to 'raising' versus 'matching' analyses of relative clauses. Section 6 brings the various strands of the investigation together to provide a unified analysis of all six types of relative clause, and Section 7 concludes.

2. The morphology and basic syntax of relative clauses in St'át'imcets.

Various aspects of the morphology and syntax of relative clauses in St'át'imcets have been previously discussed in Roberts (1994), Davis (1994), Demirdache and Matthewson (1995), Matthewson and Davis (1995), Van Eijk (1997), Roberts (1999), Kroeber (1999), Davis (2002), Davis and Matthewson (2003), Davis (2003), and Davis (2004). This work has established the following generalizations.

First, like most Salish languages, St'át'imcets lacks a distinct relative pronoun or complementizer.[3]

Second, as elsewhere in Salish, relative clauses may either be headed or 'headless' (Kroeber 1999: 258–60). Davis (2003) argues that the latter are actually headed by a null nominal (*pro*), as schematized in (5a) and illustrated in (5b).[4]

(5) a. *Headless*

DET [*pro* CLAUSE]

[3] The one clear exception I am aware of is in Okanagan, where a complementizer-like proclitic 'particle' *ki=* is optionally used to introduce relative clauses (particularly, but not exclusively, oblique-centered relatives). The same particle also frequently introduces the clausal residue of clefts and WH-questions, but as far as I can see, never introduces complement or adjunct clauses (see Kroeber 1999: 305, 348, 403; Baptiste 2002; Lyon 2010).

[4] The *pro* analysis of headless relative clauses is anticipated by Gerdts (1988: 61), who proposes an 'eclipsed nominal' in headless relatives in Halkomelem; see also Matthewson and Davis (1995) for an early version of the *pro* analysis for St'át'imcets headless relatives.

b. ta=[[ats'x-en-án]=a
DET=[[see-TR-1SG.ERG]=EXIS
'the one I saw'

Third, the head of a headed relative clause must be a noun, as first pointed out by Demirdache and Matthewson (1995); see also Matthewson and Davis (1995) and Davis (2002). There are three basic types of headed relative clause in St'át'imcets, referred to by Davis (2002) as *prenominal*, *postposed*, and *postnominal*.[5] They are schematized in (6a)–(8a) and illustrated in (6b)–(8b):

(6) *Prenominal*

a. DET [CLAUSE NP]

b. ta=[[ats'x-en-án]=a smúlhats]
DET=[[see-TR-1SG.ERG]=EXIS woman]
'the woman I saw'

(7) *Postposed*

a. DET [NP CLAUSE]

b. ta=[smúlhats=a [áts'x-en-an]]
DET=[woman =EXIS [see-TR-1SG.ERG]]
'the woman I saw'

(8) *Postnominal*

a. DET [NP [DET CLAUSE]]

b. ta=[smúlhats=a [ta=ats'x-en-án=a]]
DET=[woman =EXIS [DET=see-TR-1SG.ERG=EXIS]]
'the woman I saw'

Fourth, subject agreement morphology in relative clauses varies with the target of relativization.[6] This aspect of the grammar of relative clauses has been studied quite extensively: see Roberts (1994), Davis (1994), Van Eijk (1997), Roberts (1999), Kroeber (1999), Davis and

[5] All of these patterns are attested elsewhere in Salish. The types with two determiners are dominant in Interior Salish and Bella Coola, while the single determiner types are more characteristic of Central Salish. Single determiner types are much more frequently used than double determiner types in St'át'imcets, particularly in the Lower ('Mount Currie') dialect; this is almost certainly due to Central Salish influence.

[6] Though not with the type of relative clause: prenominal, postposed, and postnominal relatives all have the same inflectional profile.

Matthewson (2003), Davis (2003), and Davis (2004a).[7] The principal generalizations are as follows.

When the target is an intransitive subject or the subject of a transitive predicate with a first or second person object, agreement morphology is (at least superficially) the same as in the corresponding declarative clause.[8]

(9) a. **t'iq** ta=smúlhats=a
arrive DET=woman=EXIS
'The woman arrived.'

b. ta=[[**t'íq**]=a smúlhats]
DET=[[arrive]=EXIS woman]
'the woman who arrived'

(10) a. áts'x-en-ts**-as** ta=smúlhats=a
see-TR-1SG.OBJ**-3ERG** DET=woman=EXIS
'The woman saw me.'

b. ta=[[ats'x-en-ts**-ás**]=a smúlhats]
DET=[[see-TR-1SG.OBJ**-3ERG**]=EXIS woman]
'the woman who saw me'

When the target is the direct object of a transitive predicate with a first or second person subject, first and second person indicative subject clitics are replaced by transitive subject (ergative) suffixes:

(11) a. áts'x-en**=lhkan** ta=smúlhats=a
see-TR**=1SG.SUB** DET=woman=EXIS
'I saw the woman.'

b. ta=[[ats'x-en**-án**]=a smúlhats]
DET=[[see-TR**-1SG.ERG**]=EXIS woman]
'the woman I saw'

When the target is the subject of a transitive predicate with a third person singular object, one of three strategies is employed (Davis 1994, 2003). First, third person ergative morphology may be retained. This strategy is only available for subject extraction when there is an overt (DP) object; if there is a null (*pro*) object, only a patient-centered interpretation is available, as shown in (12b).[9]

[7] In Appendix 4, I give the four St'át'imcets subject inflection paradigms, for ease of reference. They are: indicative, conjunctive (a.k.a. subjunctive), possessive (nominalized), and ergative (transitive subject). See also Van Eijk (1997), Davis (1999, 2000).

[8] Superficially, because third person intransitive indicative subject is zero-marked, but relative clauses formed on intransitive predicates contain a gap, not a zero pronoun. See Davis (2003) and section 3.1 below.

[9] The use of plain ergative subject morphology in subject extraction contexts is common to all three Northern Interior Salish languages. Kroeber (1999: 301–302) gives textual examples from Kuipers (1974) showing the same

(12) a. [ta=[smúlhats=a [áts'x-en-**as** ta=sqáycw=a]]][10]
[DET=[woman=EXIS [see-TR-**3ERG** DET=man=EXIS]]]
(i) 'the woman the man saw' (preferred)
(ii) 'the woman who saw the man' (possible in context)

b. mám'teq kw=s=John, áts'x-en-as aylh
go.for.walk DET=NOM=John see-TR-3ERG then
ta=[sqáycw=a [túp-un'-**as**]]
DET=[man=EXIS [punch-TR-**3ERG**]]
'John went for a walk, then he saw the man who he punched.'
(*…the man who punched him')

Second, passive morphology may be employed, as in (13).

(13) a. mám'teq kw=s=John, áts'x-en-as aylh ta=[sqáycw=a
go.for.walk DET=NOM=John see-TR-3ERG aylh DET[=man=EXIS
[túp-un'-**em**]]
[punch-TR-**PASS**]]
'John went for a walk, then he saw the man who he was punched by.'
(* '…the man he punched.')

b. % ta=[smúlhats=a [áts'x-en-**em** ta=sqáycw=a]]
DET=[woman=EXIS [see-TR-**PASS** DET=man=EXIS]]
(i) 'the woman who the man was seen by' (preferred)
(ii) 'the woman who was seen by the man' (possible)

This strategy is confined to Upper St'át'imcets, and may have been borrowed from Shuswap or Thompson, both of which use special passive-derived morphology in transitive subject-centered relative clauses (Kroeber 1999: 299–301).[11] The function of passive morphology in extraction contexts is inverse to that of plain ergative morphology: when there is

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behavior for Shuswap, and Koch (2006: 144) reports on parallel examples in Thompson, where, in contrast to St'át'imcets, the subject interpretation is possible even without an overt DP:

(i) wík-t-ne ɬ=smúɬec ɬ=kən-t-és
see-TR-1SG.ERG REM.DET=woman REM.DET=help-TR-3ERG
'I saw the woman that helped him/her/the person.'

The exact conditions governing the use of the various transitive subject extraction strategies across the Northern Interior languages are not fully understood: their investigation is beyond the scope of this paper.

[10] For some speakers, this example has an irrelevant interpretation as a full (SVO) sentence meaning 'The woman saw the man'.

[11] I have recorded a couple of cases of subject extraction with the ending *-emas*, consisting of the passive suffix plus an accretion identical to the third person conjunctive enclitic *=as*. This is an exact cognate of the subject extraction morphology employed by Shuswap and Thompson, and is also clearly related to the *-tanemwitas* suffix used in St'át'imcets in subject-centered relative clauses with a third person plural object: see (15b). Generally, however, speakers reject this possibility as substandard or ungrammatical.

no post-verbal DP, only an agent-centered interpretation is available (compare (13a) to (12b)), while if there is an overt post-verbal DP, either a patient-centered or an agent-centered interpretation is available, though here passive appears to be independently disfavored by most speakers.

Finally (and most frequently), the special non-topical subject suffix *-tali* replaces all agreement morphology. This suffix may generally *only* be employed in subject-centered relative clauses with third person objects (singular or plural) (Roberts 1994, Davis 1994), but is insensitive to the presence or absence of an overt post-verbal object.[12]

(14) a. ta=[smúlhats=a [áts'x-en**-táli** ta=sqáycw=a]]
DET=woman=EXIS [see-TR**-NTS** DET=man=EXIS]]
'the woman who saw the man' (unambiguous)

b. mám'teq kw=s=John, áts'x-en-as aylh ta=[sqáycw=a
go.for.walk DET=NOM= John see-TR -3ERG then DET=[man=EXIS
[tup-un'**-táli**]]
[punch-TR**-NTS**]]
'John went for a walk, then he saw the man who punched him.' (*…the man he punched.')

When the target is the subject of a transitive predicate with a third person plural object, either *-tali* may be employed (15a), or another special suffix, *-tanemwitas*, may be used instead (15b).

(15) a. ta=[smúlhats=a [áts'x-en**-táli** i=sqáyqyecw=a]]
DET=[woman=EXIS [see-TR**-NTS** PL.DET=men=EXIS]]
'the woman who saw the men' (unambiguous)

b. ta=[smúlhats=a [ats'x-en**-tanemwítas**]]
DET=[woman=EXIS [see-TR**-3PL.PASS+3CNJ**]]
'the woman who saw them' (unambiguous)

The suffix *-tanemwitas* is synchronically unanalyzable, but consists historically of the irregular third plural passive ending *-tanemwit* plus an *[as]* accretion that is probably a frozen relic of the third person conjunctive clitic *=as*, rather than a reflex of the homophonous third person ergative

[12] There is one exception to the generalization that *-tali* only occurs in subject-centered relative clauses: it also occurs in transitive infinitives with third person objects, as shown in (i):

(i) k'ínk'ent ku=wá7 [s-teq-s**-táli** i=á7x7=a naxwít]
dangerous DET=IMPF [STA-touch-CAU**-NTS** PL.DET=powerful=EXIS snake]
'It's dangerous to hold poisonous snakes.'

Infinitives, which are rare in Salish, have probably developed in St'át'imcets (and in neighboring Thompson, where they have almost identical properties) from subject-centered relative clauses (see Kroeber 1999: 220), accounting for the historical source of *-tali* in cases like (i). Its synchronic function in these cases, however, remains mysterious.

suffix *-as* (the latter is normally in complementary distribution with passive morphology).[13] For the most part, *-tanemwitas* is confined to clauses with a null object; this is consistent with a general preference for third person plural marking not to co-occur with overt plural DPs (Davis 2003).

When the theme argument of a formally intransitive predicate is the target of relativization, the predicate (but not the clause which contains it) is nominalized, and the subject is represented by a possessive pronominal affix (Davis and Matthewson 2003).

(16) a. cúz'=lhkacw=ha xlít-cal ku=smúlhats
going.to=2SG.SUB=YNQ invite-ACT DET=woman
'Are you going to invite any women?'

b. i=[smúlhats=a [cuz' **s-**xlít-cal**-su**]]
PL.DET=[woman=EXIS [going.to **NOM-**invite-ACT**-2SG.POSS**]]
'the women who you are going to invite'

The fact that the auxiliary *cuz'* in (16b) fails to attract the nominalizer and associated possessive morphology shows that this is a case of predicate rather than clausal nominalization: see Van Eijk (1997: 159–60), Kroeber (1999: 327–9) for the distinction.

When the theme argument of a ditransitive predicate is the target of relativization, there is a split in the morphology of the relative clause according to whether a regular n-type or s-type transitivizer, as opposed to an applicative (cit-type) transitivizer is employed (Davis and Matthewson 2003). With an n- or s-type transitivizer, the predicate is nominalized, and the subject is realized by an ergative suffix:

(17) a. cúz'=lhkan úm'-en ta=sk'úk'wmi7t=a ta=sáy'si7ten=a
going.to=1SG.SUB give-TR DET=child=EXIS DET=toy=EXIS
'I'm going to give the child a toy.'

b. ta=[sáy'si7ten=a [cuz' **s-**7úm'**-en-an** ta=sk'úk'wmi7t=a]]
DET=toy=EXIS [going.to **NOM-**give**-TR-1SG.ERG** DET=child=EXIS]]
'the toy I'm going to give to the child'

But if the transitivizer is indirective *-cit*, no nominalization is necessary:

(18) a. cúz'=lhkan nás-cit ta=sk'úk'wmi7t=a ta=sáy'si7ten=a
going.to=1SG.SUB go-IND DET=child=EXIS DET=toy=EXIS
'I'm going to bring the child a toy.'

b. ta=[sáy'si7ten=a [cuz' nás**-cit-an** ta=sk'úk'wmi7t=a]]
DET=[toy=EXIS [going.to go**-IND-1SG.ERG** DET=child=EXIS]]
'the toy I'm going to bring to the child'

[13] As mentioned in footnote (11), neighboring Shuswap and Thompson both also have special transitive subject extraction suffixes made up of a petrified conjunctive clitic and a passive suffix, though these are not restricted to plural environments, unlike their St'át'imcets counterpart (Kroeber 1999: 299–301).

This split is evidently an innovation: Van Eijk (1997), whose primary consultants were a generation older than mine, recorded a uniform pattern of nominalization for ditransitives, irrespective of the form of the transitivizer.

In addition to arguments (both direct and oblique), locative and temporal adjuncts may also be relativized in St'át'imcets. Adjunct-centered relatives are always of the postnominal type, and are characterized by two basic inflectional patterns (Davis 2004). In the first, more widespread pattern, the whole clause containing the target is nominalized (as opposed to just the predicate), as shown by the attachment of the nominalizer and associated possessive clitics to a pre-predicative auxiliary in (19):

(19) tsícw=kan l=ta=[tsal'álh=a [l=t**=s=wá7=sw**=a
get.there=1SG.SU at=DET=[lake=EXIS [at=DET**=NOM=IMPF=2SG.POSS**=EXIS
í7w'es]]
fish.with.rod]]
'I went to the lake where you were fishing.'

The second type looks superficially quite different. It is introduced by the complementizer *lh=* which also introduces interrogative complements and conditional adjuncts, and induces conjunctive inflection on its complement clause. An additional *=a* enclitic identical to that which accompanies 'assertion of existence' determiners (Matthewson 1998) often appears on the first predicative element of the conjunctive clause, as in (20):

(20) wa7 s-law ta=[tsepalín=a [**lh=ás=a** guy't
IMPF STA-hang DET=[baby.basket=EXIS [**COMP=IMPF+3CNJ=EXIS** sleep
ta=smém'lhats=a]]
DET=girl=EXIS]]
'There was a baby basket hanging there where the girl was sleeping.'

I summarize these inflectional patterns in Table 1 below.

TARGET OF RELATIVIZATION	OBJECT MARKING	SUBJECT MARKING	OTHER MARKING
subject of intransitive	-	none	none
subject of transitive	1st or 2nd person suffix	3rd person ergative suffix	none
	3rd person (Ø-marked)	3rd person ergative suffix (with DP object only)	
		3rd person passive suffix	
	-tali (3rd person object only)		
	-tanemwitas (3rd person plural pronominal object only)		
object of transitive	none	ergative suffix (all persons)	none
		3rd person passive suffix (with DP subject only)	
object of intransitive	none	possessive affix (all persons)	predicate nominalization
second object of ditransitive	object suffix (all persons)	ergative suffix (all persons)	predicate nominalization (all transitivizers except *-cit*)
			none (*-cit* only
locative/temporal PP (i)	object suffix (transitive)	possessive clitic (intransitive); possessive clitic and/or ergative suffix (transitive)[14]	clausal nominalization
locative/temporal PP (ii)	object suffix (transitive)	conjunctive clitic (intransitive); conjunctive clitic and/or ergative suffix (transitive)	*lh=* complementizer

Table 1: inflectional coding of extraction in St'át'imcets

[14] The conditions under which possessive and conjunctive clitics appear in transitive nominalized and conjunctive clauses are complex and variable, and reflect an inflectional system in transition between the strictly transitivity-based system of Interior Salish and the clause-typing system of Central Salish. As a rule, with first or second person subjects, ergative suffixes appear when the nominalized or conjunctive clause contains no auxiliary, but are replaced by possessive or conjunctive clitics when an auxiliary is present. In the third person, ergative suffixes appear regardless of the presence of an auxiliary; however, if an auxiliary is present, it bears a third person clitic in addition

3. Relative clauses in St'át'imcets involve A'-movement.

Now that I have laid down the inflectional patterns associated with relativization in St'át'imcets, it is time to take a closer look at its syntax. The first step in the investigation is to establish the existence of an A'-dependency within the relative clause, which (following the classic work of Chomsky 1977), shows the following diagnostic properties of syntactic movement:

(i) There is a gap at the foot of the dependency.
(ii) The dependency may be long-range across bridge verbs.
(iii) If long-range, the dependency is subject to strong island effects.

All three of these properties can be shown to hold in St'át'imcets relative clauses.

3.1 Relative clauses contain a gap.

The first diagnostic can be tested using the third person plural pronoun *=wit*, which is incompatible with an extraction site, as demonstrated in Davis (2003). The examples in (21) show that in plural contexts, each of the four types of argument-centered relative clause identified above must contain a gap, not a resumptive pronoun.

(21) a. *Headless Relative*

ats'x-en=lhkácw=ha i=[[t'íq**(*=wit)**]=a]
see-TR=2SG.SU=YNQ PL.DET=[[arrive**(*=3PL)**]=EXIS]
'Did you see [the ones who arrived]?'

b. *Prenominal Relative*

ats'x-en=lhkácw=ha i=[[t'íq**(*=wit)**]=a sqáyqeycw]
see-TR=2SG.SU=YNQ PL.DET=[[arrive**(*=3PL)**]=EXIS men]
'Did you see [the men who arrived]?'

c. *Postposed Relative*

ats'x-en=lhkácw=ha i=[sqáyqyecw=a [t'íq**(*=wit)**]]
see-TR=2SG.SU=YNQ PL.DET=[men=EXIS [arrive**(*=3PL)**]]
'Did you see [the men who arrived]?'

d. *Postnominal Relative*

ats'x-en=lhkácw=ha i=[sqáyqyecw=a [i=t'íq**(*=wit)**=a]]
see-TR=2SG.SU=YNQ PL.DET=[men=EXIS [PL.DET=[arrive**(*=3PL)**=EXIS]]
'Did you see [the men who arrived]?'

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to the ergative suffix on the main predicate. This is a simplified picture: see Davis (1999, 2000) for a more detailed exposition, and Koch (2009) for recent discussion of transitional patterns in neighboring Thompson.

These examples are important because in singular contexts, the third person pronoun is non-overt (i.e., *pro*) and it is therefore impossible to tell the difference between a gap and a resumptive pronoun. The plural cases show us unequivocally that relative clauses contain a gap corresponding to the target of relativization.

3.2. Long distance relativization may take place across bridge verbs.
Long-range relativization across bridge verbs is illustrated in (22):[15]

(22) a. *Headless Relative*

ats'x-en=lhkácw=ha ta=[[wá7 xát'-min'-an
see-TR=2SG.SU=YNQ DET=[[IMPF+EXIS want-RED-1SG.ERG
[kw=s=qús-cit-an]]]
[DET=NOM=shoot-IND-1SG.ERG]]]
'Did you see [what [I want to shoot]]?'

b. *Prenominal Relative*

?? ats'x-en=lhkácw=ha ta=[[wá7 xát'-min'-an
see-TR=2SG.SU=YNQ DET=[[IMPF+EXIS want-RED-1SG.ERG
[kw=s=qús-cit-an]] st'alhálam]
[DET=NOM=shoot-IND-1SG.ERG]] grizzly]
'Did you see [the grizzly [I want to shoot]]?'[16]

[15] In cases of long-distance extraction, the intermediate verb either takes ergative suffixes (if it is transitive, as in (22)) or undergoes predicate nominalization and takes possessive affixes (if it is intransitive). See Hukari (2010) for a detailed exposition of the morphology associated with long-distance A'-dependencies in Island Halkomelem; note that, in contrast to Halkomelem, St'át'imcets shows little evidence (at least synchronically) for either a voice or a WH-agreement analysis of intermediate verb morphology.

[16] Long-distance prenominal relatives are marginal in St'át'imcets (though occasionally produced and not infrequently accepted, as here). The reason for this is the 'Same Side Filter' (Ross 1973), which prevents material from intervening between the (main) predicate of a modifier and the nominal head that it modifies. This filter also governs modification in English, as can be seen in (i-iii):

(i) [the [murdered [woman]]]

(ii) * [the [murdered by her brother [woman]]]

(iii) [the [woman] murdered by her brother]]

The theoretical status of the Same Side Filter is unclear. It cannot be universal, since it does not apply in strictly head-final languages such as Japanese and Korean, which freely permit long-range prenominal relatives. Furthermore, violations of the filter in St'át'imcets lead to degraded acceptability, rather than sharp ungrammaticality (hence the question marks rather than a star on (22b)). The most likely explanation is that structures which violate the filter increase processing load, but only or at least much more severely in predominantly right-branching systems such as those of St'át'imcets and English, as opposed to predominantly or exclusively left-branching systems such as those of Japanese and Korean.

c. *Postposed Relative*

ats'x-en=lhkácw=ha ta=[st'alhálam=a [wá7 xát'-min'-an
see-TR=2SG.SU=YNQ DET[=grizzly=EXIS [IMPF want-RED-1SG.ERG
[kw=n=s=wa7 qús-cit]]]
[DET=1SG.POSS=NOM=IMPF shoot-IND]]]
'Did you see [the grizzly [I want to shoot]]?'

d. *Postnominal Relative*

ats'x-en=lhkácw=ha ta=[st'alhálam=a [ta=wá7 xát'-min'-an
see-TR=2SG.SU=YNQ DET=[grizzly=EXIS [DET=IMPF+EXIS want-RED-1SG.ERG
[kw=n=s=wa7 qús-cit]]]
[DET=1SG.POSS=NOM=IMPF shoot-IND]]]
'Did you see [the grizzly [I want to shoot]]?'

Long-range extraction is also possible for nominalized locative adjuncts, as shown in (23) below.

(23) *Nominalized locative relative*

lexláx-s=kan ta=[tsal'álh=a [l=s=xat'-min'-ácw=a
remember-CAU-1SG.SU DET=[lake=EXIS [at=NOM=want-RED-2SG.ERG=EXIS
[kw=s=kwánen-s-acw ku=xzúm xu7t']]]
[DET=NOM=get.caught-CAU-2SG.ERG DET=big sturgeon]]]
'I remembered the lake where you wanted to catch a big sturgeon.'[17]

Relativization in St'át'imcets therefore meets the second criterion for A'-movement: it occurs long-distance across bridge verbs.

3.3. Long-range relativization is subject to island effects.
Long-range relativization in St'át'imcets is subject to the standard range of island effects. This is impossible to show with prenominal relatives, where long-range dependencies are already marginal (see footnote 16), but it can be clearly demonstrated for postposed and postnominal relatives. The examples in (24) below show that relativization is subject to the Complex NP Constraint, and those in (25) that it is subject to the Adjunct Island Constraint.

[17] There is a missing determiner following the fronted preposition *l=* 'in, on, at' in this example. Determiners are not infrequently elided in this context (Van Eijk 1997: 174), but their underlying presence is usually recoverable from the existential enclitic *=a* which always accompanies an assertion-of-existence determiner, and is never dropped.

(24) *Complex NP Constraint effects*

a. *Base structure*

pzán=lhkan ta=[sám7=a wa7 kens-qus-ci(t)-táli[18]
meet(TR)=1SG.SU DET=[white.person=EXIS IMPF try-shoot-IND-NTS
ta=xzúm'-qw=a st'alhálam]
DET=big-head=EXIS grizzly]
'I met the white man who was trying to shoot the big grizzly.'

b. *Headless relative*

* ats'x-en=lhkácw=ha ta[pzán-an=a
see-TR=2SG.SU=YNQ DET=[meet(TR)-1SG.ERG=EXIS
ta=[sám7=a wa7 kens-qus-ci(t)-táli]]]
DET=[white.person=EXIS IMPF try-shoot-IND-NTS]]]
* 'Did you see what I met the white man who was trying to shoot?'

c. *Postposed relative*

* ats'x-en=lhkácw=ha ta=[xzúm'-qw=a st'alhálam [pzán-an
see-TR=2SG.SU=YNQ DET=[big-head=EXIS grizzly [meet(TR)-1SG.ERG
ta=[sám7=a wa7 kens-qus-ci(t)-táli
DET=[white.person=EXIS IMPF try-shoot-IND-NTS
* 'Did you see the big grizzly I met the white man who was trying to shoot?'

d. *Postnominal relative*

* ats'x-en=lhkácw=ha ta=[xzúm'-qw=a st'alhálam
see-TR=2SG.SU=YNQ DET=[big-head=EXIS grizzly
[na=pzán-an=a na=[sám7=a
[ABS.DET=meet(TR)-1SG.ERG=EXIS ABS.DET=[white.person=EXIS
wa7 kens-qus-ci(t)-táli
IMPF try-shoot-IND-NTS
* 'Did you see the big grizzly which I met the white man that was trying to shoot?'

[18] The final *[t]* of the indirective suffix *-cit* coalesces with the initial *[t]* of the non-topical subject suffix *-tali*.

(25) *Adjunct Island effects*

a. *Base structure*

xan' ta=sám7=a [i=wá7=as kwancen'-án'-as
get.hurt DET=white.person=EXIS [when(PAST)=IMPF=3CNJ track-TR-3ERG
ta=xzúm'-qw=a st'alhálam]
DET=big-head= EXIS grizzly]
'The white man got hurt when he was tracking the big grizzly.'

b. *Headless relative*

* ats'x-en=lhkácw=ha ta=[*pro*[s-xán'-s=a
see-TR=2SG.SU=YNQ DET=[*pro*[NOM-get.hurt-3POSS=EXIS
ta=sám7=a [i=wá7=as kwancen'-án'-as]]]
DET=white.person=EXIS [when(PAST)=IMPF=3CNJ track-TR-3ERG]]]
* 'Did you see what the white man got hurt when he was tracking?'

c. *Postposed relative*

* ats'x-en=lhkácw=ha ta=[xzúm'-qw=a st'alhálam [s-xan'-s
see-TR=2SG.SU=YNQ DET=[big-head=EXIS grizzly [NOM-get.hurt-3POSS
ta=sám7=a [i=wá7=as kwancen'-án'-as]]]
DET=white.person=EXIS [when(PAST)=IMPF=3CNJ track-TR-3ERG]]]
* 'Did you see the big grizzly the white man got hurt when he was tracking?'

d. *Postnominal relative*

* ats'x-en=lhkácw=ha ta=[xzúm'-qw=a st'alhálam
see-TR=2SG.SU=YNQ DET=[big-head=EXIS grizzly
[ta=s-xán'-s=a ta=sám7=a
[DET=NOM-get.hurt-3POSS=EXIS DET=white.person=EXIS
[i=wá7=as kwancen'-án'-as]]]
[when(PAST)=IMPF=3CNJ track-TR-3ERG]]]
* 'Did you see the big grizzly which the white man got hurt when he was tracking?'

Island effects can also be demonstrated for nominalized locative relatives:[19]

[19] Unfortunately, I lack data for conjunctive locative relatives, which are used only by speakers from a restricted region of Upper St'át'imc territory: see Davis (2004).

(26) *Complex NP Constraint effects with nominalized locative relatives*

a. wá7=lhkan lexláx-s na=xzúm=a xu7t'
IMPF=1SG.SU remember-CAU ABS.DET=big=EXIS sturgeon
[na=kwanen-s-án=a lt7u l=ta=tsal'álh=a]
[ABS.DET=get.caught-CAU-1SG.ERG=ERG over.there at=DET=lake=EXIS]
'I remember the big sturgeon I caught in that lake over there.'

b. * wá7=lhkacw=ha zewát-en lt7u ta=[tsal'álh=a
IMPF=2SG.SU=YNQ know-TR over.there DET=[lake=EXIS
[l=t=s=an=a lexláx-s
[in=DET=NOM=IMPF+1SG.CNJ=EXIS remember-CAU
na=[xzúm=a xu7t' [kwánen-s-an]]]]
ABS.DET[=big=EXIS sturgeon [get.caught-CAU-1SG.ERG]]]]
* 'Do you know that lake over there in which I remember the big sturgeon I caught?'

(27) *Adjunct Island effects with nominalized locative relatives*

a. pút=kan=t'u7 twiw't [i=kwánen-s=an
just=1SG.SU=EXCL youth [when(PAST)=get.caught-CAU=1SG.CNJ
ta=xzúm=a xu7t' l=ta=tsal'álh=a]
DET=big=EXIS sturgeon at=DET=lake=EXIS]
'I was just a boy when I caught the big sturgeon in the lake.'

b. * lexláx-s=kacw=ha ta=[tsal'álh=a
remember-CAU=2SG.SU=YNQ DET=[lake=EXIS
[l=s=pút=sw=a=t'u7 twiw't
[in=(DET+)NOM=just=2SG.POSS=EXIS=EXCL youth
[i=kwánen-s=acw ta=xzúm=a
[when(PAST)=get.caught-CAU=2SG.CNJ DET=big=EXIS
xu7t']]]
sturgeon]]]
* 'Do you remember the lake which you were just a boy when you caught a big sturgeon in?'

The evidence presented in this section demonstrates that relative clauses in St'át'imcets meet all the classic criteria for A'-movement: they contain filler-gap dependencies, which may operate at long range across bridge verbs, and if so, are subject to strong island effects. So far, however, I have been vague as to what exactly moves. This is the question I turn to next.

4. What moves?

Unlike in languages like English, where a WH-pronoun conveniently marks movement, it is not obvious what moves in relative clauses in St'át'imcets. In this section I will show that in all St'át'imcets relatives, there is evidence for overt movement of a constituent consisting minimally

of a determiner, with the addition of a pied-piped preposition in locative relatives. The moved determiner, however, is easily detectable only in postnominal relatives and in nominalized locative relatives: in the other types, morphophonological filters partially obscure its presence.

Two principal types of evidence support this finding. The first comes from nominalized locative relatives, where a preposition pied-pipes along with its DP complement. The second type of evidence comes from determiner mismatches, where a relative clause determiner shows the selectional properties of the gap it controls inside the relative clause, rather than those of the containing DP. This phenomenon is particularly striking in relative clauses containing two determiners (i.e., in postnominal and nominalized locative relatives), since the first determiner, which heads the containing DP, may differ in features from the second, which controls the gap inside the relative clause; however, I will show that the same phenomenon can be detected in prenominal, postnominal, and headless relatives, and even in conjunctive locative relatives.

4.1. Pied-piped prepositions.
In nominalized locative relatives such as those in examples (28)–(30), the clausal residue is introduced by a combination of a preposition and a determiner (highlighted):

(28) cw7it kw=en=tsícw áts'xen ti=[tmícw=a
many DET=1SG.POSS+NOM=get.there see-TR DET=land=EXIS
[**lhel=ni=**s=ts7ás=ts**=a** s=Lisa]]
[**from=ABS.DET**=NOM=come=3POSS**=EXIS** NOM=Lisa
'I have visited the land where Lisa came from many times.'

(29) wa7 páqu7 k=Lisa kw=a=s xát'-em
IMPF afraid DET=Lisa DET+NOM=IMPF=3POSS go.up-MID
e=ki=[sqwémqwem=a [**ken=ki=**s=wá7=s**=a**
to=PL.DET=[mountains=EXIS [**around=PL.DET=**NOM=IMPF=3POSS**=EXIS**
pun i=st'alhalám=a]]
be.found PL.DET=grizzly=EXIS]]
'Lisa's afraid to climb mountains where grizzlies are found.'

(30) Wá…7=wi7 láku7 ta=[xzúm=a sxetq [**l=t=**s=a
IMPF=EMPH there DET=[big=EXIS hole [**in=DET=**NOM=IMPF+3POSS**+EXIS**
us i=s7utsmen-lhkálh=a]], áku7 lh=us
get.thrown.out PL.DET=garbage-1PL.POSS=EXIS]] to.there COMP=IMPF+3CNJ
ús-tum'
get.thrown.out+CAU-PASS
'There was a big hole there where the stuff we threw out was discarded, that's where we threw it out.' *(Matthewson 2005: 415)*

In each case the preposition that introduces the clausal part of the relative (as opposed to its head) has the selectional properties of the gap which it controls, not those of the entire DP which contains it. In (30), for example, the containing DP *ta=xzúm=a sxetq* 'the big hole' is a direct argument of the main clause predicate *wa7* 'to be (located)', while the fronted preposition *l=* 'in, at' on the left periphery of the relative clause *l=t=s=a us i=s7útsmenlhkalh=a* 'into which our

garbage was thrown' is licensed inside the relative clause, as a locative adjunct to the predicate *us* 'to get thrown out, discarded'.

Preposition fronting is not confined to headed relative clauses: it also occurs in headless relatives, as in (31)–(33):

(31) aoz láti7 kw=a=s lak [**l=t=**s=wá7=lhkalh**=a** ílhen]
NEG there DET+NOM=IMPF=3POSS lie [**at=DET=**NOM=IMPF=1PL.POSS**=EXIS** eat]
[***t*=**s=wá7=lhkalh=a guy't múta7 sáy'sez']
[***DET*=**NOM=IMPF=1PL.POSS=EXIS sleep and play]
'The place where we ate wasn't where we slept and played.' *(Matthewson 2005: 462)*

(32) i=tsícw=wit=as áta7 sqwém=a, kéla7=tu7
when(PAST)=get.there=3CNJ to.there mountain=EXIS before=REM
lh=t'ák=as nelh=núkw=a úcwalmicw, tsicw
COMP=went=3CNJ PL.ABS.DET=other=EXIS person get.there
mays-en-ítas [**l=kw=**a=s cuz' tsítcw-em=wit]
fix-TR-3PL.ERG [**at=DET**+NOM=IMPF=3POSS going.to house-MID=3PL]
'When they got to the mountain, before the other people came along, they went to fix (the place) where they were going to camp.'

(33) cw7áoz=t'u7 kw=s=cé.cen'=s, i=plán=as
NEG=EXCL DET=NOM=long.time+REDUP=3POSS when(PAST)=already=3CNJ
wa7 es-máys [**l=ta=**s=cúy'=s**=a**[20] tsítcw-em=wit],
IMPF STA-get.fixed [**at=DET=**NOM=going.to=3POSS**=EXIS** house-MID=3PL]
nilh s=t'ak=s wa7 zex-láp kw=s=7ísa7
then NOM=go.along=3POSS IMPF move-floor DET=NOM=ísa7
'A short while later, when the place they were going to camp was already fixed up, along came ísa7, shuffling along on her behind.'

Here the situation is more variable with respect to the selectional properties of the preposition. Where the preposition has the same selectional properties in the containing clause and in the relative clause, there is obviously no way to tell which one surfaces: the first relative clause in (31) is an example of a 'matching' case like this. However, where no preposition is selected in the containing clause (i.e., the relative clause is a direct argument of the matrix predicate), the preposition selected inside the relative clause may surface, as in (32)–(33).[21] (This is not always the case, as can be seen in the second relative clause in (31), which lacks an initial preposition, possibly because it is in subject rather than complement position.)

The potential theoretical relevance of preposition fronting in locative relatives was first pointed out by Kroeber (1997) in his pioneering analysis of relativization in Thompson (River) Salish. Thompson introduces locative relatives with a preposition followed by a determiner, as in the St'át'imcets nominalized locative relative (see (1) above); Kroeber observes that in cases where a fronted preposition is clearly selected in a lower clause, there is a prima facie case for syntactic movement: "…and the sort of movement involved in preposition fronting is similar to

[20] The prospective auxiliary *cuz'* is often pronounced *cuy'* before a coronal fricative.
[21] See Kroeber (1999: 333–35) for parallel cases in Thompson.

the *wh*-movement found in relative clauses and *wh*-questions in European languages, in that the moved constituent is placed at the left margin of the clause" (Kroeber 1997: 397).

However, Kroeber goes on to identify two potential problems, which he claims cast doubt on this analysis. First, he points out that the fact that the preposition apparently moves all by itself (without a supporting relative pronoun) is odd if this is really a standard case of WH-movement. And second, since he assumes the determiner that follows the fronted preposition is selected *outside* the relative clause, the position of the preposition is anomalous – it appears to be completely outside the relative clause, at least in headless relatives.

Both these problems can be resolved, however, if the determiner following the fronted preposition is *moved from within the relative clause*, rather than being selected from outside it. In the next subsection I provide direct evidence for this proposal.

4.2. Determiner mismatches and D(P) movement.

It is not only the initial preposition of nominalized locative relatives that displays the selectional properties of the gap inside the relative clause, rather than those of the containing DP: the same thing is true of the determiner which immediately follows the preposition. As with prepositions, this is easiest to see in headed relatives. For example, in (28) above the unmarked assertion-of-existence determiner *ti=* introduces the DP ***ti****=[tmícw=****a*** *[lhel=ni=s=ts7ás=ts=a s=Lisa]]* 'the land from which Lisa came'; however, introducing the relative clause *[lhél=****ni=****s=ts7ás=ts=****a*** *s=Lisa]*, we find the absent determiner *ni=*, which together with the fronted preposition *lhel=* 'from' denotes the place from which Lisa (previously) came. (Absent determiners in St'át'imcets are frequently used to mark temporal as well as spatial displacement, in which case they are generally translated as past tense.) The mismatch in determiners reflects the fact that the first (outer) determiner has the selectional properties of the containing DP, but the second (inner) one has the selectional properties of the target of relativization, the PP complement to *ts7as* 'come'.

The single determiner in headless locative relatives with a fronted preposition may also reflect the selectional properties of its clause-internal source rather than its containing DP, as shown by the minimal pair in (34)–(35) below (judgements are from the same speaker in the same elicitation session).

(34) pú.pen'=lhkan [**l=kw=**n=s=cúz' t'íkw-em
find+REDUP=1SG.SU [**at=REM.DET=**1SG.POSS=NOM=going.to shelter-MID
lhel=ta=s-kwís=a]
from=DET=NOM-rain=EXIS]
'I found somewhere to shelter from the rain.' (Literally: '…where I was going to shelter from the rain.')

(35) pú.pen'=lhkan [**l=t=**n=s=wa ka-t'íkw-em-a
find+REDUP=1SG.SU [**at=DET=**1SG.POSS=NOM=IMPF**+EXIS** CIRC-shelter-MID-CIRC
lhel=ta=s-kwís=a]
from=DET=NOM-rain=EXIS]
'I found somewhere to shelter from the rain.' (Literally: '…where I was able to shelter from the rain.'

Though they are translated into English identically, (34) and (35) do not have identical meanings. In (34), the speaker is referring to a reference time before she has taken shelter; in (35), the

reference time is located after the point where she has taken shelter. This information is carried by the contrasting determiners: the *ku=* determiner in (34) (which surfaces in its contracted form of *[kw]*) refers to an event which has not yet been realized at the reference time; the *ta=* determiner in (35) (which surfaces in its contracted form of *[t]*) refers to an event which has already taken place at the reference time. Notice that the determiners are not related to the event of *finding* shelter (denoted by the matrix predicate *púpen'*) but to the event of *taking* shelter (denoted by the relative clause predicate *t'íkwem*): they must thus be related to a position inside the relative clause, not to one in the matrix clause.

While evidence from preposition fronting is confined to nominalized locative relatives, evidence from determiner mismatches is not. To start with, since postnominal relatives also have two determiners (see (8) above), we might expect to find mismatches there, and we do, as shown earlier in (3)–(4) and as further illustrated in (36)–(38):

(36) pún=lhkan aylh **ta=**[mets-lák7**=a**
find(TR)=1SG.SU now **DET$_1$=**[write-implement**=EXIS**
[**na=**pel'p-s-ácw**=a** i=nátcw=as]]
[**ABS.DET$_2$=**lose-CAU-2SG.ERG**=EXIS** when(PAST)=day=3CNJ]]
'I've found the pen you lost yesterday.'

(37) sucwt-en=lhkácw=ha t7u **ta=**[smém'lhats**=a**
recognize-TR=2SG.SU=YNQ DEM **DET$_1$=**[girl**=EXIS**
[**na=**pzán-em**=a**[22] láku7 ts'k'wáylacw=a]]
[**ABS.DET$_2$=**meet(TR)-PASS**=EXIS** there Pavilion=EXIS]]
'Do you recognize that girl over there who we met at Ts'k'wáylacw (Pavilion)?'

(38) nas píx-em' ta=sqátsza7-s=a **ta=**[twéww'et**=a**
go hunt-MID DET=father-3POSS=EXIS **DET$_1$=**[boy**=EXIS**
[**na=**ats'x-en-ácw**=a**]]
[**ABS.DET$_2$=**see-TR-2SG.ERG**=EXIS**]]
'The father of the boy you saw is going hunting.'

In these examples, the relative clause refers to a time that is already past with respect to the main clause, so the absent determiner *na=* is used in the relative clause, whereas the unmarked *ta=* determiner is used on the head NP. See Koch (2004: 274–276) for parallel cases in Thompson.

Putting together the evidence from pied-piping and determiner mismatches, we can now provide a preliminary structure for postnominal relatives, including nominalized locatives. In both cases, a DP (with a pied-piped preposition, in locative cases) undergoes A'-movement to the left periphery of the relative clause. This is shown schematically in (39b) for the postnominal relative in (39a), and in (40b) for the nominalized locative relative in (40a).

[22] Like other Interior Salish languages, St'át'imcets lacks a first person plural transitive subject marker, and employs passive instead.

(39) *Postnominal relative*

a. ta=ts'qáx7=a na=qí7cw=a=tu7
DET=horse=EXIS ABS.DET=bolt=EXIS=REM
'the horse which bolted'

b. [ta=…=a [**ts'qáxa7$_1$** [[na=…=a ***e*$_2$**] [qi-7-cw tu7 ~~**DP**$_2$~~]]]
[the [**horse$_1$** [[which ***e*$_2$**] [bolted ~~**DP**$_2$~~]]]
[$_{DP1}$ D$_1$ [$_{NP}$ **NP$_1$** [$_{CP}$ [$_{DP2}$ D$_2$ **NP$_2$**] [… ~~**DP**$_2$~~]]]

(40) *Nominalized locative relative*

a. ta=táown=a l=ta=n=s=ka-hál'h=a
[DET=town=EXIS in=DET=1SG.POSS=NOM=CIRC-appear(-CIRC)=EXIS][23]
'the town in which I was born'

b. [ta=…=a [**taown$_1$** [[l= [ta=…=a ***e*$_2$**]] [nskahál'ha ~~**PP**~~]]]]
[the [**town$_1$** [[in [which ***e*$_2$**]] [I was born ~~**PP**~~]]]]
[$_{DP1}$ D$_1$ [$_{NP}$ **NP$_1$** [$_{CP}$ [$_{PP}$ P [$_{DP2}$ D$_2$ **NP$_2$**]] [$_{TP}$ … ~~**PP**~~]]]]

In both cases, the external determiner D_1 introduces an NP containing an initial NP head, NP_1, and a right adjoined CP. Within the CP, movement takes place to the left periphery, leaving an unpronounced copy of the moved constituent (marked by strike-through) in TP. In the postnominal case, it is DP_2 (consisting of D_2 and its empty NP complement e_2) which moves; in the nominalized locative case, it is the PP containing DP_2 which moves.

4.3. Determiner mismatches in single determiner relative clauses.
So far, we have concentrated on 'double determiner' relative clauses, where determiner mismatches give us straightforward evidence for movement of D(P). However, it turns out that mismatches can also be detected in relative clauses with only a single determiner, including headless (i.e., *pro*-headed), prenominal, and postposed relatives. Just as in the headless locative relatives in (34) and (35) above, the single determiner in these cases optionally shows the selectional properties of the target of relativization rather than the containing DP. This is shown for headless relatives in (41)–(43), for prenominal relatives in (44)–(46), and for postposed relatives in (47)–(49):

Headless relatives

(41) wá7=lhkan áts'x-en [**na/ta=**wá7 cwíl'-n-acw]
IMPF=1SG.SU see-TR [**ABS.DET/DET**=IMPF seek-TR-2SG.ERG]
'I see what you were looking for!'

[23] The existential enclitic *=a* and the circumstantial suffix *-a* coalesce when adjacent, as here.

(42) a. kan áts'x-en tákem i=n-ts'qáx7=a!
1SG.SU see-TR all PL.DET=1SG.POSS-horse=EXIS
'I see all my horses!

b. lan t'iq **t7u** [**na/ta=**qí-7-cw**=a**]
already arrive **over.there** [**ABS.DET/DET=**bolt+INCH**=EXIS**]
'That one over there that bolted has returned.'

(43) pún=lhkan aylh **ts7a** [**na/ta=**pel'p-s-án**=a**=tu7
find+TR=1SG.SU now **this** [**ABS.DET/DET=**lose-CAU-1SG.ERG**=EXIS**=REM
i=gáp=as]
when.PST=evening=3CNJ]
'I just found this that I lost last night.'

Prenominal relatives

(44) kan áts'x-en **t7u** [**na/ta=**cwil'-n-ácw**=a** st'alhálam]
1SG.SU see-TR **over.there** [**ABS.DET/DET=**seek-TR-2SG.ERG**=EXIS** grizzly]
'I see that grizzly over there you were looking for!'

(45) lan t'iq **t7u** [**na/ta=**qí-7-cw**=a** n-ts'qáxa7]
already arrive **over.there** [**ABS.DET/DET=**bolt+INCH**=EXIS** 1SG.POSS-horse]
'That horse of mine over there that bolted has returned.'

(46) pún=lhkan aylh **ts7a** [**na/ta=**pel'p-s-án**=a** n-metsláka7]
find+TR=1SG.SU now **this** [**ABS.DET/DET=**lose-CAU-1SG.ERG**=EXIS** 1SG.POSS-pen]
'I just found this pen I lost.'

Postposed relatives

(47) kan áts'x-en [**ta=/na=**st'alhálam**=a** cwíl'-n-acw]
1SG.SU see-TR [**DET=/ABS.DET=**grizzly**=EXIS** seek-TR-2SG.ERG]
'I see the grizzly you were looking for!'

(48) lan t'iq **t7u** [**ta=/na=**n-ts'qáx7**=a** qi-7-cw]
already arrive **over.there** [**DET=/ABS.DET=**1SG.POSS-horse**=EXIS** bolt+INCH]
'My horse over there that bolted has returned.'

(49) pún=lhkan aylh **ts7a** [**ta=/na=**n-metslák7**=a** pel'p-s-án]
find+TR=1SG.SU now **this** [**DET=/ABS.DET=**1SG.POSS-pen**=EXIS** lose-CAU-1SG.ERG]
'I just found this pen I lost.'

In each of these examples, the absent determiner *na=* is interpreted with respect to a reference time in the relative clause which precedes that of the matrix clause, while in contrast the head of the relative clause must be construed as present at the utterance time (for example, because it is anchored to a visible demonstrative such as *t7u* 'over there' or *ts7a* 'here'). In other words, the

single determiner introducing these relatives optionally corresponds to the clause-internal rather than to the clause-external determiner of postnominal relatives. It is important to emphasize that absent determiners are *not* permitted in cases parallel to (41)–(49) which do not contain a relative clause (and thus do not allow two separate predication times):

(50) kan áts'x-en **t7u** [***na/ta=**st'alhálam**=a**]
1SG.SU see-TR **over.there** [***ABS.DET/DET=**grizzly**=EXIS**]
'I see that grizzly over there!'

The implication of these findings is clear: the underlying structures of single determiner relatives must contain *two* determiners, just like double determiner (postnominal) relatives: an external one introducing the whole DP, and an internal one moved from a position inside the relative clause. And this in turn means we need some mechanism or mechanisms to delete one or other of the determiners in relatives where only a single one surfaces. It is to this task that I turn next.

4.4. The Double Determiner Filter and the derivation of postposed relatives.
In order to account for the fact that only a single determiner surfaces in headless, prenominal and postposed relatives, even though two determiners are hypothesized underlyingly, I propose the *Double Determiner Filter* (DDF) in (51), which blocks the pronunciation of one of two adjacent determiners at PF.

(51) *Double Determiner Filter*
*[D_1…D_2] where no lexical head intervenes between D_1 and D_2

The reason for the condition on lexical heads is to allow the DDF to apply across prepositions (which are non-lexical in St'át'imcets); this will correctly rule out surface sequences consisting of [D_1 [P D_2]].

We will also need a rule of determiner deletion/non-pronunciation:

(52) *Determiner Deletion*
Delete one of two phonologically adjacent determiners.

Note that though one determiner must surface, (52) does not say which. This is the right outcome: in cases of determiner mismatch, either may be overt, as shown in (41)–(49) above.

The most crucial part of the DDF is that it requires phonological adjacency. This means that in order for the filter to operate, the internal (moved) determiner must end up to the left of the head NP, if the latter is overt; otherwise, the head would intervene between the two determiners and the DDF would not apply. In the case of prenominal relatives, this is exactly the configuration yielded by DP movement to the left periphery of the relative clause, as shown for the prenominal relative in (53a) by the schematic representation in (53b):

(53) *Prenominal relative*

a. na=qí7cw=a=tu7 ts'qáxa7
ABS.DET=bolt=EXIS=REM horse
'the horse which bolted'

b. [~~ta=…=a~~ [[[na=…=a ***e*****2**] [qi7cw tu7 ~~**DP**2~~]] **ts'qáxa7****1**]]
[~~the~~ [[[which ***e*****2**] [bolted ~~**DP**2~~]] **horse****1**]]
[$_{DP1}$ ~~**D**1~~ [$_{NP}$ [$_{CP}$ [$_{DP2}$ D$_2$ **NP****2**] [$_{TP}$ … ~~**DP**2~~]] **NP****1**]]

Here the external determiner D_1 takes NP as its complement. NP contains NP_1, the head of the relative, and a relative clause, CP. Movement of DP_2 to the left periphery of CP leaves an unpronounced copy ~~DP_2~~ in TP. DP_2 is headed by D_2, which now finds itself adjacent to D_1; consequently, deletion/non-pronunciation of D_1 (represented here by strike-though) is triggered by the DDF.

Headless relatives may be treated in exactly the same way, if we regard them simply as *pro*-headed variants of prenominal relatives, as in (54).

(54) *Headless relative*

a. na=qí-7-cw=a=tu7
ABS.DET=bolt+INCH=EXIS=REM
'the one which bolted'

b. [~~ta=…=a~~ [[[na=…=a ***e*****2**]] [qi7cw tu7 ~~**DP**2~~]] ***pro*****1**]]
[~~the~~ [[[which ***e*****2**]] [bolted ~~**DP**2~~]] ***pro*****1**]]
[$_{DP1}$ ~~**D**1~~ [$_{NP}$ [$_{CP}$ [$_{DP2}$ D$_2$ **NP****2**]] [… ~~**DP**2~~]] **NP****1**]]

This leaves postposed relatives. Here we run into a potential problem, illustrated in (55b), which is the schematic representation of the postposed relative in (55a):

(55) *Postposed*

a. na=ts'qáx7=a qí-7-cw=tu7
ABS.DET=horse=EXIS bolt(INCH)=REM
'the horse which bolted'

b. [~~ta=…=a~~ [**ts'qáxa7**$_1$ [[na=…=a ***e***$_2$] [qi7cw tu7 ~~**DP**$_2$~~]]]
[~~the~~ [**horse**$_1$ [[which ***e***$_2$] [bolted ~~**DP**$_2$~~]]]
[$_{DP}$ ~~**D**$_1$~~ [$_{NP}$ **NP**$_1$ [$_{CP}$ [$_{DP2}$ D$_2$ **NP**$_2$] [… ~~**DP**$_2$~~]]]

The problem is easy to see: the initial head NP_1 intervenes between D_1 and D_2, which should block the application of the DDF.

There are two potential ways round this problem. The simplest is to treat postposed relatives as variants of *postnominal* relatives, where D_2 is not pronounced. This predicts, however, that the single overt determiner in postposed cases should always correspond to the *first* (external) determiner (D_1) of postnominal relatives, contrary to fact; as observed in section 4.2, (and as can be seen in (55)), it is perfectly grammatical for D_2 to surface instead.

The second solution – which I will adopt – is to derive postposed cases from *prenominal* relatives via extraposition of the relative clause containing the trace of the A'-moved DP headed by D_2. Under this approach, the derived structure of (55a) will look something like (56).

(56) [~~ta=…=a~~ [[[na=…=a e_2] [~~qi7cw tu7 DP_2~~]] **ts'qáxa7$_1$**]] [qi7cw tu7 ~~DP_2~~]
[~~the~~ [[[which e_2] [~~bolted DP_2~~]] **horse$_1$**]] [qi7cw tu7 ~~DP_2~~]
[$_{DP1}$ ~~D_1~~ [$_{NP}$ [$_{CP}$ [$_{DP2}$ D_2 **NP_2**] [$_{TP}$ ~~… DP_2~~]] **NP_1**]] [$_{TP}$ qi7cw tu7 ~~DP_2~~]

Here, we begin with a prenominal structure like that in (53b), where DP_2 moves to the left periphery of CP and the DDF forces either D_1 or D_2 to remain unpronounced. The innovation is that the 'remnant' TP *[qi7cw tu7 ~~DP_2~~]* containing the trace/unpronounced copy of DP_2 extraposes, yielding the correct surface order.[24]

4.5. Conjunctive locative relatives and the Doubly Filled Comp Filter.

I have now introduced the key elements of a unified analysis for five out of the six types of relative clause in St'át'imcets. However, the sixth, the conjunctive locative relative, does not — at least at first — look particularly amenable to the kind of approach I have been taking to the other five. Conjunctive locatives, recall, are introduced by the complementizer *lh=* rather than by a preposition-determiner combination, and so cannot in principal yield pied piping or determiner mismatch data.

However, a case can be made that there is indirect evidence for determiner movement even in conjunctive relatives. The evidence comes from the presence (in semantically appropriate contexts) of the enclitic *=a* which normally accompanies assertion-of-existence determiners, including *ta=/ti=*, *na=/ni=* and their plural counterparts. The enclitic shows up on the end of the first appropriate host in the relative clause, which most often consists of a contracted version of the imperfective auxiliary *wa7* together with conjunctive subject marking. Example (20) above illustrates this, as do the textual examples in (57)–(58) below (from Davis 2004), the first containing a headed and the second a headless conjunctive relative:

(57) wa7 láku7 [ta=kíkws=a tsétstecw [**lh**=ás**=a** wa7]]
IMPF there [DET=little=EXIS little.house [**COMP=**IMPF+3CNJ**=EXIS** be]]
l=ta=s-q'út-s=a ta=tsitcw-kálh=a
at=DET=NOM-side-3POSS=EXIS DET=house-1PL.POSS=EXIS
'There was a little house beside our house where she lived.' *(Matthewson 2005: 62)*

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[24] Davis (2002) notes the existence of 'partial' extraposition from prenominal relatives in St'át'imcets, where an adjunct PP or CP is extraposed, stranding the predicate of the relative clause in its original position before the head:

(i) wá7=lhkacw=ha lexláx-s [na=[**áts'x-en-ém**=a [míxalh]] [**s-k'ík'ta7-s=a**
IMPF=2SG.SU=YNQ remember-CAU [ABS.DET=[**see-TR-PASS**=EXIS [bear]] [**NOM-close-3POSS=EXIS**
ta=s-tsunam'-cal-álhcw=a]]?
DET=NOM-teach-ACT-place=EXIS]]
'Do you remember the bear we saw close to the school?'

(ii) pún=lhkan [na=**qwez-en-ácw**=a [metsláka7]] [**i=wá7=acw**
find=1SG.SU [ABS.DET=**use-TR-2SG.ERG**=EXIS [pen]] [**when(PAST)=IMPF=2SG.CNJ**
mets-cál]]
write-**ACT**]]
'I found the pen I was using to write with.'

This constitutes independent evidence that a sub-constituent of the relative clause may be extraposed.

(58) cílqs=wit s-k'ík'ta7-s=a [**lh**=ás**=a** ts7as ta=sméqem=a]
land=3PL NOM-close-3POSS=EXIS [**COMP=**IMPF+3CNJ**=EXIS** come DET=smoke=EXIS]
'They landed close to where the smoke was coming from.'

The best way to understand the presence of *=a* in these cases is to assume that a determiner is fronted in conjunctive relatives, just as in the other types of relative we have examined. Though the determiner itself fails to surface due to the competing presence of the proclitic complementizer *lh=*, its accompanying *=a* — which as an enclitic is not in direct competition with the complementizer — gives its position away. This effect should be familiar: complementizers compete with moved relative pronouns in English, too, as seen in (59):

(59) [the man (*who) that I saw]

The usual explanation for examples like (59) is to appeal to the *Doubly Filled Complementizer Filter* (DFCF), originally proposed by Chomsky and Lasnik (1977). Note that in English, as in St'át'imcets, the DFCF cannot be formulated as a competition for a single syntactic slot, since it is generally assumed that moved relative pronouns (or determiners, in the case of St'át'imcets) occupy a [SPEC, CP] position, rather than the complementizer position itself. Accordingly, I will formulate the DFCF as follows:

(60) *Doubly Filled Comp Filter*
*[$_{CP}$ XP C…], where XP and C both contain phonologically overt material.

We will also need a deletion rule to accommodate cases where a P + D combination deletes/remains unpronounced adjacent to a lexical complementizer. I state it in its simplest form in (61).

(61) *P + D deletion*
Delete [P + D] immediately preceding C.

With the DFCF in place, and in spite of considerable surface morphophonological differences, we are now in a position to reconcile the syntactic structures of nominalized and conjunctive locative relative clauses: both involve movement of a constituent consisting of P + D to a clause-initial position.

5. The position of the head: matching versus raising in St'át'imcets relatives.

So far, I have established that in all six types of relative clause, an NP moves (via its containing DP) to a left peripheral position within the clause, which we may identify as [SPEC, CP]. The surface form of single determiner relatives is accounted for by the operation of two surface filters, the DDF and the DFCF, while postposed relatives are derived from prenominal relatives via extraposition of a remnant TP. I now turn to the relation between NP_1, the head of the relative clause, and NP_2, the clause-internal NP moved along with its containing DP_2 to the left periphery of CP. It is generally agreed that the two must be identified. The question now arises as to how this is accomplished.

One possibility, due to Sauerland (1998, 2004) is that the moved NP_2 enters into a *matching* relation with the external NP_1 head of the relative. NP_2 then deletes under identity with NP_1, via a form of NP ellipsis.[25]

A second possibility is that the two positions are derivationally related. On this analysis there is no external head at all: instead NP_1 *is* (a copy of) NP_2, *raised* into its surface position from inside DP_2. The raising analysis of relative clauses originates with Brame (1968) and Vergnaud (1974), and has been subsequently revived by Kayne (1994) and others.[26]

In order to see how the two analyses might work for St'át'imcets, let us take a typical postnominal relative such as that in (62a) below. The matching analysis is given in (62b), and the raising analysis in (62c).

(62) *Postnominal relative*

a. ta=ts'qáx7=a na=qí-7-cw=a=tu7
DET=horse=EXIS ABS.DET=bolt[INCH]=EXIS=REM
'the horse which bolted'

Matching

b. $[_{DP1}$ ta=…=a $[[_{NP1}$ **ts'qáxa7**$]$ $[_{CP}$ $[_{DP2}$ na=…=a $[_{NP2}$ ~~**ts'qáxa7**~~$]]$ $[_{TP}$ qi7cw tu7 ~~DP~~$_2]]]$

Raising

c. $[_{DP1}$ ta=…=a $[_{CP}$ $[[_{NP2}$ **ts'qáxa7**$]$ $[_{DP2}$ na=…=a $[_{NP2}$ ~~**ts'qáxa7**~~$]]$ $[_{TP}$ qi7cw tu7 ~~DP~~$_2]]]$

Comparing (62b) and (62c), we see that under both analyses DP_2, containing NP_2, moves to a left-peripheral position in CP. In the matching structure (62b), NP_2 remains in DP_2, and deletes under identity with NP_1, the external head of the relative clause. In the raising structure, NP_2 raises out of DP_2 to a surface position following D_1 but preceding D_2.[27]

Prenominal relatives will work the same way, with the difference that the dependency between the two NPs will be reversed, as shown in (63) below. This results in a 'backwards

[25] I assume here that ellipsis involves deletion under identity. For an explicit semantic treatment of matching via ellipsis, including a careful treatment of the relevant identity conditions, see Sauerland (2004).

[26] A third possibility is that there is no identity relation at all between NP_1 and NP_2; this is the familiar *external head* analysis, in which NP_2 corresponds to a semantically empty operator whose sole purpose is to create a lambda abstract over an argument position in the relative CP (see e.g., Heim and Kratzer 1998 for an implementation). However, I assume here, following arguments in Sauerland (1998) and Safir (1999), that restrictive relative clauses cannot be purely externally headed, and therefore must instantiate either the matching or the raising structure.

[27] With respect to the derived position of NP_2, there are two main variants of the raising analysis: the first 'CP-internal' analysis (due originally to Kayne 1994, and modified by Bianchi 2000) either adjoins the raised NP to its containing DP within the relative CP (Kayne), or moves it to [SPEC, CP] (Bianchi); the second (due to Bhatt 2002) moves the NP right out of CP into an external head position. For expository purposes, I will adopt the first variant here; nothing crucial hinges on this decision.

ellipsis' configuration under the matching analysis (63b) and a rightward movement dependency under the raising analysis (63c).

(63) *Prenominal relative*

a. na=qi-7-cw=á=tu7 ts'qáxa7
ABS.DET=bolt[INCH]=EXIS=REM horse
'the horse which bolted'

Matching

b. $[_{DP1}$ ~~ta=…=a~~ $[\ [_{CP}\ [_{DP2}$ na=…=a $[_{NP2}$ **~~ts'qáxa7~~**]] $[_{TP}$ qi7cw tu7 ~~DP_2~~]] $[_{NP1}$ **ts'qáxa7**]]

Raising

c. $[_{DP1}$ ~~ta=…=a~~ $[_{CP}\ [[_{DP2}$ na=…=a $[_{NP2}$ **~~ts'qáxa7~~**]] $[_{TP}$ qi7cw tu7 ~~DP_2~~]] $[_{NP2}$ **ts'qáxa7**]]

Postposed relatives will have identical representations, with the added complication that the remnant TP *[qi7cw tu7* ~~*DP*~~$_2$*]* is extraposed: see section 4.4 above.

Empirically, the raising and matching analyses are very close: in fact, the only significant difference between them hinges on whether it is necessary to reconstruct the head NP directly into its base position inside TP. Under the raising analysis there is a derivational relation between the two positions, via movement of DP_2 to [SPEC CP] followed by the raising of NP_2 out of DP_2, while under the matching analysis, there is an indirect anaphoric relation involving ellipsis of the moved NP_2 under identity with the external head NP_1. As we shall see, all of the empirical tests distinguishing the two analyses revolve around this single difference.

No previous work has been done on the issue of matching versus raising in St'át'imcets, and very little elsewhere in Salish.[28] Fortunately, however, there is an extensive literature comparing the matching and raising analyses for English, from which a number of diagnostic tests have emerged: see in particular Sauerland (1998, 2002, 2004), Bhatt (2002), and Hulsey and Sauerland (2006) for recent discussion. The general conclusion from this work is that *both* structures must be present in English. More specifically, relative clauses either test uniformly positive for raising *or* for matching diagnostics, with no overlap between the two sets: this argues that in English relative clauses may instantiate either one of these two distinct structures.

In the following sections, I will apply matching versus raising diagnostics to St'át'imcets, beginning with tests for the matching analysis.

[28] In fact, the only previous examination of the issue in the Salish literature is a preliminary attempt by Koch (2006) to argue in favor of the matching analysis for Thompson Salish, on the basis of the failure of bound possessive pronominals in the head of a relative to reconstruct into the relative clause. See section 5.2 below for further discussion.

5.1. Evidence for the matching analysis.
The literature provides two main tests for the matching analysis. The first involves *Binding Condition C*. In English, the heads of relative clauses containing R-expressions do not (obligatorily) reconstruct, as shown by the grammaticality of relative clauses like 'that paper by *Henry* which *he* has since disowned', and 'the rumor about *Henry* which *he* was most embarrassed by', where reconstruction would lead the R-expression to be c-commanded by a coreferential pronoun, violating Condition C.

It is relatively straightforward to replicate these cases in St'át'imcets, as shown in (64)–(67), which involve names embedded in the head of a relative clause linked to an extraction site c-commanded by a coreferential *pro*. They are all fully grammatical under the relevant interpretation.[29]

(64) *Postnominal relative*

cúz'=lhkan pzan [ta=[[snúk'wa7-s=a **[s=Mary]$_j$**]$_k$
going.to=1SG.SU meet(TR) [DET=[[relative-3POSS=EXIS **[NOM=Mary]$_j$**]$_k$
[[na=tsícw=a pal7-alts-mín-as ***pro**$_j$* e_k izánucwmas]]
[[ABS.DET=went=EXIS one-house-RED-3ERG ***pro**$_j$* e_k last.year]]
'I'm going to meet [[that relative of [Mary$_j$]'s] [whom$_k$ she$_j$ visited e_k last year]].'

(65) *Prenominal relative*

cúz'=lhkan pzan [[[ni=tsícw=a [pal7-alts-mín-as
going.to=1SG.SU meet(TR) [[[ABS.DET=went=EXIS [one-house-RED-3ERG
***pro**$_j$* e_k]] [snúk'wa7-s **[s=Mary]$_j$**]]]
***pro**$_j$* e_k]] [relative-3POSS **[NOM=Mary]$_j$**]]]
'I'm going to meet [[that relative of [Mary$_j$]'s]$_k$ [whom$_k$ she$_j$ visited e_k]].'

(66) *Postposed relative*

cúz'=lhkan pzan [[ti=[[snúk'wa7-s=a **[s=Mary]$_j$**]$_k$]
going.to=1SG.SU meet(TR) [[DET=[[relative-3POSS=EXIS **[NOM=Mary]$_j$**]$_k$]
[tsicw pal7-alts-mín-as ***pro**$_j$* e_k izánucwmas]]
[went one-house-RED-3ERG ***pro**$_j$* e_k last.year]]
'I'm going to meet [[that relative of [Mary$_j$]'s] [whom$_k$ she$_j$ visited e_k last year]].'

[29] A potential complication with Condition C as a diagnostic is the fact that Condition C effects often fail to hold in St'át'imcets (and a number of other Salish and neighboring languages: see Davis 2009 and references therein). However, cases of Condition C violations in St'át'imcets are crucially limited to cross-clausal environments, whereas the reconstruction cases we are interested in all involve intra-clausal relations.

(67) *Nominalized locative relative*

tsícw=kan áts'x=en [ni=[tsítcw-s=a
went=1SG.SU see-TR [ABS.DET=[house-3POSS=EXIS
[ti=n-sqátsez7=a]$_j$]$_k$ [[l=[t=s=rip-in'-ás=a
[DET=1SG.POSS-father=EXIS]$_j$]$_k$ [[in=[DET=NOM=raise-TR-3ERG=EXIS
pro$_j$ tákem i=stsmál't-s=a e_k]]]]
pro$_j$ all PL.DET=children-3POSS=EXIS e_k]]]]
'I went to see [[my father$_j$]'s house]$_k$ [in which$_k$ he$_j$ raised all his children e_k].'

In each of these examples, reconstruction of the head into the gap it controls (e_k) inside the relative clause would put the referential expression into the c-command domain of the subject; (64)–(66) involve reconstruction of a DP into direct object position, and (67), reconstruction of a PP into a locative adjunct position. It is independently known that these are configurations that normally induce Condition C violations in St'át'imcets (Davis 2009); I conclude that reconstruction cannot be taking place here, and therefore that (64)–(67) instantiate matching rather than raising structures.

This finding is supported by the second major diagnostic for the matching analysis, from Hulsey and Sauerland (2006) – only matching structures allow extraposition.[30] In (68)–(71), I give variants of the examples in (64)–(67) with a temporal adjunct belonging to the matrix clause intervening between the head and the relative clause, thus forcing extraposition of the clause (see also example (2) above).

(68) *Postnominal*

cúz'=lhkan pzan [ta=[[snúk'wa7-s=a **[s=Mary]$_j$]$_k$**
going.to=1SG.SU meet(TR) [DET=[[relative-3POSS=EXIS **[NOM=Mary]$_j$]$_k$**
natcw [[na=tsícw=a pal7-alts-mín-as ***pro***$_j$ e_k izánucwmas]]
tomorrow [[ABS.DET=went=EXIS one-house-RED-3ERG ***pro***$_j$ e_k last.year]]
'I'm going to meet [[that relative of [Mary$_j$]'s] tomorrow [whom$_k$ she$_j$ visited e_k last year]].'

[30] Since extraposition is an important component of the analysis of relatives given here, it is worth briefly considering why extraposed relatives are only compatible with the matching analysis. According to Hulsey and Sauerland, who follow Fox and Nissenbaum (2000) in adopting the 'late merger' analysis of adjuncts (Lebeaux 1988), extraposed relative clauses are not moved from a source position inside DP at all: they are merged in situ in their surface position, following (covert) QR of the DP with which they are interpreted. It follows straightforwardly that there can be no direct derivational relationship between the external head of the relative and the moved constituent inside the clause. However, this explanation is incompatible with the view taken here, where extraposition of TP in the case of postposed relatives crucially strands a determiner, and therefore must be derivationally related to a source position in the relativized DP. On the other hand, the anti-reconstruction effects associated with Condition C still argue for a matching rather than a raising structure *within* the source DP. It thus appears that the correlation between extraposition and the matching structure is correct, even though extraposition is taken here to be a derivational operation. I leave this issue open for further investigation.

(69) *Prenominal*

* cúz'=lhkan pzan [[[ni=tsícw=a [pal7-alts-mín-as
going.to=1SG.SU meet(TR) [[[ABS.DET=went=EXIS [one-house-RED-3ERG
pro$_j$ e_k]] ***natcw*** [snúk'wa7-s **[s=Mary]**$_j$]]]
pro$_j$ e_k]] ***tomorrow*** [relative-3POSS **[NOM=Mary]**$_j$]]]
'I'm going to meet [[that relative of [Mary$_j$]'s]$_k$ tomorrow [whom$_k$ she$_j$ went to visit e_k]].'

(70) *Postposed*

cúz'=lhkan pzan [[ti=[[snúk'wa7-s=a **[s=Mary]**$_j$]$_k$]
going.to=1SG.SU meet(TR) [[DET=[[relative-3POSS=EXIS **[NOM=Mary]**$_j$]$_k$]
natcw [tsicw pal7-alts-mín-as ***pro***$_j$ e_k izánucwmas]]
tomorrow [went one-house-RED-3ERG ***pro***$_j$ e_k last.year]]
'I'm going to meet [[that relative of [Mary$_j$]'s] tomorrow [whom$_k$ she$_j$ went to visit e_k last year]].'

(71) *Nominalized locative*

tsícw=kan áts'x=en ni=[tsítcw-s=a [ti=n-sqátsez7=a]$_j$]$_k$
went=1SG.SU see-TR ABS.DET=[house-3POSS=EXIS [DET=1SG.POSS-house=EXIS]$_j$]$_k$
izánucwemas [[l=[t=[*pro*]][s=rip-in'-ás=a *pro*$_j$ tákem
last.year [[in=[DET=[*pro*]][NOM=raise-TR-3ERG=EXIS *pro*$_j$ all
i=stsmál't-s=a e_k]]
PL.DET=children-3POSS=EXIS e_k]]
'I went to see [[my father$_j$]'s house]$_k$ ***last year*** [in which$_k$ he$_j$ raised all his children e_k].'

All but one of the types of relative clause illustrated in (68)–(71) freely allow matrix adjuncts to intervene between head and clause, indicating that the clause has been extraposed, and does not form a surface constituent with the head. Only the matching analysis is compatible with such structures.

The exception is with prenominal relatives, as in (69). However, such examples could not actually result from extraposition, since extraposed relative clauses are invariably situated to the *right* of the head with which they are construed. The extraposed variant of a prenominal relative is thus in fact a *postposed* relative such as that in (70), which does allow a matrix adjunct to intervene between head and clause.[31] It follows that since extraposition is possible from prenominal relatives, they must too support the matching analysis.[32]

5.2. (Non-)evidence for the raising analysis.

We can now conclude that the matching structure for St'át'imcets relatives is well supported by the two major diagnostic tests. However, in contrast, it turns out to be very difficult to apply tests for the raising analysis to St'át'imcets. In fact, it turns out that *none* of the standard raising tests in the literature on English apply to St'át'imcets, as detailed below.

[31] The ungrammaticality of (69) follows from the Same Side Filter discussed in footnote 16.

[32] Note that the facts in (69)–(70) provide additional support for the extraposition analysis of postposed relatives: see section 4.4 above.

The first and perhaps most famous argument in favor of the raising analysis in English is based on the interpretation of *idiom chunks*. If a piece of a non-compositional idiom can appear in the head position of a relative, with the remaining portion in the restricting clause, then reconstruction is necessary in order to put the idiom back together again. This provides an argument for the raising analysis in English cases like 'the advantage he took of me', 'the tabs they kept on us', and so on. Unfortunately, idioms of this kind are systematically lacking in St'át'imcets (and as far as I know, elsewhere in Salish), making this argument moot.[33]

The second diagnostic involves *Binding Condition A*. In English, elements subject to Condition A (reflexives and reciprocals) are generally taken to reconstruct, as evidenced by the grammaticality of examples like '[[the report on himself$_i$]$_j$ that John$_i$ wrote e_j]' and '[[the pictures of [each other$_i$]$_j$] that [the girls$_i$] took e_j]'; reconstruction is necessary in these cases in order to get the bound element into the local c-command domain of its antecedent. However, Condition A type reconstruction is impossible to replicate in St'át'imcets, since in Salish languages reflexives and reciprocals are formed by operations on the predicate, rather than by using independent reflexive and reciprocal pronouns.

Koch (2006: 137–140) does provide a variant of this diagnostic for Thompson Salish, however, exploiting the generalization that in Thompson, possessive pronouns are subject to a strict c-command condition, like reflexives and reciprocals in English: if a possessive pronoun has an intra-sentential antecedent, the antecedent *must* c-command the pronoun. Koch contrasts the Thompson examples in (72) and (73) below.

(72) xẓum-ʔúy=xeʔ t=k=sqeytn**-s**$_i$ **he=John**$_i$ [ɬ=sn̓-t-es ɬe=Mary]
big-really=DEM OBL=DET=fish**-3POSS**$_i$ **DET=John**$_i$ [DET=give-TR-3ERG DET=Mary]
'It was a really big fish$_i$ of John$_i$'s that he$_i$ gave to Mary.'

(73) xẓum-ʔúy=xeʔ t=k=sqeytn(***-s**$_i$**)** [ɬ=sn̓-t-es **he=John** ɬe=Mary]
big-really=DEM OBL=DET=fish(***-3POSS**$_i$**)** [DET=give-TR-3ERG **DET=John** DET=Mary]
'It was a really big fish (*of his$_i$) that John$_i$ gave to Mary.'[34]

The structure in (72) is fine, with the possessor *[he John]* binding a possessive pronoun on *sqeytn-s* 'his fish' in the head of the relative clause; however, when given the parallel structure in (73), where *[he John]* is down inside the relative clause, Koch's consultants remove the third person possessive marker *-s* from *sqeytn*. Koch takes this to indicate that binding in the latter case is blocked, which in turn means that no reconstruction takes place from the head, thereby furnishing an indirect argument against the raising analysis.

Though Koch's conclusion is certainly compatible with the evidence presented here, I am not sure that this particular argument goes through. The problem is that it is not clear that the possessed NP in (72)–(73) is actually in the head of a relative clause, as opposed to forming part of a complex nominal predicate *[xẓumʔúy tk sqeytn(s he John)]* '(be) a really big fish (of John's)'. On this latter analysis, the possessed phrase would be completely outside of the relative clause, and reconstruction would be impossible for irrelevant reasons. I therefore set this argument aside, and conclude that as yet Condition A-type binding provides no evidence either for or against the raising analysis.

[33] Koch (2006: 140) makes the same point for Thompson.

[34] Note that I have slightly altered Koch's glosses for ease of comparison with the St'át'imcets examples in this paper.

Let us then turn to a third potential diagnostic test: *scope reconstruction*. This test hinges on 'low scope' readings for elements in the head of a relative clause – that is, readings where a scope-sensitive element in the head takes scope below another scope-bearing element in the clause. Two cases of this type have been discussed in the literature. The first involves a quantified nominal in the head of a relative which is interpreted in the scope of a modal verb in the clause, as in the collective reading of 'many' in 'the *many* books which Gina *needed* for veterinary school were expensive', where each individual book need not be expensive. This test is impossible to apply in St'át'imcets, where nominal quantifiers do not show standard scope ambiguities (Matthewson 1999, Davis 2010).

The second type (due to Bhatt 2002) involves adjectival modifiers such as 'first' in examples like 'the first book that John told me that Tolstoy had written', where on the low scope reading 'first' applies to the books that Tolstoy had written, not the books that John had told me he had written. Similar ambiguities hold with prenominal 'only', as in 'the only book that John told me that Proust had written' and superlative *-est*, as in 'the longest book that John told me that Proust had written.' This test is potentially applicable to St'át'imcets, but fails in practice. To start with, unlike English, St'át'imcets does not allow adjectival modifiers like 'first' with adverbial meanings (74a). Instead, speakers disambiguate the readings by placing adverbial *kéla7* 'first' either in the higher clause (74b) or in the lower clause (74c), yielding unambiguously high and low scope readings, respectively.

(74) a. * paqwal'ikst-mín=lhkan ni=kél7=a pukw sqwál'-en-ts-as
read-RED=1SG.SU ABS.DET=first=EXIS book tell-TR-1SG.OBJ-3ERG
kw=s=John kw=s=mets-en-ás
DET=NOM=John DET=NOM=write-TR-3ERG
'I read the first book that John told me he had written.'

b. paqwal'ikst-mín=lhkan ni=púkw=a kéla7 sqwál'-en-ts-as
read-RED=1SG.SU ABS.DET=book=EXIS first tell-TR-1SG.OBJ-3ERG
kw=s=John kw=s=mets-en-ás
DET=NOM=John DET=NOM=write-TR-3ERG
'I read the book that John first told me he had written.' (not necessarily the one he he had written first)

c. paqwal'ikst-mín=lhkan ni=púkw=a sqwál'-en-ts-as
read-RED=1SG.SU ABS.DET=book=EXIS tell-TR-1SG.OBJ-3ERG
kw=s=John kw=s=kéla7 mets-en-ás
DET=NOM=John DET=NOM=first write-TR-3ERG
'I read the book that John told me he had written first.' (not necessarily the one he told me about first)

Similar problems beset the other ambiguous modifiers which Bhatt uses to motivate scope reconstruction in English: the St'át'imcets version of 'only', *tsukw (t'u7)*, never occurs as a prenominal modifer, and St'át'imcets lacks morphological superlatives altogether.

A fourth test seems more promising. It involves the *bound variable* reading of a pronoun in the head of a relative clause that is dependent on a quantifier in the restrictive clause. Since it is usually assumed that a condition of strict c-command holds between a quantifier and a bound

variable in its scope, English examples such as '[the letter from [his$_i$ boss]]$_j$ that [every employee]$_i$ dreads e_j]' argue for reconstruction and therefore a raising analysis. It *is* possible (though difficult) to construct counterparts to these cases in St'át'imcets, as in (75), with a postposed relative, and (76), with a nominalized locative relative:

(75) gwél-p=tu7 ni=taokth-álhcw=a, nilh s=gwel-p=s t'it
burn-INCH=REM ABS.DET=doctor-place=EXIS FOC NOM=burn-INCH=3POSS also
i=sít.st=as nelh=[[píph=a
when.PST=night=3CNJ PL.ABS.DET=[[paper=EXIS
lhel=ki=taokth-**í**$_j$=ha]$_k$ [wa7 qwen-án-itas
from=PL.DET=doctor-**3PL.POSS**$_j$=EXIS]$_k$ [IMPF need-TR-3PL.ERG
[tákem i=wá7 áol<u>s</u>em]$_j$ e_k] [nilh kw=a=s
[all PL.DET=IMPF sick]$_j$ e_k] [FOC DET+NOM=IMPF=3POSS
ka-7áz'=wit-a ku=kál'wat]]
CIRC-purchase=3PL-CIRC DET=medicine]]
'The doctor's office burnt down, and so the [[papers from their$_j$ doctors]$_k$ (i.e., prescriptions) [that [all the sick people]$_j$ needed e_k so that they could buy medicine]] got burnt last night, too.'

(76) gwél-p=tu7 ni=taokth-álhcw=a, nilh s=gwel-p=s t'it
burn-INCH=REM ABS.DET=doctor-place=EXIS FOC NOM=burn-INCH=3POSS also
i=sít.st=as nelh=[[píph=a
when.PST=night=3CNJ PL.ABS.DET=[[paper=EXIS
lhel=ki=taokth-**í**$_j$=ha]$_k$ [l=t=e_k [sa
from=PL.DET=doctor-**3PL.POSS**$_j$=EXIS]$_k$ [in=DET=e_k [NOM+IMPF+3POSS
s-mets **[**i=kál'wat=a [wa7 qwen-án-itas
STA-written **[**PL.DET=medicine=EXIS] [IMPF need-TR-3PL.ERG
[tákem i=wá7 áol<u>s</u>em]$_j$ e_k]]]]
[all PL.DET= IMPF sick e_k
'The doctor's office burnt down, and so the [[papers from their$_j$ doctors]$_k$ (i.e., prescriptions) [on [which]$_k$ were written [the medicine which [all the sick people]$_j$ needed] e_k]] got burnt last night, too.'

The problem with these cases as evidence for raising is not the configuration per se, but the status of bound variable anaphora with quantificational antecedents. If, as argued by Davis (2010), there are in fact no generalized quantifiers at all in St'át'imcets, then it is not clear that a pronoun covarying with a quantified expression such as *tákem i wá7 áol<u>s</u>em* 'all the sick people' need be c-commanded by its antecedent at any stage of the derivation, any more than a pronoun with an ordinary plural antecedent such as *i wá7 áol<u>s</u>em* 'the sick people' need be.

There is a further way to test the validity of variable binding cases like (75)–(76). Since by hypothesis, extraposition is only possible with matching relatives (see section 5.1 above), if bound variable anaphora is involved in (75)–(76) and bound variable anaphora is diagnostic for a raising structure, the prediction is that in these cases, extraposition will be blocked. This prediction is not borne out: inserting an adjunct between the head and the restrictive clause of examples (75)–(76), thereby forcing extraposition, makes no difference to their acceptability in St'át'imcets (compare the unacceptable English translations).

(77) gwél-p=tu7 ni=taokth-álhcw=a, nilh s=gwel-p=s t'it
burn-INCH=REM ABS.DET=doctor-place=EXIS FOC NOM=burn-INCH=3POSS also
nelh=[[píph=a lhel=ki=taokth-**í**$_j$=ha]$_k$
PL.ABS.DET=[[paper=EXIS from=PL.DET=doctor-**3PL.POSS**$_j$=EXIS]$_k$
i=sít.st=as [wa7 qwen-án-itas [tákem
when.PAST=night=3CNJ [IMPF need-TR-3PL.ERG [all
i=wá7 áolsem]$_j$ e_k] [nilh kw=a=s
PL.DET=IMPF sick]$_j$ e_k] [FOC DET+NOM=IMPF=3POSS
ka-7áz'=wit-a ku=kál'wat]]
CIRC-purchase=3PL-CIRC DET=medicine]]
'The doctor's office burnt down, and so the [[papers from their$_j$ doctors]$_k$ (i.e., prescriptions) (*last night) [that [all the sick people]$_j$ needed e_k so that they could buy medicine]] got burnt, too.'

(78) gwél-p=tu7 ni=taokth-álhcw=a, nilh s=gwel-p=s t'it
burn-INCH=REM ABS.DET=doctor-place=EXIS FOC NOM=burn-INCH=3POSS also
nelh=[[píph=a lhel=ki=taokth-**í**$_j$=ha]$_k$
PL.ABS.DET=[[paper=EXIS from=PL.DET=doctor-**3PL.POSS**$_j$=EXIS]$_k$
[i=sít.st=as] [l=t=e_k [sa
[when.PAST=night=3CNJ] [in=DET=e_k [NOM+IMPF+3POSS
s-mets **[**i=kál'wat=a [wa7 qwen-án-itas
STA-written **[**PL.DET=medicine=EXIS] [IMPF need-TR-3PL.ERG
[tákem i=wá7 áolsem]$_j$ e_k]]]]
[all PL.DET= IMPF sick]$_j$ e_k]]]]
'The doctor's office burnt down, and so the [[papers from their$_j$ doctors]$_k$ (i.e., prescriptions) (*last night) [on [which]$_k$ were written [the medicine which [all the sick people]$_j$ needed] e_k]] got burnt, too.'

It seems, then, that there is no real equivalent in St'át'imcets to the bound variable readings that hold with quantificational antecedents in English; consequently, this diagnostic fails for St'át'imcets.

5.3. Summary.

A summary of the results reported in sections 5.1 and 5.2 is given in Table 2; '√' marks a positive result and '-' signifies that a test is inapplicable.

	Argues for	*Status in St'át'imcets*
Binding Condition C	matching	√
extraposition	matching	√
idiom chunks	raising	-
Binding Condition A	raising	-
scope reconstruction	raising	-
bound variables	raising	-

Table 2: Raising versus matching diagnostics in St'át'imcets

Table 2 reveals a striking — if puzzling — generalization: while the two main tests for the matching analysis yield unambiguously positive results, none of the four best-known tests for the raising analysis yield any results at all: for a variety of apparently independent reasons, all are inapplicable in St'át'imcets.

I conclude that there is robust evidence for the matching structure in St'át'imcets, but no evidence for the raising structure. While it is possible that the latter result is merely an accidental consequence of the fact that none of the standard diagnostic tests for the raising analysis apply, the stronger — and more interesting — hypothesis is that St'át'imcets lacks the raising structure altogether.

6. A unified analysis of St'át'imcets relative clauses.

Let us summarize the conclusions we have reached so far:

(i) All six types of relative clause (headless, prenominal, postposed, postnominal, nominalized locative, and conjunctive locative) involve A'-movement of a DP (with a containing PP in locative cases) from within the relative clause to a left peripheral position in CP, which I take to be [SPEC, CP].

(ii) Two filters, the Double Determiner Filter in (51) and the Doubly Filled Comp Filter in (60), account for the surface form of 'single determiner' relatives, by deleting a determiner when it is phonologically adjacent to either another determiner (as in headless, prenominal, and postposed relatives) or a complementizer (in conjunctive locative relatives).

(iii) Postposed relatives must be derived from prenominal relatives via extraposition of a remnant clause containing the trace of the relativized DP.

(iv) Evidence from (anti-)reconstruction effects and extraposition argues that a matching structure must be available for all relative clauses in St'át'imcets: in contrast, there is no evidence that a raising structure is necessary for any of them.

Putting these findings together, we can now see the outlines of a unified account. In particular, we have now reduced the six types of relative clause in St'át'imcets to just two:

(a) *Prenominal:* prenominal, headless and postposed relatives.

(b) *Postnominal*: postnominal, nominalized locative and conjunctive locative relatives.

The question now arises as to whether a further reduction is possible. In particular, can we derive either (a) from (b) or (b) from (a)? The former seems unlikely, since the derivation of a prenominal relative would have to involve 'intraposition' of the clausal part of a postnominal relative into a position following the initial determiner and preceding the nominal head (followed by a further round of extraposition in order to derive a postposed relative!).

The second option, however seems quite plausible. It would involve extraposition of the clausal portion of the relative from a prenominal source in a parallel fashion to the derivation of

postposed relatives: the difference would be that in the postnominal case, the entire CP (containing the moved DP) would extrapose, as opposed to the remnant TP which moves in the derivation of postposed relatives. Adopting such a further unification would then allow us to make the following general claim:

(79) *All* post-head relatives are derived by extraposition from a prenominal structure.

This hypothesis is compatible with all the evidence on relative clauses amassed here, and also fits well with what is known about *non-clausal* nominal modification in St'át'imcets. As shown in Davis (2002), all non-clausal modifiers (i.e., adjectives and nouns) are prenominal in St'át'imcets; they may extrapose if and only if they contain functional structure which will allow them to project to a clause. (Similar findings are reported by Koch 2004 for Thompson.) If all relative clauses have a prenominal source, we can extend the generalization in (79) across the board, as in (80):

(80) *All* nominal modification is underlyingly prenominal.

As for why certain types of relative clause (in particular, 'double determiner' types) *must* extrapose, this follows straightforwardly from the account I have given for single determiner types. Consider the case of postnominal relatives: if the modifying clause were to remain in prenominal position, it would create a sequence of two determiners which would then be subject to the Double Determiner Filter: the result would be a prenominal relative (or, if the remnant clause were then to be extraposed, a postposed relative). Alternatively, the entire relative clause (including its determiner) could extrapose, yielding a postnominal structure. For locative relatives (which only appear in postnominal guise), only the extraposed variant is permitted, presumably because the preposition blocks determiner deletion, but not the application of the Double Determiner Filter; the only option is therefore to extrapose (as with English PP modifiers, which only marginally appear in prenominal position).

Under this account, the difference between postnominal and postposed relatives hinges simply on the size of the extraposed constituent. In postnominal cases, the whole CP is extraposed, yielding a double determiner structure; in postposed cases, TP is extraposed, stranding the A'-moved DP inside the relative clause, forcing determiner deletion and thereby yielding a single determiner structure.

In view of the conceptual advantages of a unified account, I will tentatively adopt (79) and (80). However, it is important to bear in mind that none of the evidence I have presented here forces such a move; as far as I can see, an alternative account in which the clausal part of postnominal relatives is base-generated as a post-head adjunct makes identical empirical predictions.

One remaining question concerns the matching versus raising status of prenominal relatives, by hypothesis the base structure for all the other types. Since all post-head relatives are extraposed, they must instantiate the matching and not the raising structure, and since all post-head relatives are derived from a prenominal core, it follows that the latter must instantiate the matching structure, too. However, nothing I have said so far prevents prenominal relatives from being ambiguous between matching and raising (though only the former would permit extraposition). I currently have no way of empirically excluding this possibility (though there is no empirical evidence *for* the raising structure either, as pointed out in section 5.2 above).

Nevertheless, there are relatively strong conceptual reasons why we should restrict prenominal relatives to the matching analysis. Recall that under the raising analysis, the head NP in a prenominal structure moves from a position inside an A'-moved DP at the *left* periphery of the relative clause to the head position at the far *right* of the clause. Now, in one sense this movement is strictly local: the head of the clause locally c-commands the DP from which the NP is extracted. But in linear terms, the distance between the two positions is potentially unbounded. Consider, for example, the long-distance prenominal relative in (22b), repeated in (81) below, and schematized under the raising analysis in (82):

(81) ?? ats'x-en=lhkácw=ha ta=[[wá7 xát'-min'-an
see-TR=2SG.SU=YNQ DET=[[IMPF+EXIS want-RED-1SG.ERG
[kw=s=qús-cit-an]] st'alhálam]
[DET=NOM=shoot-IND-1SG.ERG]] grizzly]
'Did you see [the grizzly [I want to shoot]]?'

(82) [ta=…=a [[~~ta=…=a~~ **~~st'alhálam~~$_2$**] [[wa7 xát'min'an [kws qúscitan ~~**DP**~~$_2$]]] **st'alhálam$_2$**]]
[the [[~~which~~ **~~grizzly~~$_2$**] [[I wanted [to shoot ~~**DP**~~$_2$]]] **grizzly$_2$**]]
[$_{DP1}$ D$_1$ [$_{NP}$ [$_{DP2}$ ~~**D**~~$_2$ ~~**NP**~~$_2$] [$_{CP}$ [… [… ~~**DP**~~$_2$]]] **NP$_2$**]]

Here, rightward raising of NP_2 from inside the fronted DP_2 to its landing site in the NP head position of the relative crosses only a DP bracket, but NP_2 is *linearly* separated from its trace by the entire relative clause, which is a string of potentially unbounded length (though in practice, severely restricted by the Same Side Filter). To the extent that this constitutes unbounded rightward movement — a type of dependency generally considered to be a priori unavailable in the grammars of natural languages — we can conclude that the raising analysis of prenominal relatives cannot be correct.

Of course, we must also show that the matching analysis, schematized in (83) below for (81), does not run into similar problems.

(83) [ta=…=a [[[~~ta=…=a~~ ***e*$_2$**] [wa7 xát'min'an [kws qúscitan ~~**DP**~~$_2$]]] **st'alhálam$_1$**]]
[the [[[~~which~~ ***e*$_2$**] [I wanted [to shoot ~~**DP**~~$_2$]]] **grizzly$_1$**]]
[$_{DP1}$ D$_1$ [$_{NP}$ [$_{CP}$ [$_{DP2}$ ~~**D**~~$_2$ **NP$_2$**] [… [… ~~**DP**~~$_2$]]] **NP$_1$**]]

Recall that under this analysis, NP_2 is related to its antecedent NP_1 indirectly, by construal rather than by movement. (I have tentatively identified the relevant relation as one of NP ellipsis, following Sauerland 2002, though nothing crucial hinges on this.) This means that the dependency between NP_1 and NP_2 is not subject to constraints on movement, but to those on coreference, broadly construed; and since there are no grammatically encoded restrictions on the distance between coreferential elements, the potentially unbounded length of the dependency is not an issue. Furthermore, it turns out that one of the most striking characteristics of coreference in St'át'imcets is its very high tolerance for cataphoric (that is, rightward) dependencies (Matthewson 2009, Davis 2009; see Koch 2006 for similar findings in Thompson); this furnishes another indirect argument for the matching analysis in prenominal relatives such as (81).

I conclude that even in prenominal cases, there are good reasons to prefer the matching over the raising analysis. More generally, we can now make the following strong claim:

(84) *All* relative clauses in St'át'imcets are derived by matching rather than raising.

7. Conclusion.

I have now shown how all six types of St'át'imcets relative clause (prenominal, headless, postnominal, postposed, nominalized locative and conjunctive locative) can be derived from a common prenominal core in which a DP or PP constituent undergoes A'-movement to the left periphery of CP; from there, the NP inside the moved DP enters into a matching relationship with the external head of the relative clause (null in the case of 'headless' relatives). All post-head relatives are derived by extraposition of the relative clause containing the trace (unpronounced copy) of the moved DP or PP: in the case of postnominal relatives, including locatives, the whole relative CP (including the moved constituent) is extraposed; in the case of postposed relatives, the moved DP or PP is stranded, and a smaller clausal constituent (TP) is extraposed.

It remains to be seen to what extent the conclusions reached here for St'át'imcets can be generalized across the rest of the Salish family. Unfortunately, for most languages, there is as yet little work of sufficient syntactic detail to yield useful comparative data (though obviously, Kroeber's and Koch's work on Thompson Salish constitutes a noteworthy exception).

It is also worth mentioning that the two main analytical tools that I have employed here to elucidate the structure of relative clauses, namely pied piping of prepositions and determiner mismatches, are not evenly applicable across the family. Pied piping is dependent on a well-defined set of prepositions, a characteristic property of Interior Salish, Bella Coola, and the southern coastal region (encompassing Tillamook, the Tsamosan languages, and Lushootseed), but not of Central Salish languages of the northern coastal region, which have only a single multi-functional oblique marker. Determiner mismatches are dependent on a relatively rich array of semantically differentiated determiners, a characteristic property of Bella Coola, Central Salish, Tsamosan, Tillamook, and the Northern Interior, but notably lacking in Southern Interior languages. Furthermore, and as noted in footnote 5, relativization strategies are not evenly distributed across Salish: in particular, the double determiner structures which provide the most straightforward evidence for D(P) movement in relative clauses are much more common in the Interior (and in Bella Coola) than in Central Salish languages. It may be therefore rather harder to adduce evidence of the kind presented here for some branches of the family than for others.

Of course, the rapidly diminishing number of first language speakers of all remaining extant Salish languages is an even more pressing concern for the kind of investigation undertaken here, which is crucially dependent on grammatical intuitions about complex sentences. It is still true, for example, that outside of the Northern Interior (and to a lesser extent, the Southern Interior: see Baptiste 2002 on Okanagan), there is very little research investigating such basic A'-movement diagnostics as island effects; it seems to me urgent, while speakers are still willing and able, that such research should be carried out in as many Salish languages as possible.

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Appendix 1: Conversion chart for American Phonemic and Van Eijk St'át'imcets Practical Orthography.

orthography	phonemic	orthography	phonemic
p	p	q'w	q̓^{w}
p'	p̓	x	χ
m	m	xw	χ^{w}
m'	m̓	r	ɣ
t	t	r'	ɣ̓
ts	č	g	ʕ
t̲s̲	c	g'	ʕ̓
ts'	c̓	gw	ʕ^{w}
s	š	g'w	ʕ̓^{w}
s̲	s	h	h
n	n	w	w
n'	n̓	w'	w̓
t'	λ̓	y	y
lh	ɬ	y'	y̓
l	l	x	χ
l̲	l̓	z	z
l'	l̓	z'	z̓
k	k	7	ʔ
k'	k̓	a	æ
kw	k^{w}	ao	ɑ
k'w	k̓^{w}	e	ə
c	x	v	ʌ
cw	x^{w}	i	i
q	q	ii	e
q'	q̓	u	u
qw	q^{w}	o	o

Appendix 2: Abbreviations.

1 = first person, 2 = second person, 3 = third person, ABS = absent, ACT = active intransitive marker, CAU = causative transitivizer, CIRC = circumstantial modal circumfix, CNJ = conjunctive subject clitic, COMP = complementizer, DEM = demonstrative, DET = determiner, EMPH = emphatic, ERG = ergative (transitive) subject suffix, EXCL = exclusive enclitic, EXIS = existential enclitic, FOC = focus, IMPF = imperfective, INCH = inchoative, IND = indirective transitivizer, INS = instrumental, MID = middle intransitive marker, NEG = negative, NOM = nominalizer, NTS = non-topical subject marker, OBJ = object suffix, PL = plural, PASS = passive, POSS = possessive,

PAST = past, RED = redirective (relational) transitivizer, REDUP = reduplication, REM = remote, SG = singular, STA = stative prefix, SU = indicative subject clitic, TR = directive (full control) transitivizer, YNQ = yes-no question enclitic. A hyphen (-) corresponds to an affix boundary, a period (.) separates reduplicants, an equals sign (=) corresponds to a clitic boundary, and a plus sign (+) indicates a portmanteau morpheme whose elements are not linearly separable (including infixation). % indicates speaker variation with respect to grammaticality judgements.

Appendix 3: St'át'imcets determiners

	present	*absent*	*invisible*	*unknown*
singular	ta=/ti=…=a	na=/ni=…=a	ku=...=a	ku=
plural	i=…=a	nelh=…=a	kwelh=...=a	ku=/kwelh=
collective	ki=...=a			

Notes: (i) the distinction between *ta=* and *na=* on the one hand and *ti=* and *ni=* on the other is a dialectal one: Upper St'át'imcets speakers employ the forms with *[a]*, Lower St'át'imcets speakers the forms with *[i]*; (ii) all forms except 'unknown' *ku=* (and, for some speakers, *kwelh=*) occur with the second position enclitic *=a*, glossed by Van Eijk (1997) as 'reinforcing', but glossed here as 'assertion-of-existence' (EXIS), following Matthewson (1998); (iii) the plural present determiner *i=* surfaces as *ki=* following prepositions; this allomorph is probably the historical source of the collective determiner *ki=* (which is not employed by all speakers).

Appendix 4: St'át'imcets subject paradigms.

	indicative	*conjunctive*	*possessive*	*ergative*
1 singular	=lhkan	=an	n=	-an
2 singular	=lhkacw	=acw	=sw	-acw
3 singular	Ø	=as	=s	-as
1 plural	=lhkalh	=at	=lhkalh	(passive)
2 plural	=lhkal'ap	=al'ap	=lap	-al'ap
3 plural	Ø(=wit)	=as(=wit)	=i	-(tw)itas

Notes: (i) the *[lh]* at the beginning of the indicative subject series is often dropped after obstruents, and almost always after *[s]* and *[lh]*; (ii) the third person plural pronoun *[wit]* is usually omitted when it doubles an overt DP (Davis 2003); (iii) as in other Interior Salish languages, the first person plural ergative subject is missing entirely, and is replaced by passive endings. See Davis (1999, 2000) for details on where the various subject series are employed.