Mood and modality in St'át'imcets and beyond

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The St'át'imcets (Lillooet Salish) subjunctive mood appears in nine environments, with a range of semantic effects, including weakening an imperative to a polite request, turning a question into an uncertainty statement, and creating a free relative. The St'át'imcets subjunctive also differs from Indo-European subjunctives in that it is not selected by attitude verbs. In this paper I account for the St'át'imcets subjunctive using Portner's (1997) proposal that moods restrict the conversational background of a governing modal. I argue that the St'át'imcets subjunctive restricts the conversational background in a way which obligatorily weakens the modal's quantificational force. This obligatory modal weakening – not found with Indo-European moods – correlates with the fact that St'át'imcets modals differ from Indo-European modals along the same dimension. While Indo-European modals lexically encode quantificational force, but not conversational background, St'át'imcets modals encode conversational background, but not quantificational force (Matthewson et al. 2007, Rullmann et al. 2008).

1 Introduction

Many Indo-European languages possess both modals – lexical items which quantify over possible worlds – and subjunctive moods – agreement paradigms which usually require a licensing modal element. The contrast is illustrated for Italian in (1-2). (1a,b) contain modal auxiliaries; (2) contains subjunctive mood agreement which is licensed by the matrix attitude verb.

(1) a. ***deve***   essere nell' ufficio
     must+3SG+PRES+IND be in.the office
     'He must be in the office.'   (Italian; Palmer 2001:102)

   b. ***puo***   essere nell' ufficio
     may+3SG+PRES+IND be in.the office
     'He may be in the office.'   (Italian; Palmer 2001:102)

(2) dubito   che   ***impari***
     I.doubt   that   learn+3SG+PRES+***SBJN***
     'I doubt that he's learning.'   (Italian; Palmer 2001:117)

Previous work on the Salish language St'át'imcets (a.k.a. Lillooet; see Matthewson et al. 2007, Rullmann et al. 2008, Davis et al. 2009) has established the existence of a set of modals in this language, which differ in their semantics from those of Indo-European. Indo-European modals typically lexically encode distinctions of quantificational force, but leave conversational background (in the sense of Kratzer 1981, 1991) up to context. (1a), for example, unambiguously expresses necessity, while (1b) unambiguously expresses possibility. However, both modals allow either epistemic or deontic interpretations, depending on context. In contrast, modals in St'át'imcets lexically encode conversational background, but leave quantificational force up to context. (3a), for example, is unambiguously epistemic, but is compatible with either a necessity or a possibility interpretation, depending on context. (3b) is unambiguously deontic, but similarly allows differing quantificational strengths. See Matthewson et al. (2007), Rullmann et al. (2008), Davis et al. (2009) for extensive discussion.[1]

(3) a. wá7=***k'a***   s-t'al   l=ti=tsítcw-s=a   s=Philomena
         be=***EPIS***   STAT-stop   in=DET=house-3SG.POSS=EXIS   NOM=Philomena
         'Philomena must / might be in her house.'   ONLY EPISTEMIC

     b. lán=lhkacw=***ka***   áts'x-en ti=kwtámts-sw-a
         already=2SG.SUBJ=***DEON*** see-DIR DET=husband-2SG.POSS-EXIS
         'You must / can / may see your husband now.'   ONLY DEONTIC

A simplified table representing the difference between the two types of modal system is given in (4).

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[1] All St'át'imcets data are from primary fieldwork unless otherwise noted. Data are presented in the practical orthography of the language developed by Jan van Eijk; see van Eijk and Williams (1986). Abbreviations: ADHORT: adhortative, CAUS: causative, CIRC: circumstantial modal, COL: collective, COMP: complementizer, COND: conditional, CONJ: conjunctive, COUNTER: counter to expectations, DEIC: deictic, DEON: deontic, DEMON: demonstrative, DET: determiner, DIR: directive transitivizer, DS: different subject, EPIS: epistemic, ERG: ergative, EXIS: assertion of existence, FOC: focus, FUT: future, IMPF: imperfective, INCH: inchoative, INDIC: indicative, INFER: inferential evidential, IRR: irrealis, LOC: locative, MID: middle intransitive, NOM: nominalizer, OBJ: object, PRT: particle, PASS: passive, PERC.EVID: perceived evidence, PL: plural, POSS: possessive, PREP: preposition, REAL: realis, RED: redirective applicative, REM.PAST: remote past, SBJN: subjunctive, SG: singular, SIM: simultaneous, STAT: stative, TEMP.DEIC: temporal deictic, YNQ: yes-no question. The symbol - marks an affix boundary and = marks a clitic boundary.

(4)	quantificational force	conversational background
Indo-European	*lexical*	**context**
St'át'imcets	**context**	*lexical*

In this paper I extend the cross-linguistic comparison to the realm of mood. I argue that St'át'imcets possesses a subjunctive mood, and show that it induces a range of apparently disparate semantic effects, depending on the construction in which it appears. One example of the use of the subjunctive is given in (5): it weakens the force of a deontic modal. Other uses include turning imperatives into polite requests, and turning questions into statements of uncertainty (cf. van Eijk 1997, Davis 2006).

(5) a.   gúy't=***Ø***=ka   ti=sk'úk'wm'it=a
         sleep=***3INDIC***=DEON   DET=child=EXIS
         'The child should sleep.'

     b.   guy't=***ás***=ka   ti=sk'úk'wm'it=a
         sleep=***3SBJN***=DEON   DET=child=EXIS
         'I hope the child sleeps.'

I will show that the St'át'imcets subjunctive differs markedly from Indo-European subjunctives, both in the environments in which it is licensed, and in its semantic effects. I propose an analysis of the St'át'imcets subjunctive which adopts insights put forward by Portner (1997, 2003). For Portner, moods in various Indo-European languages place restrictions on the conversational background of a governing modal. I argue that the St'át'imcets subjunctive mood can be analyzed within exactly this framework, with the twist that in St'át'imcets, the restriction the subjunctive places on the governing modal obligatorily weakens its quantificational force.

This has an interesting consequence. While we can account for the St'át'imcets subjunctive using the same theoretical tools as for Indo-European, at a functional level the two languages are using their mood systems to achieve quite different effects. In particular, St'át'imcets uses its mood system to restrict modal force – precisely what this language does *not* restrict via its lexical modals. At a functional level, then, we find the same kind of cross-linguistic variation in the domain of mood as we do with modals. This idea is illustrated in the simplified typology in (6).

(6)	lexically restrict quantificational force	lexically restrict conversational background
Indo-European	*modals*	**moods**
St'át'imcets	**moods**	*modals*

These results suggest that while individual items in the realm of mood and modality lexically encode different aspects of meaning, the systems as a whole have very similar expressive power.

The structure of the paper is as follows. Section 2 introduces the St'át'imcets subjunctive data. I first illustrate the nine different uses of the relevant agreement paradigm, and then argue that this agreement paradigm is a subjunctive, rather than an irrealis mood. Section 3 shows that the St'át'imcets subjunctive is not amenable to existing analyses of more familiar languages. Section 4 reviews the basic framework adopted, that of Portner (1997), and section 5 provides initial arguments for adopting a Portner-style approach for St'át'imcets. Section 6 presents the formal analysis, and section 7 applies the analysis to a range of uses of the subjunctive. Section 8 concludes and raises some issues for future research.

2   St'át'imcets subjunctive data

St'át'imcets possesses a complex system of subject and object agreement. There are different subject agreement paradigms for transitive vs. intransitive predicates. For intransitive predicates, there are three distinct subject paradigms, one of which is glossed as 'subjunctive' by van Eijk (1997) and Davis (2006).[2]

(7)   Subject agreement paradigms for the intransitive predicate *tsut* 'to say':

	INDICATIVE[3]		SUBJUNCTIVE
	INDICATIVE	NOMINALIZED	
1SG	tsút=**kan**	**n**=s=tsut	tsút=**an**
2SG	tsút=**kacw**	s=tsút.=**su**	tsút=**acw**
3SG	tsut=**Ø**	s=tsut=**s**	tsút=**as**
1PL	tsút=**kalh**	s=tsút=**kalh**	tsút=**at**
2PL	tsút=**kal'ap**	s=tsút=**lap**	tsút=**al'ap**
3PL	tsút=**wit**	s=tsút=**i**	tsút=**wit=as**

(adapted from van Eijk 1997:146)

With transitive predicates, the situation is similar, except that there are four separate paradigms, one of which is subjunctive.[4]

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[2] The cognate forms are often called 'conjunctive' in other Salish languages, primarily in order to disambiguate the abbreviations for 'subject' and 'subjunctive'. See for example Kroeber (1999).

[3] The traditional terms for the first two columns are 'indicative' and 'nominalized' respectively. The nominalized endings are identical to nominal possessive endings, and are glossed as 'POSS' in the data. The choice between these first two paradigms is syntactically governed: the so-called 'indicative' surfaces in matrix clauses and relative clauses, while the nominalized paradigm appears in subordinate clauses. Both these sets contrast semantically, in all syntactic environments, with the subjunctive, hence my overall categorization of the first two paradigms as 'indicative'.

[4] See Kroeber (1999) and Davis (2000) for justification of the analysis of subject inflection assumed here. I do not provide the transitive paradigms, as subject markers

In section 2.1 I illustrate the uses of the paradigms glossed as subjunctive, and in 2.2 I argue that these paradigms more closely approximate familiar subjunctives, rather than irrealis moods.

2.1   Uses of the St'át'imcets subjunctive

The mood I am glossing as 'subjunctive' has a wide range of uses, which at first glance are not easily unifiable. I illustrate all of them here. First, the subjunctive functions to turns a plain assertion into a wish (Davis 2006: chapter 24).

(8) a. nilh   s=Lémya7   ti=kél7=a
        FOC   NOM=Lémya7   DET=first=EXIS
        'Lémya7 is first.'

   b. nílh=***as***   s=Lémya7   ku=kéla7[5]
        FOC=***3SBJN***   NOM=Lémya7   DET=first
        'May Lémya7 be first.'

(9) a. ámh=***as***   ku=scwétpcen-su!
        good=***3SBJN***   DET=birthday-2SG.POSS
        'May your birthday be good!'

   b. ámh=***as***   ku=s=wá7=su!
        good=***3SBJN***   DET=NOM=be-2SG.POSS
        'Best wishes!' ['May your being be good.'] (Davis 2006: chapter 24)

This use of the subjunctive is very restricted (see van Eijk 1997:147). Minimal pairs cannot usually be constructed for ordinary assertions, as shown in (10-12).

(10)a. kwis   lhkúnsa
        rain   today
        'It's raining today.'

   b. * kwís=***as***   lhkúnsa
        rain=***3SBJN***   today
        intended: 'May it rain today.'

(11)a. áma   ti=sq'ít=a
        good   DET=day=EXIS
        'It is a good day.'

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vary based on the person and number of the object and the table is excessively large. See van Eijk (1997), Davis (2006) for details.
[5] The determiner alternation between (8a) and (8b) (*ti=…=a* vs. *ku=*) is predictable, but irrelevant for current concerns. See Matthewson (1998, 1999) for discussion.

b. * ámh=**as**   ti=sq'ít=a
     good=**3SBJN**   DET=day=EXIS
     intended: 'May it be a good day.'

(12) a. guy't   ti=sk'úk'wm'ita
         sleep   DET=child=EXIS
         'The child is sleeping.'

   b. * guy't=**ás**   ti=sk'úk'wm'ita
        sleep=**3SBJN**   DET=child=EXIS
        intended: 'I hope the child sleeps.'

In general, the subjunctive seems only to add to a plain assertion either in a cleft structure, as in (8), or in conventionalized wishes, as in (9). I return to this issue below.

   The more usual case of the subjunctive creating a wish-statement is when it co-occurs with the deontic modal *ka,* as in (13-14).

(13) a. plán=**ka**=ti7=t'u7   wa7   máys-n-as
         already=**DEON**=DEMON=PRT   IMPF   fix-DIR-3ERG
         'He should have fixed that already.'

   b. plan=**as=ká**=ti7=t'u7   wa7   máys-n-as
       already=**3SBJN=DEON**=DEMON=PRT   IMPF   fix-DIR-3ERG
       'I wish he had fixed that already.'

(14) a. guy't=**ka**   ti=sk'úk'wm'it=a
         sleep=**DEON**   DET=child=EXIS
         'The child should sleep.'

   b. guy't=**ás=ka**   ti=sk'úk'wm'it=a
       sleep=**3SBJN=DEON**   DET=child=EXIS
       'I hope the child sleeps.'

   When used with the deontic modal *ka,* in addition to the 'wish' interpretation shown in (13-14), the subjunctive can also render a 'pretend to be ...' interpretation.[6]

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[6] The data in (15) are from the Upper St'át'imcets dialect; in Lower St'át'imcets, (15a) is corrected to (i), which has the subjunctive but lacks the deontic modal. This independent pronoun construction is argued by Thoma (2007) to be a concealed cleft. I return to this issue below.
(i)   nu=**hás**   ku=kalúla7
         2SG.EMPH=**3SBJN**   DET=owl
         'Pretend to be an owl.'

(15) a. skalúl7=***acw*=*ka:***   saq'w   knáti7   múta7   em7ímn-em
     owl=***2SG.SBJN=DEON***   fly   DEIC   and   animal.noise-MID
     'Pretend to be an owl: fly around and hoot.' (Davis 2006: chapter 24)

    b.   snu=***hás=ka***   ku-skícza7
       2SG.EMPH=***3SBJN=DEON***   DET=mother
       'Pretend to be the mother.'   (Whitley et al. no date)

       The fourth construction which licenses the subjunctive is the imperative; the subjunctive weakens an imperative to a polite request (Davis 2006: chapter 24). In each of (16-18), the subjunctive imperative in (b) is construed as 'more polite' than the plain imperative in (a). The subjunctive is particularly common in negative requests, as in (18).

(16) a.   lts7á=malh   lh=kits-in'=ál'ap!
       DEIC=ADHORT   COMP=put.down-DIR=2PL.SBJN
       'Just put it over here!'

    b.   lts7á=***has***=malh[7]   lh=kits-in'=ál'ap
       DEIC=***3SBJN***=ADHORT   COMP=put.down-DIR=2PL.SBJN
       'Could you put it down here?' / 'You may as well put it down over here.'   (adapted from Davis 2006: chapter 24)

(17) a.   nás=malh   áku7   pankúph=a
       go=ADHORT   DEIC   Vancouver=EXIS
       'You'd better go to Vancouver.'

    b.   nás=***acw***=malh   áku7   pankúph=a
       go=***2SG.SBJN***=ADHORT   DEIC   Vancouver=EXIS
       'You could go to Vancouver.'

(18) a.   cw7aoz   kw=s=sek'w-en-ácw   ta=nk'wanústen'=a
       NEG   DET=NOM=break-DIR-2SG.ERG   DET=window=EXIS
       'Don't break the window.'

    b.   cw7áoz=***as***   kw=s=sek'w-en-ácw   ta=nk'wanústen'=a
       NEG=***3SBJN***   DET=NOM=break-DIR-2SG.ERG   DET=window=EXIS
       'Don't break the window.'

       Fifth, in combination with an evidential or a future modal, the subjunctive helps to turns *wh*-questions into statements of uncertainty or wondering.

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[7] The third person subjunctive ending appears here because the structure is bi-clausal, involving a third-person impersonal main predicate: 'It is here that you could put it down.'

(19) a. kanem=lhkán=***k'a***
    do.what=1SG.INDIC=***INFER***
    'What happened to me?'

   b. kanem=***án=k'a***
     do.what=***1SG.SBJN=INFER***
     'I don't know what happened to me.' / 'I wonder what I'm doing.'

(20) a. kanem=lhkácw=***kelh***   múta7
    do.what=2SG.INDIC=***FUT***   again
    'What are you going to be doing later?'

   b. kanem=***ácw=kelh***   múta7
     do.what=***2SG.SBJN=FUT*** again
     'I wonder what you are going to do again.'   (van Eijk 1997:215)

(21) a. nká7=***kelh***   lh=cúz'=acw   nas
    where=***FUT***   COMP=going.to=2SG.SBJN go
    'Where will you go?'

   b. nká7=***as=kelh***   lh=cúz'=acw   nas
     where=***3SBJN=FUT***   COMP=going.to=2SG.SBJN go
     'Wherever will you go?' / 'I wonder where you are going to go now.'
                      (adapted from Davis 2006: chapter 24)

     The same effect arises with yes-no questions. In combination with the evidential *k'a* or a future modal, the subjunctive also turns these into statements of uncertainty which are often translated using 'maybe' or 'I wonder'.[8]

(22) a. lán=***ha***   kwán-ens-as   ni=n-s-mets-cál=a
    already=***YNQ*** take-DIR-3ERG DET.ABS=1SG.POSS-NOM=write-ACT=EXIS
    'Has she already got my letter?'

   b. lan=***as=há=k'a***   kwán-ens-as
     already=***3SBJN=YNQ=INFER***   take-DIR-3ERG
         ni=n-s-mets-cál=a
         DET.ABS=1SG.POSS-NOM=write-ACT=EXIS
     'I wonder if she's already got my letter.'/'I don't know if she got my letter or not.'

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(23) wa7=**as=há=k'a**   tsicw
      IMPF=**3SBJN=YNQ=INFER** get.there
         i=n-sésq'wez'=a,   cw7aoz kw=en
         DET.PL=1SG.POSS-younger.sibling=EXIS NEG   DET=1SG.POSS
            zwát-en
            know-DIR
      'Perhaps my younger siblings went along, I don't know.'
                                          (Matthewson 2005:265)

In combination with a *wh*-indefinite and the evidential *k'a,* the subjunctive creates free relatives with an 'ignorance/free choice' reading; see Davis (2007) for discussion.

(24) a. qwatsáts=t'u7 múta7 súxwast   áku7, t'ak aylh áku7, nílh=k'a
         leave= PRT   again go.downhill DEIC   go   then DEIC FOC=INFER
            s=npzán-as   k'a=lh=**swát=as=k'a**   káti7
            NOM=meet(DIR)-3ERG INFER=COMP=**who=3SBJN=INFER** DEIC
               ku=npzán-as
               DET=meet(DIR)-3ERG
         'So he set off downhill again, went down, and then he met whoever he
         met.'   (van Eijk and Williams 1981:66, cited in Davis 2007)

   b. o,   púpen'=lhkan   [ta=**stam'=as**=á=**k'a**]
       oh   find=1SG.INDIC   [DET=**what=3SBJN**=EXIS=**INFER**]
       'Oh, I've found something or other.'
       (Unpublished story by "Bill" (Francis) Edwards, cited in Davis 2007)

When used in combination with the scalar particle *t'u7,* the subjunctive creates a statement translated as 'might as well' or 'may as well'.

(25) a. wá7=lhkan=**t'u7**   wa7   k'wzús-em
         IMPF=1SG.INDIC=**PRT**   IMPF   work-MID
         'I am just working.'

   b. wá7=**an=t'u7**   wa7   k'wzús-em
       IMPF=**1SG.SBJN=PRT**   IMPF   work-MID
       'I might as well stay and work.'

(26) a. wá7=lhkacw=**t'u7**   lts7a   lhkúnsa ku=sgáp
         be=2SG.INDIC=**PRT**   DEIC   now   DET=evening
         'You are staying here for the night.'

   b. wá7=**acw=t'u7**   lts7a   lhkúnsa ku=sgáp
       be=**2SG.SBJN=PRT**   DEIC   now   DET=evening
       'You may as well stay here for the night.'

And finally, in combination with a *wh*-word and the scalar particle *t'u7,* the

subjunctive creates free relatives with a universal / indifference reading.

(27) a. wa7 táw-em ki=smán'c=a,   ns7á7z'-em
         IMPF sell-MID DET.COL=tobacco=EXIS trade-MID
             ku=*stám'=as=t'u7*
             DET=*what=3SBJN=PRT*
         'He was selling tobacco, trading it for whatever…'
                             (van Eijk and Williams 1981:74, cited in Davis 2007)

     b. wa7 kwám=wit   ku=káopi, ku=súkwa, ku=saplín,
         IMPF take(MID)=3PL DET=coffee DET=sugar DET=flour
             stám'=as=t'u7   cw7aoz
             what=3SBJN=PRT NEG
                 kw=s-ka-ríp-s-tum'-a
                 DET=NOM=CIRC-grow-CAUS-1PL.ERG-CIRC
                     l=ti=tmícw-lhkalh=a]
                     on=DET=land-1PL.POSS=EXIS]
         'They got coffee, sugar, flour, whatever we couldn't grow on our
         land…'   (Matthewson 2005:105, cited in Davis 2007)

     c. [*stám'=as=t'u7*   káti7 i=wá7   ka-k'ac-s-twítas-a
         [*what=3SBJN=PRT* DEIC   DET.PL=IMPF CIRC-dry-CAUS-3PL.ERG-CIRC
             i=n-slalíl'tem=a]   wa7   ts'áqw-an'-em
             DET.PL=1SG.POSS-parents=EXIS]   IMPF   eat-DIR-1PL.ERG
                 lh=as   sútik
                 COMP(IMPF)=3SBJN   winter
         'Whatever my parents could dry, we ate in wintertime.'
                                     (Matthewson 2005:141, cited in Davis 2007)

The nine uses of the St'át'imcets subjunctive are summarized in (28).

(28)

ENVIRONMENT	INDICATIVE MEANING	SUBJUNCTIVE MEANING
plain assertion	assertion	wish
deontic modal	deontic necessity/ possibility	wish
deontic modal	deontic necessity/ possibility	'pretend'
imperative	command	polite request
wh-question + evidential/future	question	uncertainty/ wondering
yes-no question + evidential/future	question	uncertainty/ wondering
wh-word + evidential	question	ignorance free relative
scalar particle *t'u7*	'just/still'	'might as well'
wh-word + scalar particle *t'u7*	N/A	indifference free relative

These are all the cases where the subjunctive has a semantic effect; in the next sub-section we will also see some cases where the subjunctive is obligatory and semantically redundant. I will not aim to account for the entire panoply of subjunctive effects in one paper. However, the analysis I offer will explain the first seven uses, setting aside for future research only the two uses which involve the particle *t'u7*. See section 8 for some speculative comments about the subjunctive in combination with *t'u7*.

2.2   This is a subjunctive mood

In this sub-section I justify the use of the term 'subjunctive' for the subject agreements being investigated. The choice of terminology is intended to reflect the fact that this St'át'imcets mood patterns with Indo-European subjunctives, rather than with Amerindian irrealis moods, in several respects. However, we will see below that the St'át'imcets subjunctive also differs semantically in important ways from Indo-European subjunctives.[9]

Palmer (2001) observes that there is a broad geographical typology, such that European languages often encode an indicative/subjunctive distinction, while Amerindian and Papuan languages often encode a realis/irrealis

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[9] This raises a terminological issue which arises in many areas of grammar. Should we apply terms which were invented for, and largely applied to, European languages, to similar – but not identical – categories in other languages? For example, should we say 'The perfect / definite determiner / subjunctive in language X differs semantically from its English counterpart', or should we say 'Language X lacks a perfect / definite determiner / subjunctive', because it lacks an element with the exact semantics of the English categories? I adopt the former approach here, as I think it leads to productive cross-linguistic comparison, and because it suggests that the traditional terms do not represent primitive sets of properties, but rather potentially decomposable ones.

distinction. A typical irrealis-marking system is illustrated in (29).

(29) a. ho   bu-busal-*en*   age   qo-in
         pig   SIM-run.out-3SG+DS+*REAL* 3PL   hit-3PL+REM.PAST
         'They killed the pig as it ran out.'   (Amele; Palmer 2001:5)

     b. ho   bu-busal-*eb*   age   qo-qag-an
         pig   SIM-run.out-3SG+DS+*IRR*   3PL   hit-3PL-FUT
         'They will kill the pig as it runs out.' (Amele; Palmer 2001:5)

According to Palmer (2001:145), the indicative/subjunctive distinction and the realis/irrealis distinction are 'basically the same'. The core function of both a subjunctive and an irrealis is to encode 'non-assertion'.[10] However, there are differences in distribution and in syntactic functions.

First, Palmer observes that subjunctive is not marked independently of other inflectional categories such as person and number. Instead, there is typically a full subjunctive paradigm. On the other hand, irrealis is often marked by a single element. In this respect, the St'át'imcets mood patterns like a subjunctive; see the table in (7) above.

Second, in main clauses, irrealis marking is often used for questions, futures and denials; this is not the case for main clause subjunctives. In this respect also, the St'át'imcets mood patterns like a subjunctive. It is not used to mark questions, futures or denials. (30-32) all have indicative marking.

(30) t'íq=*Ø*=ha   kw=s=Josie?
      arrive=*3INDIC*=YNQ   DET=NOM=Josie
      'Did Josie arrive?'

(31) t'íq=*Ø*=kelh   kw=s=Josie
      arrive=*3INDIC*=FUT   DET=NOM=Josie
      'Josie will arrive.'

(32) cw7aoz kw=s=t'íq=*s*   s=Josie
      NEG   DET=NOM=arrive=*3POSS*   NOM=Josie
      'Josie didn't arrive.'

Third, Palmer notes that subjunctive marking is obligatory and redundant only in subordinate clauses, while irrealis marking is often obligatory and redundant in main clauses. Here again, the St'át'imcets mood patterns like a subjunctive. It is obligatory and redundant only in three cases. The first is when embedded under the complementizer *lh=*. *lh=* is glossed by van Eijk (1997) as 'hypothetical', and analyzed by Davis (2006) as a complementizer which

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[10] Palmer does not provide a definition of 'non-assertion'. He observes that common reasons why a proposition is not asserted are because the speaker doubts its veracity, because the proposition is unrealized, or because it is presupposed (Palmer 2001:3). See section 3 below for discussion.

introduces subjunctive clauses, including *if*-clauses (33a,b), temporal adjuncts (33b), locative adjuncts (33c), and complements to the evidential *k'a* when this is used as a (focused) adverb (33d).

(33) a.   ***lh*=cw7áoz*(=*as*)=ka**   kw=s=gúy't=su,
      ***COMP*=NEG*(=*3SBJN*)=IRR**   DET=NOM=sleep=2SG.POSS
         lán=ka=tu7   wa7 xzum i=n'wt'ústen-sw=a
         already=IRR=then IMPF big   DET.PL=eye-2SG.POSS=EXIS
       'If you hadn't slept, your eyes would have been big already.'
                                  (van Eijk and Williams 1981:12)

    b.   xwáyt=wit=ka   ***lh*=wa7=wit*(=*ás*)=t'u7**   qyax
     many.people.die=3PL=IRR ***COMP*=be=3PL*(=*3SBJN*)=PRT** drunk
         múta7 tqálk'-em   ***lh*=w*(=*as*)**   qyáx=wit
         and   drive-MID   ***COMP*=IMPF*(=*3SBJN*)**   drunk=3PL
       'They would die if they got drunk and drove when they were drunk.'
                                    (Matthewson 2005:367)

    c.   lts7a   ***lh*=wa7*(=*as*)**   qwál'qwel't
     DEIC   ***COMP*=IMPF*(=*3SBJN*)**   hurt
       'It is here that it is hurting.'

    d.   k'a   ***lh*=7án'was(=*as*)**   sq'it, ka-láx-s-as-a
     maybe ***COMP*=two*(=*3SBJN*)** day   CIRC-remember-CAUS-3ERG-CIRC
         n-skícez7=a   na=s-7ílacw-em-s=a
         1SG.POSS-mother=EXIS DET=NOM=soak-MID-3POSS=EXIS
           ta=n=qéqtsek=a
           DET=1SG.POSS-older.brother=EXIS
       'Maybe two days later, my mother remembered the fish my brother
       had been soaking.'
       (Matthewson 2005:152, glosses adjusted; cited in Davis 2006: ch. 23)[11]

      The second case where the St'át'imcets subjunctive is obligatory and redundant is when embedded under the complementizer *i*= 'when', as in (34). *i*= has a similar distribution to *lh*=, but is restricted to past-time contexts. See van Eijk (1997:235-6), Davis (2006: chapter 27) for discussion.

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[11] Incidentally, Davis (2006: chapter 23) observes that 'two or more *k'a lh*= clauses strung together form the closest equivalent in [St'át'imcets] of [English] "either...or".' An example is given in (i).
(i)   k'a   lh=xw7utsin-qín'=as,   k'a   lh=tsilkst-qín'=as=kelh
         maybe COMP=four-animal=3SBJN maybe COMP=five-animal=3SBJN=FUT
         'It'll either be a four point or a five point buck.' (Davis 2006: chapter 23)
As Davis implies, St'át'imcets lacks any lexical item which renders logical disjunction, and constructions like (i), although used to translate English 'or', are literally two 'maybe'-clauses strung together.

(34) a. ***i*=kél7=*at***   tsicw,   áts'x-en-em
    when.PAST*=first =*1PL.SBJN get.there see-DIR-1PL.ERG
       i=cw7ít=a   tsitcw
       DET=many=EXIS   house
    'When we first got there, we saw lots of houses.'(Matthewson 2005:74)

   b. wá7=lhkan   lexláx-s   ***i*=kwís*(=*as*)**
       IMPF=1SG.INDIC   remember-CAUS   ***when.PAST*=fall*(=*3SBJN*)**
          na=n-sésq'wez'=a,   s=Harold Peter
          DET.ABS=1SG.POSS-younger.sibling=EXIS NOM=Harold Peter
       'I remember when my little brother was born, Harold Peters.'
                                               (Matthewson 2005:354-5)

Finally, the subjunctive is obligatory and seems to lack semantic import when it
appears in combination with the perceived-evidence evidential =*an'*. =*an'* is
analyzed by Matthewson et al. (2007) as an epistemic modal which is defined
only if the speaker has perceived indirect evidence for the prejacent proposition.

(35) a. * táyt=***kacw=an'***
       hungry=***2SG.INDIC=PERC.EVID***
       'You must be hungry.'

   b. táyt=***acw=an'***
       hungry=***2SG.SBJN=PERC.EVID***
       'You must be hungry.'

(36) a. * nílh=***Ø=an'***   s=Sylvia   ku=xílh-tal'i
       FOC=***3INDIC=PERC.EVID*** NOM=Sylvia   DET=do(CAUS)-TOP
       'Apparently it was Sylvia who did it.'

   b. nílh=***as=an'***   s=Sylvia   ku=xílh-tal'i
       FOC=***3SBJN=PERC.EVID***   NOM=Sylvia   DET=do(CAUS)-TOP
       'Apparently it was Sylvia who did it.' (Matthewson et al. 2007:208)

The perceived-evidence evidential is the only environment in the language
where the subjunctive is obligatory in a matrix clause.
        The conclusion is that St'át'imcets, in spite of being an Amerindian
language, has a mood which patterns, at least morpho-syntactically, like a
subjunctive rather than an irrealis. This fits with how van Eijk (1997) and Davis
(2000, 2006) gloss the relevant forms. However, we will see in the next section
that the St'át'imcets subjunctive differs semantically in interesting ways from
European subjunctives.

3   Why previous analyses do not work for St'át'imcets

The vast majority of formal research on the subjunctive deals with Indo-European. In languages such as the Romance languages, the subjunctive mood is used for wishes, fears, speculations, doubts, obligations, reports, unrealized events, or presupposed propositions. Some examples are provided in (37-38).

(37) a. creo   que   ***aprende***
         I.believe   that   learn+3SG+PRES+***INDIC***
         'I believe that he is learning.'   (Spanish; Palmer 2001:5)

    b.   dudo   que   ***aprenda***
         I.doubt   that   learn+3SG+PRES+***SBJN***
         'I doubt that he's learning.'   (Spanish; Palmer 2001:5)

(38) ***potessi***   venire   anch'   io
      can+1SG+PRES+***SBJN***   come   also   I
      'If only I could come too.'   (Italian; Palmer 2001:109)

In this section I briefly discuss some of the main approaches to the subjunctive. I cannot do justice to the full array of proposals in the literature; the goal is to provide enough background to establish that the St'át'imcets subjunctive is not amenable to a range of existing approaches.

One pervasive line of thought is that subjunctive encodes a general semantic contribution of 'non-assertion' (Bolinger 1968, Terrell and Hooper 1974, Hooper 1975, Klein 1975, Farkas 1992, Lunn 1995, Palmer 2001, Haverkate 2002, Panzeri 2003, among others). One recent formal proposal in this line is that of Farkas (2003). Farkas argues that there is a correlation between indicative mood and complements which have assertive context change potential relative to the embedded environment. Assertive context change for a matrix clause is defined as in (39); the context set of worlds W_c is narrowed.

(39) *Assertive context change*
      $c + \phi$ is assertive iff $W_{c'} = W_c \cap p$, where c' is the output context.
      (Farkas 2003:5)

Farkas provides an analysis of assertion in embedded contexts which predicts that positive epistemic predicates like *believe* or *know* take indicative complements, as these complements are asserted relative to the matrix subject's epistemic state.[12]

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[12] Predicates like *believe* take subjunctive complements in Italian; see Giorgi and Pianesi (1997), among many others, for discussion.

(40) Maria crede/ṣtie   cã   Ion   i-*a*   scris
      Maria believes/knows that Ion   CL-*has.INDIC*   written
      'Maria believes/knows that Ion has written to her.'
                                        (Romanian; Farkas 2003:1)

Predicates of assertion ('say', 'assert') and of fiction ('dream', 'imagine')
similarly introduce complements which are assertively added to the embedded
speech context, and also take indicative complements. On the other hand,
complements to desideratives ('want', 'wish', 'desire') and directives
('command', 'direct', 'request') are not assertive. Rather than eliminating
worlds in the context set where the complement is false, these predicates
eliminate worlds in the context set which are low on an evaluative ranking.[13]
Thus, these predicates take the subjunctive:

(41) Maria vrea   sã-i   *rãspundã*
      Maria wants SUBJ-CL answer.*SBJN*
      'Maria wants to answer him.'   (Romanian; Farkas 2003:2)

Giannakidou (1997, 1998, 2009) offers an alternative characterization of the
distribution of the subjunctive, according to which it appears in nonveridical
contexts, while indicative appears in veridical contexts. The relevant definition
is given in (42).

(42)   A propositional operator F is veridical iff from the truth of Fp we can
          infer that p is true relative to some individual x (i.e., in some individual
          x's epistemic model) … If inference to the truth of p under F is not
          possible, F is nonveridical.   (Giannakidou 2009:1889)

According to this analysis, the division between indicative-taking and
subjunctive-taking predicates relies on whether at least one epistemic agent is
committed to the truth of the embedded proposition. Giannakidou's approach
predicts a similar division between indicative- and subjunctive-taking predicates
to Farkas's. In Modern Greek, the indicative is found in complements to
predicates of assertion or fiction, epistemics, factives and semi-factives. The
subjunctive is found in complements to volitionals, directives, modals,

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[13] The complements of desideratives are also not 'decided' relative to their context set,
which is what is actually crucial here for Farkas (2003). Farkas proposes an Optimality
Theory account involving the two constraints in (i):
(i)   *SUBJ/+Decided   *IND/-Assert
Different rankings of these two constraints give rise to different mood choices in
Romanian vs. French for emotive factive predicates like 'be sorry/happy', 'regret'.
Emotive factives are +Decided but -Assertive, and take the indicative in Romanian and
the subjunctive in French.

permissives, negatives, and verbs of fear (Giannakidou 2007:9).[14]

An approach which aims to derive mood selection directly from the semantics of subordinating predicates is that of Villalta (2009). Villalta argues that subjunctive-selecting predicates are those whose embedded propositions are compared to contextual alternatives on a scale encoded by the predicate. The contribution of the subjunctive is to evaluate the contextual alternatives.

Quer (1998, 2001), looking mainly at Catalan and Spanish, argues that the subjunctive signals a shift in the model of the evaluation of the truth of the proposition. For unembedded assertions, the anchor is the Speaker and the model is the epistemic model of the Speaker. Operators which introduce subjunctive introduce buletic models, or other models which create comparative relations among worlds. This predicts we will find subjunctive in purpose clauses, and predicts indicative/subjunctive alternations in restrictive relative clauses, concessives, and free relatives. Quer (2009) also discusses indicative/subjunctive alternations in conditionals, claiming that indicative appears in protases that are 'realistic in the sense that they quantify over worlds which are close enough to the actual one' (2009:1780). Subjunctive is used when the worlds are further away from the actual one or even disjoint from it.

An approach to mood which draws on notions from noun phrase semantics is offered by Baker and Travis (1997). Baker and Travis argue that in Mohawk, mood marks a division between 'verbal specificity' ('factive' mood) and Kamp/Heim-style indefiniteness (two variants of non-factive mood, previously called the 'future' and the 'optative'). Indefinite/non-factive mood appears in future contexts, in past habituals, in negative clauses, under the verbs 'promise' and 'want', and in free relatives with a non-specific reading. What links all these indefinite-mood environments, according to Baker and Travis, is the same feature that characterizes indefinite noun phrases in the Kamp/Heim system: a free variable (in the Mohawk case, an event variable) which undergoes existential closure in the scope of various operators.

This ends our brief tour through some major formal approaches to the subjunctive.[15] The reader is referred to Portner (2003) for further overview and discussion. In the next sub-section I show that the St'át'imcets subjunctive does not behave like the Indo-European or Mohawk subjunctives, and that a new approach is required.

3.1. The St'át'imcets subjunctive is not amenable to existing approaches

The St'át'imcets subjunctive differs from familiar subjunctives in both its distribution and semantic effects. Although there are some initial similarities, such as the fact that both St'át'imcets and Indo-European subjunctives can be

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[14] Giannakidou (2007) proposes that the Modern Greek subjunctive complementizer *na* contributes temporal semantics (introducing a 'now' variable). The generalization is still that subjunctive appears in non-veridical contexts; see Giannakidou (2007) for details.

[15] I defer discussion of Portner's (1997) analysis to section 5, since I will be adapting Portner's approach for St'át'imcets.

used to express wishes and hopes, St'át'imcets mood displays no sensitivity to the choice of matrix predicate. Thus, unlike in Romance or Greek, predicates of assertion, belief and fiction are not differentiated from desideratives or directives. *All* attitude verbs in St'át'imcets take the *indicative*, as illustrated for a representative range in (43).[16,17]

(43) a. tsut   k=Laura   kw=s=t'iq=**Ø**   k=John
   say   DET=Laura DET=NOM=arrive=***3INDIC*** DET=John
   'Laura said that John came.'

  b. tsut-ánwas k=Laura kw=s=t'iq=**Ø**   k=John
   say-inside DET=Laura DET=NOM=arrive=***3INDIC*** DET=John
   'Laura thought that John came.'

  c. zwát-en-as   k=Laura kw=s=t'iq=**Ø**   k=John
   know-DIR-3ERG DET=Laura DET=NOM=arrive=***3INDIC*** DET=John
   'Laura knew that John came.'

  d. kw7íkwl'acw k=Laura kw=s= t'iq=**Ø**   k=John
   dream   DET=Laura DET=NOM=leave=***3INDIC*** DET=John
   'Laura dreamt that John came.'

  e. xát'-min'-as k=Laura kw=s=t'iq=**Ø**   k=John
   want-RED-3ERG DET=Laura DET=NOM=arrive=***3INDIC*** DET=John
   'Laura wanted John to come.'

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[16] Interestingly, the same is not true of the related language Sḵwx̱wú7mesh (Squamish). In Sḵwx̱wú7mesh, the subjunctive (glossed as 'conjunctive'; see fn 2) is obligatory under 'tell someone to do something' (as in (i)), but is optional under 'I think', depending on whether the speaker knows that the event did not take place (ii-iii) (all data from Peter Jacobs, p.c.).

(i) chen tsu-n-Ø-Ø   mi ***as*** uys
   I   tell-DIR-DAT-3OBJ come ***3CONJ*** come.inside
   'I told him to come inside.'

(ii) chen ta7aw'n kwi s-Ø-s   mi uys
   I   think DET NOM-REAL-3POSS come come.inside
   'I think he came inside.'

(iii) chen ta7aw'n ḵ'-***as***   mi uys
   I   think IRR-***3CONJ*** come come.inside
   'I thought he came inside (but then I found out that he's still outside playing).'

Jacobs (1992) analyzes the mood distinction in Sḵwx̱wú7mesh as encoding speaker certainty, which suggests that it differs from the St'át'imcets mood system.

[17] The expected subject inflection in the embedded clauses in (43) would actually be possessive *=s;* see van Eijk (1997), Davis (2006). However, many modern speakers prefer to omit the possessive ending and to use matrix indicative =Ø in these contexts. This does not affect the point at hand, as the variation is between two forms of indicative marking.

f. tsa7cw k=Laura kw=s=t'iq=*Ø* k=John
   glad DET=Laura DET=NOM=arrive=***3INDIC*** DET=John
   'Laura was happy that John came.'

g. tsún-as k=Laura k=John kw=s=ts7as=*Ø* [18]
   say(DIR)-3ERG DET=Laura DET=John DET=NOM=come=***3INDIC***
   'Laura told John to come.'

The St'át'imcets subjunctive is also not used under negated verbs of belief or report, as it is in many European languages (cf. Palmer 2001:116). Compare Spanish (44a) with St'át'imcets (44b-c).

(44) a. no creo que ***aprenda***
        not I.think that learn+3SG+PRES+***SBJN***
        'I don't think that he is learning.' (Spanish; Palmer 2001:117)

   b. cw7aoz kw=en=tsut-ánwas kw=s=zwátet-cal=*s*
      NEG DET=1SG.POSS=say-inside DET=NOM=know-ACT=***3POSS***
      'I don't think that he is learning.'

   c. cw7aoz kw=s=tsut=s kw=s=Aggie
      NEG DET=NOM=say=3POSS DET=NOM=Aggie
      kw=s=t'cum=*s* i=gáp=as
      DET=NOM=win=***3POSS*** when.PAST=evening=3SBJN
      'Aggie didn't say she won last night.'

Nor does the St'át'imcets subjunctive give rise to interpretive differences inside relative clauses. In some Indo-European languages, an indicative/subjunctive contrast in restrictive relatives gives rise to a distinction which has variously been analyzed as referential/attributive, specific/non-specific, or wide-scope/narrow-scope (see Rivero 1975, Farkas 1992, Giannakidou 1997, Beghelli 1997, Quer 2001, among many others). This is illustrated in (45) for Catalan. Quer's analysis of these examples involves a shifting of the model in which the descriptive condition in the relative clause is interpreted; the effect is one of apparent 'wide-scope' for the object noun phrase in the indicative (45a), as opposed to in the subjunctive (45b).

(45) a. necessiten un alcalde [que ***fa*** grans inversions]
        need.3PL a mayor that make.***INDIC***.PRS.3SG big investments
        'They need a mayor that makes big investments.'
                                                    (Catalan; Quer 2001:90)

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[18] The predicate in (43g) differs from that in (43a-f) because the 'ordering' environment in (43g) requires an unergative embedded verb.

b. necessiten un alcalde [que *faci* grans inversions]
need.3PL a mayor that make.*SBJN*.PRS.3SG big investments
'They need a mayor that makes big investments.'

(Catalan; Quer 2001:90)

In St'át'imcets, nominal restrictive relatives uniformly take indicative marking, as shown in (46). The distinction which is in Catalan is encoded by mood, is achieved by means of determiner choice in St'át'imcets (see Matthewson 1998, 1999 for analysis).

(46) a. wa7 xat'-min'-ítas *ti*=kúkwpi7=*a* wa7
IMPF want-RED-3PL.ERG *DET*=chief=*EXIS* IMPF
   ka-nuk'wa7-s-tanemwít-a k=wa=s mays
   CIRC-help-CAUS-3PL.PASS-CIRC DET=IMPF=3POSS fix
     ku=tsetsítcw
     DET=houses [WIDE-SCOPE INDEFINITE]
'They need a (particular) chief who can help them build houses.'

b. wa7 xat'-min'-ítas *ku*=kúkwpi7 wa7
IMPF want-RED-3PL.ERG *DET*=chief IMPF
   ka-nuk'wa7-s-tanemwít-a k=wa=s mays
   CIRC-help-CAUS-3PL.PASS-CIRC DET=IMPF=3POSS fix
     ku=tsetsítcw
     DET=houses [NARROW-SCOPE INDEFINITE]
'They need a(ny) chief who can help them build houses.'

The mood effects seen in conditionals in some Indo-European languages are also absent in St'át'imcets. The antecedents of both notionally indicative and subjunctive conditionals are obligatorily marked with the subjunctive, as shown in (47), a paradigm borrowed from Quer (2009:1780). Although there are ways to distinguish the different types of subjunctive, they do not involve a mood alternation.

(47) a. Context: I'm looking for John. You say:

lh=7áts'x-en=*an,* nílh=t'u7 s=qwál'-en-tsin
COMP=see-DIR=*1SG.SBJN* FOC=PRT NOM=tell-DIR-2SG.OBJ
'If I see him, I'll tell you.'

b. Context: I'm looking for John, and I suspect you know where he is but you haven't been telling me. You say:

lh=7ats'x-en=*án*=ka, sqwal'-en-tsín=lhkan=kelh
COMP=see-DIR=*1SG.SBJN*=IRR tell-DIR-2SG.OBJ=1SG.INDIC=FUT
'If I saw him, I would tell you.'

c. Context: I was looking for John, but he left town before I could find him. You say:

lh=7ats'x-en=***án***=ka=tu7 qwal'-en-tsín=lhan=ka
COMP=see-DIR=***1SG.SBJN***=IRR=then tell-DIR-2SG.OBJ=1SG.INDIC=IRR
If I had seen him, I would have told you.'

The St'át'imcets subjunctive is also not like the Mohawk one. Unlike in Mohawk, St'át'imcets futures take the indicative, as shown in (48); so do past habituals, as shown in (49), and plain negatives, as in (50).

(48) a. ats'x-en-tsí=***lhkan***=kelh lh-nátcw=as
see-DIR-2SG.OBJ=***1SG.INDIC***=FUT COMP-one.day.away=3SBJN
'I'll see you tomorrow.'

 b. * ats'x-en-tsín=***an***=kelh lh-nátcw=as
see-DIR-2SG.OBJ=***1SG.SBJN***=FUT COMP-one.day.away=3SBJN
'I'll see you tomorrow.'

(49) a. wa7=***lhkalh***=wí7=tu7 n-záw'-em ku=qú7
IMPF=***1PL.INDIC***=EMPH=then LOC-get.water-MID DET=water
lhél=ta=qú7qu7=a múta7 lhel=ta=tswáw'cw=a
from=DET=water=EXIS and from=DET=creek=EXIS
'We used to fetch water from the spring and the creek.'
(Matthewson 2005:370)

 b. * wa7=***at***=wí7=tu7 n-záw'-em ku=qú7
IMPF=***1PL.SBJN***=EMPH=then LOC-get.water-MID DET=water
lhél=ta=qú7qu7=a múta7 lhel=ta=tswáw'cw=a
from=DET=water=EXIS and from=DET=creek=EXIS
'We used to fetch water from the spring and the creek.'

(50) a. áy=t'u7 kw=***en***=gúy't ku=pála7 sgap
NEG=PRT DET=***1SG.POSS***=sleep DET=one evening
'I didn't sleep one night.' (Matthewson 2005:267)

 b. * áy=t'u7 kw=s=gúy't=***an*** ku=pála7 sgap
NEG=PRT DET=NOM=sleep=***1SG.SBJN*** DET=one evening
'I didn't sleep one night.'

Finally, there are the cases where the St'át'imcets subjunctive *does* appear, with a predictable meaning difference, which are not attested in other languages. These include the use of the St'át'imcets subjunctive to weaken an imperative to a polite request, or to help turn a question into a statement of uncertainty (see examples in (16-18) and (19-23) above).

I will argue below that in spite of these major empirical differences

between the St'át'imcets subjunctive and that of familiar languages, the basic framework for mood semantics advanced by Portner (1997) can be adapted to capture all the St'át'imcets facts. This will support Portner's proposal that moods are dependent on modals and place restrictions on the modal environments in which they appear.

4 Basic framework: Portner (1997)

Portner's (1997) leading idea is that moods place presuppositions on the modal environment in which they appear. More precisely, moods typically restrict properties of the *accessibility relation* associated with a governing modal operator (see also Portner 2003:64). The modal operator may be provided by a higher attitude verb or modal; it may also, in unembedded situations, be provided by context.

     For illustration, let us first see how Portner analyzes English 'mood-indicating *may*'. In each of (51a-c), the *may* is not the ordinary modal *may;* it is not asserting possibility. (51b), for example, does not mean 'it is possible that it is possible that Sue wins the race.'

(51) a. Jack wishes that you *may* be happy.
    b. It is possible that Sue *may* win the race.
    c. *May* you have a pleasant journey!   (Portner 1997:190)

Portner argues that mood-indicating *may* presupposes that p is doxastically possible (possible according to someone's beliefs). For example, (51a) presupposes that Jack believes it is possible for you to be happy. He provides the analysis in (52).

(52)   For any reference situation r, modal force F, and modal context R,
      $[[may_{dep}(\phi)]]^{r,F,R}$ is only defined if ϕ is possible with respect to $Dox_\alpha(r)$,
      where α is the denotation of the matrix subject.
      When defined, $[[may_{dep}\phi]]^{r,F,R} = [[\phi]]^{r,F,R}$ (Portner 1997:201)

Portner further argues that there are actually two mood-indicating *may*'s, with slightly different properties. Mood-indicating *may* under *wish, pray,* etc. (as in (51a)) or in unembedded clauses (as in (51c)) has an extra requirement: it presupposes that the accessibility relation R is buletic (deals with somebody's wishes or desires).

     The analysis of mood-indicating *may* illustrates an important aspect of Portner's analysis, namely that moods place presuppositions on the modal accessibility relation (a type of conversational background). With English mood-indicating *may,* there is a doxastic and sometimes a buletic restriction. For the English mandative subjunctive, which appears in imperatives as well as in embedded contexts as in (53), R must be deontic, as shown in (54).

(53)   Mary demands that you join us downstairs at 3pm. (Portner 1997:202)

(54)   For any reference situation r, modal force F, and modal context R,
        $[[\text{m-subj}(\phi)]]^{r,F,R}$ is only defined if R is a deontic accessibility relation.

        When defined, $[[\text{m-subj}(\phi)]]^{r,F,R} = [[\phi]]^{r,F,R}$ (Portner 1997:201)

For Italian moods, Portner claims that R is restricted to being (non-)factive.[19]
The idea that moods restrict modal conversational backgrounds is common to
several other modal-based analyses of mood (e.g., Farkas 1992, Giorgi and
Pianesi 1997[20]), and is also found in James (1986). What James calls 'manners
of representation' are root vs. epistemic conversational backgrounds:

> The ambiguity of the modal auxiliaries … supports the
> hypothesis that there are two separate manners of
> representation. Moods … signify manners of representation.
> They are not ambiguous, however; they signify one modality
> or the other (James 1986:15).

In the analysis to follow, I will adopt Portner's idea that moods place
restrictions on a governing modal operator. I will argue that the empirical
differences between the St'át'imcets subjunctive and Indo-European
subjunctives derive from the fact that the former restricts the conversational
background of the modal operator in such a way that the modal force is
weakened.

5   Adapting Portner's approach for the St'át'imcets subjunctive

        I deal here only with the constructions where the subjunctive has a
semantic effect; I will not address the cases of obligatory subjunctive agreement
which were presented in section 2.2.[21] My analysis will account for all
meaningful uses of the St'át'imcets subjunctive except the two uses which
contain the particle *t'u7*. See section 8 for some discussion of the *t'u7*-
constructions.

[19] Interestingly, the Italian indicative imposes a modal force restriction as well as a
conversational background restriction; it is only used with a force of necessity (Portner
1997:197).
[20] According to Giorgi and Pianesi, the subjunctive indicates that the ordering source is
non-empty; this is a restriction on a conversational background.
[21] The analysis presented below is actually compatible with the obligatory presence of the
subjunctive in *if*-clauses introduced by *lh=,* and may even help to explain why *lh=*
obligatorily selects the subjunctive when it means 'if', but selects indicative when it
means 'before'. Thanks to Henry Davis for discussion of this point, and see Davis (2006:
chapter 26). (See also van Eijk 1997:217, although van Eijk analyzes the subjunctive-
inducing *lh=* as distinct from *(e)lh=* 'before'.) As for the other obligatory cases of
subjunctive, these may be grammaticized, semantically bleached relics of original
meaningful uses, aided by the fact that subjunctive marking is intertwined with person
agreement.

5.1 The St'át'imcets subjunctive presupposes rather than asserts a modal semantics

The first thing to establish is that like Portner's moods, the St'át'imcets subjunctive does not itself assert a modal semantics, but is dependent on a governing modal operator. One piece of evidence for this is that the St'át'imcets subjunctive must co-occur with an overt modal in almost all its uses. Of the seven uses of the subjunctive being analyzed here, five of them have an overt modal (the deontics, 'pretend', wh-questions, yes-no questions, ignorance free relatives), one of them is plausibly analyzed as containing a covert modal (imperatives), and only one is non-modal (plain assertions). As noted above, the addition of the subjunctive to plain assertions is extremely restricted and at least semi-conventionalized. If the subjunctive were itself independently modal, it would be difficult to explain the minimal contrasts in (55-56).[22]

(55) a. * gúy't=***as***   ti=sk'úk'wm'it=a
         sleep=***3SBJN***   DET=child=EXIS
         Attempted: 'I hope the child sleeps.'

    b.   gúy't=***as=ka***   ti= sk'úk'wm'it=a
         sleep=***3SBJN=DEON*** DET=child=EXIS
         'I hope the baby sleeps.'

(56) a. * skalúl7=***acw:***   saq'w   knáti7   múta7   em7ímnem
         owl=***2SG.SBJN***   fly   DEIC   and   make.animal.noise
         'Pretend to be an owl: fly around and hoot.'

    b.   skalúl7=***acw=ka***:   saq'w knáti7 múta7 em7ímnem
         owl=***2SG.SBJN=DEON*** fly   DEIC   and make.animal.noise
         'Pretend to be an owl: fly around and hoot.'

Furthermore, just like with English mood-indicating *may*, the interpretation of St'át'imcets subjunctive clauses indicates that the mood does not itself contribute modal semantics. For example, (55b) does not mean 'It should be the case that the child should sleep'.

    The St'át'imcets subjunctive also patterns morphosyntactically like a

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[22] As noted above, Portner's analysis does allow for unembedded uses of non-indicative moods, with the modal accessibility relation being provided by context. So there is no problem with the cases where the St'át'imcets subjunctive *can* appear without a c-commanding modal (as in (8-9)). Of course, we would eventually like to explain when these unembedded subjunctives can and cannot appear. Portner (1997:201) notes for mood-indicating *may* and the mandative subjunctive that 'Neither of these have a completely predictable distribution, in that neither occurs in every context in which a purely semantic account would predict that it could … it must be admitted that lexical and syntactic idiosyncrasies come into play.'

mood rather than like real modals in the language. As shown above, the subjunctive is obligatorily selected by some complementizers, unlike modals. The subjunctive is also fused with subject marking into a full paradigm, unlike the modals, which are independent second-position clitics.[23] I therefore conclude that the St'át'imcets subjunctive does not itself introduce a modal operator, but requires one in its environment.

5.2 The St'át'imcets subjunctive does not presuppose a particular conversational background

The St'át'imcets subjunctive differs from most Indo-European moods in that it cannot be analyzed as being restricted to a certain type of conversational background. This is illustrated by the fact that it allows deontic, buletic or epistemic uses. Deontic conversational backgrounds arise with imperatives, as in (57), or (17b), repeated here:

(57) ets7á=***has***=(malh) lh=xílh-ts=al'ap
      DEIC=***3SBJN***=(ADHORT) COMP=do-CAUS=2PL.SBJN
      'Could you do it like this, you folks?'

(17) b. nás=***acw***=malh áku7 pankúph=a
        go=***2SG.SBJN***=ADHORT DEIC Vancouver=EXIS
        'You could go to Vancouver.'

Buletic conversational backgrounds arise with the modal *ka*:

(13) b. plán=***as=ka*** ti7 t'u7 wa7 máys-n-as
        already=***3SBJN=DEON*** DEMON PRT IMPF fix-DIR-3ERG
        'I wish he had fixed that already.'

(14) b. guy't=***ás=ka*** ti=sk'úk'wm'it=ha
        sleep=***3SBJN=DEON*** DET=child=EXIS
        'I hope the child sleeps.'

And epistemic conversational backgrounds arise with questions.

(21) b. nká7=***as=kelh*** lh=cúz'=acw nas?
        where=***3SBJN=FUT*** COMP=going.to=2SG.SBJN go
        'Wherever will you go?' / 'I wonder where you are going to go now.'
                                        (cf. Davis 2006: chapter 24)

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[23] Or in one case, a circumfix on the verb; see Davis et al. (2009).

(22) b. lan=***as=há=k'a***   kwán-ens-as
        already=***3SBJN=YNQ=INFER***   take-DIR-3ERG
              ni=n-s-mets-cál=a
              DET.ABS=1SG.POSS-NOM=write-ACT=EXIS
        'I wonder if she's already got my letter.'/'I don't know if she got my letter or not.'

These data suggest that the St'át'imcets subjunctive is not analyzable in the same way as the European moods discussed by Portner (1997), which hardwire a restriction to a particular type of conversational background.

5.3 Instead, the St'át'imcets subjunctive functions to weaken the modal force

The core idea of my proposal is that the St'át'imcets subjunctive restricts its governing modal only in such a way as to weaken its quantificational force. The intuition that the St'át'imcets subjunctive weakens the force of the proposition it adds to was already expressed by Davis (2006: chapter 24):

> The best way to characterize this meaning difference is in terms of the 'force' of a sentence. With ordinary indicative subjects, a sentence expresses a straightforward assertion, question or command; but with subjunctive subjects, the effect is to weaken the force of the sentence, so that an assertion becomes a wish, a question becomes a conjecture, and a command becomes a request.

The important question is what exactly is meant by 'weakening' in this context, and how to derive the various effects of the subjunctive in a unified way. I will claim that the St'át'imcets subjunctive restricts the conversational background of a governing modal in such a way that the modal has a force no stronger than weak necessity. Since there are no modals which lexically encode quantificational force in St'át'imcets, this will mean that the subjunctive must appear in the scope of a variable-force modal, and will restrict it to a weakened interpretation.

6 Analysis[24]

The idea to be pursued is that the St'át'imcets subjunctive restricts a c-commanding modal such that its quantificational force is weaker than pure necessity. Rullmann et al. (2008) argue that St'át'imcets possesses no modals which are lexically restricted for quantificational force (see also Matthewson et al. 2007, Davis et al. 2009). Instead, all St'át'imcets modals seem to allow any

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kind of force (see (3) above, and see the references cited for many more examples). So, what we need to say is that the subjunctive forces an already potentially weak c-commanding modal to have a weak reading. In order to see how this will work, I first very briefly review the basics of a Kratzerian analysis of modals, and then outline how modals in St'át'imcets are analyzed. We will then add the subjunctive.

Modals in a standard analysis introduce quantifiers over possible worlds. The set of worlds quantified over is narrowed down by two conversational backgrounds. First, it is narrowed down by the modal base, and then it is ordered and further narrowed down by the ordering source. The modal base and the ordering source are both usually provided by context in English, although there are systematic contributions of tense and aspect to the conversational background (see e.g., Condoravdi 2001 for discussion). A simple example is given in (58).

(58)   Chris *must* do his homework.

> **Modal base** (circumstantial): The set of worlds in which the relevant facts are the same as in the actual world (e.g., we ignore worlds where Chris is not in school).
> **Ordering source** (normative): Orders worlds in the modal base so that the best worlds are those which come closest to the ideal represented by the school's homework regulations.
> **Universal quantification**: In all the best worlds, Chris does his homework.

Rullmann et al. (2008) argue that there are two differences between English universal modals like *must* and St'át'imcets modals. First, the St'át'imcets modals place presuppositions on the conversational backgrounds. Second, the set of best worlds is further narrowed down by a choice function which picks out a potentially proper subset of the best worlds to be quantified over. This can lead to a weaker reading, depending on context. The idea is illustrated informally in (59).[25]

(59)   guy't=*ka*   ti=sk'úk'wm'it=a
        sleep=*DEON*   DET=child=EXIS
        'The child must/should/can sleep.'

> **Modal base** (presupposed to be circumstantial): Worlds in which the relevant facts about our family are the same as in the actual world.
> **Ordering source** (presupposed to be normative): The best worlds are those in which my desire for an early night is fulfilled.

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[25] A very sensible suggestion that we should replace Rullmann et al.'s choice function with an(other) ordering source has been made independently by Kratzer (2009), Portner (2009), and Peterson (2009a,b). I will in fact do this below when I compare the current analysis to that of von Fintel and Iatridou (2008).

Choice function: Picks out a potentially proper subset of the best worlds.

Universal quantification: In all worlds in the subset of the best worlds picked out by the choice function, the child sleeps.

Since the quantification is over a potentially proper subset of the best worlds, sentences like (59) can be interpreted with any strength ranging from a pure possibility ('The child can/may sleep') to a strong necessity ('The child must sleep'). The apparent variable quantificational force of St'át'imcets modals is thus derived not by ambiguity in the quantifier itself, but by restricting the size of the set of worlds quantified over by the universal quantifier. The larger the subset of the best worlds selected by the choice function, the stronger the proposition expressed. As a limiting case, the choice function may be the identity function. This results in a reading that is equivalent to the standard analysis of strong modals like *must* in English.

Now we turn to the subjunctive. In order to capture the idea that the subjunctive weakens the c-commanding modal, I analyze the subjunctive as presupposing that at least one world in the set of best worlds is a world in which the embedded proposition is false. This will prevent the choice function from being the identity function.[26] This is illustrated informally for a deontic case in (60).

(60) guy't=*ás*=*ka*   ti=sk'úk'wm'it=a
      sleep=*3SBJN*=*DEON*   DET=child=EXIS
      'I hope the child sleeps.'

> **Modal base** (presupposed to be circumstantial): Worlds in which the relevant facts about our family are the same as in the actual world.
>
> **Ordering source** (presupposed to be normative): The best worlds are those in which my desire for an early night is fulfilled.
>
> **Choice function** (must pick out a proper subset of the best worlds, to avoid a contradiction with the presupposition of the subjunctive): The very best worlds are those in which my spouse's desire for an early night is also fulfilled.
>
> **Universal quantification**: All the *very best* worlds are worlds in which the child sleeps.

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[26] Thanks to Hotze Rullmann (p.c.) for discussion of this point. The requirement that p be false in at least one of the best worlds appears reminiscent of a nonveridicality-style analysis, and there may be some deep significance to this. However, the analyses are different. For Giannakidou, the issue is always epistemic, as veridicality is defined in terms of a truth entailment in an individual's epistemic model; see (42). Thus, subjunctive is predicted under verbs like 'want', as propositions under 'want' are not entailed to be true in any individual's epistemic model. Under my analysis, the subjunctive has an *anaphoric* modal base and ordering source. I will show in section 7.5 that my analysis correctly predicts the *indicative* under verbs like 'want' in St'át'imcets.

(59) allows a strong interpretation which (60) disallows. If the choice function in (59) is the identity function, the speaker will be satisfied only if the child sleeps ('in all the worlds where my desire for an early night is fulfilled, the child sleeps'). In (60), the speaker will certainly be satisfied if the child sleeps, but there are also other ways to make him/her happy. (60) asserts only that 'in all the worlds where my spouse's and my desires for an early night are fulfilled, the child sleeps' – so the speaker's desires may be satisfied if the speaker's spouse looks after the child while the speaker goes to sleep. The requirement that (60) places on the child is thus weaker than a strong necessity.

In the remainder of this section I provide a more formal implementation of this idea, and in section 7 I show how the analysis accounts for a wide range of uses of the St'át'imcets subjunctive, including imperative-weakening, question-weakening, and ignorance free relatives.

I adopt the following basic definitions from von Fintel and Heim (2007). (61) shows the ordering of worlds according to how well they satisfy the set of propositions in the ordering source.

(61)   Given a set of worlds X and a set of propositions P, define the strict partial order $<_P$ as follows:

$$\forall w_1, w_2 \in X: w_1 <_P w_2 \text{ iff } \{p \in P: p(w_2) = 1\} \subset \{p \in P: p(w_1) = 1\}$$
(von Fintel and Heim 2007:55)

For any worlds w_1 and w_2, w_1 comes closer to the ideal set up by the ordering source than w_2 does iff the set of propositions in the ordering source which are true in w_2 is a proper subset of the set of propositions in the ordering source which are true in w_1.

(62) shows how the best worlds are selected.

(62)   For a given strict partial order $<_P$ on worlds, define the selection function $\max_P$ that selects the set of $<_P$-best worlds from any set X of worlds:

$$\forall X \subseteq W: \max_P(X) = \{w \in X: \neg \exists w' \in X: w' <_P w\}$$
(von Fintel and Heim 2007:55)

The best worlds are those for which there are no worlds closer to the ideal than they are.

The analysis of English *must* is given in (63). *must* takes as arguments a modal base, an ordering source and a proposition, and asserts that in all the best worlds in the modal base, as defined by the ordering source, the proposition is true.

(63) $[[must]]^{c,w} = \lambda h_{<s,<st,t>>} . \lambda g_{<s,<st,t>>} . \lambda q_{<st>} . \forall w' \in \max_{g(w)}(\cap h(w)) [q(w') = 1]$
(von Fintel and Heim 2007:55)

The analysis of St'át'imcets normative *ka* is given in (64). *ka* takes as arguments a modal base, an ordering source, and a proposition.[27]

(64) $[[ka(h)(g)]]^{c,w}$ is only defined if h is a circumstantial modal base and g is a normative ordering source.

If defined, $[[ka(h)(g)]]^{c,w} = \lambda q_{<s,t>}.\ \forall w' \in f_c(max_{g(w)}(\cap h(w)))\ [q(w') = 1]$ (adapted from Rullmann et al. 2008:340)

Now for the subjunctive. As shown in (65), the subjunctive does not affect truth conditions but merely enforces a weaker-than-necessity reading of a modal in the environment. The subjunctive does not itself introduce any conversational backgrounds; h and g in (65) are free variables. I assume that this enforces anaphoricity: the mood must be c-commanded by a modal which introduces values for h and g.[28]

(65) $[[SBJN(\phi)]]^{c,w}$ is only defined if $\exists w' \in max_{g(w)}(\cap h(w))\ [\phi(w') = 0]$.
When defined, $[[SBJN(\phi)]]^{c,w} = \lambda w'.\ [[\phi]]^{c,w'}$

According to (65), the subjunctive is only defined if there is at least one world w' in the set of best worlds in the modal base, as defined by the ordering source, such that ϕ is false in w'. The analysis is applied to a normative subjunctive case in (66).

(66)   guy't=**ás**=**ka**   ti=sk'úk'wm'it=a
        sleep=**3SBJN**=**DEON**   DET=child=EXIS
        'I hope the child sleeps.'

$[[ka(h)(g)(as(guy't\ ti\ sk'úk'wm'ita))]]^{c,w}$ is only defined if

    i.   h is a circumstantial modal base and g is a normative ordering source
    ii. $\exists w' \in max_{g(w)}(\cap h(w))$ [the child doesn't sleep in w']

When defined, $[[ka(h)(g)(as(guy't\ ti\ sk'úk'wm'ita))]]^{c,w} = 1$ iff $\forall w' \in f_c(max_{g(w)}(\cap h(w)))$ [the child sleeps in w']

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[27] Nothing crucial hinges on having the conversational backgrounds present in the syntax (as in von Fintel and Heim 2007) rather than being parameters of interpretation (as in Portner 1997). However, the syntactic version may have a potential advantage in enforcing the required anaphoricity of the conversational backgrounds once we bring in the subjunctive. In Rullmann et al.'s analysis of St'át'imcets modals, the choice function is also a syntactic argument of the modal. Following the suggestion of an anonymous reviewer, I have changed this here, but again, nothing crucial hinges on the decision.
[28] Thanks to an anonymous reviewer for pointing out an inconsistency in an earlier version of (65).

As above, $\max_{g(w)}(\cap h(w))$ picks out the best worlds in the modal base, as defined by the normative ordering source. The contextually determined choice function f_c picks out a subset of $\max_{g(w)}(\cap h(w))$, and the modal universally quantifies over the set picked out by the choice function. Because the subjunctive mood presupposes that there is at least one world in $\max_{g(w)}(\cap h(w))$ in which the proposition is false, the choice function must pick out a proper subset of the worlds provided by the modal base and ordering source. This forces a weaker-than-universal reading. We in fact predict gradient readings with the subjunctive – anything from pure possibility to weak necessity. This seems to fit with the facts about when the subjunctive is felicitous.

I have so far been simply following Portner (1997) in modeling the mood restriction as a presupposition, rather than as ordinary asserted content, or some other kind of inference. The question arises of whether there is any St'át'imcets-internal justification for the assumption that presupposition is involved.[29]

If the subjunctive contributed ordinary asserted content, we would predict that it would fail to project through presupposition holes such as negation or conditionals, and that it could be directly affirmed or denied by the hearer. The issue of projection through presupposition holes is not testable for most of the relevant constructions in St'át'imcets. For example, negation in St'át'imcets is a predicate which embeds an obligatorily nominalized (i.e., indicative) subordinate clause. When a subjunctive clitic does co-occur with negation, it attaches to the negation itself, as shown in (67). Thus, while (67) is not interpretable in a way which would show that the subjunctive contributed asserted content, the results are not conclusive because the subjunctive is probably not scoping under negation syntactically.

(67)   cw7aoz=**as**=ká=t'u7   kw=s=nas=ts
        NEG=**3SBJN**=DEON=PRT   DET=NOM=go=3POSS
        'I wish he wouldn't go.'
        (van Eijk 1997:214)

    $\neq$ 'It is not the case that [in at least one of the best worlds in the modal
           base, he doesn't go, and in all of the set of worlds selected by the
           choice function, he goes].'
i.e., $\neq$ 'It is not the case that [it's good if he goes, and I can still be happy if he
           doesn't].'

Nor can we test projection through 'if', as 'if'-clauses obligatorily and redundantly select the subjunctive in St'át'imcets (see section 2.2). However, questions provide evidence that the subjunctive does not contribute ordinary asserted content. Recall that the subjunctive plus an inferential evidential when added to a question results in a statement of uncertainty (19-23). The question in

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[29] Thanks to David Beaver and an anonymous reviewer for asking for clarification of this issue.

(68) cannot be interpreted as if the subjunctive contributed asserted content which scopes below the question. (See section 7.2 for analysis of questions like (68).)

(68)   nilh=***as=há=k'a***   s=Lémya7   ku=kúkwpi7
        FOC=***3SBJN=YNQ=INFER***   NOM=Lémya7   DET=chief
        'I think maybe Lémya7 is the chief / I wonder if Lémya7 is the chief.'

   $\neq$ 'Is it the case that [in at least one of the best worlds compatible with the
          inferential evidence, Lémya7 is not the chief and in all of the set of
          worlds selected by the choice function, Lémya7 is the chief]?'
i.e., $\neq$ 'Is it the case that [Lém7ya7 is possibly but not necessarily the chief]?'

    Further evidence that the subjunctive does not contribute ordinary asserted content comes from the impossibility of directly affirming or denying its contribution. This is shown in (69), where B and B' try to deny A's subjunctive claim that in at least one world compatible with A's knowledge and desires, the children don't sleep. The consultant absolutely rejects the replies in B and B'.

(69) A: guy't=***ás***=ka   i=sk'wemk'úk'wm'it=a
         sleep=***3SBJN***=DEON   DET.PL=child(PL)=EXIS
         'I hope the children sleep.'

    B: #cw7aoz kw=s=wenácw. plán=lhkacw   zewát-en
       NEG   DET=NOM=true already=2SG.SUBJ   know-DIR
             kw=s=cuz'   gúy't=wit
             DET=NOM=going.to sleep=3PL
       'That's not true. You already know they will sleep.'

    B':#cw7aoz kw=s=wenácw. lh=cw7aóz=as   kw=s=guy't=wit
       NEG   DET=NOM=true COMP=NEG=3SBJN DET=NOM=sleep=3PL
             i=sk'wemk'úk'wm'it=a, áoz=kelh   kw=a=s   áma
             DET.PL=child(PL)=EXIS NEG=FUT   DET=IMPF=3POSS good
                ta=scwákwekw-sw=a
                DET=heart-2SG.POSS=EXIS
       'That's not true. If the children don't sleep, you won't be happy.'

    Having established that the weakening contribution of the subjunctive is not ordinary asserted content, the question now is whether it contributes a presupposition per se, or some other not-at-issue content, such as a Potts (2005)-style conventional implicature. One major empirical difference between a traditional understanding of presuppositions (e.g., Stalnaker 1974) and conventional implicatures is that only the former impose constraints on the state of the common ground. Conventional implicatures, in contrast, standardly contribute information which is new to the hearer (Potts 2005). I have argued

elsewhere (Matthewson 2006, 2008b) that St'át'imcets entirely lacks presuppositions of the common ground type; all not-at-issue content in this language is treated as potentially new to the hearer.[30] In those earlier works I argued that the St'át'imcets facts necessitate an alternative analysis of presupposition (for example that of Gauker 1998). However, another way to look at things is to say that out of the class of non-at-issue meanings (which according to Roberts et al. 2009 equate with the set of projective meanings), St'át'imcets lacks one sub-type, namely common ground presuppositions. What I have modeled as a presupposition of the St'át'imcets subjunctive would then be some other kind of not-at-issue content, perhaps a conventional implicature. However, these issues go beyond the scope of the present paper and do not affect the main points being made here, so with these caveats I will continue to model the subjunctive as introducing a presupposition.

Before turning to more complex constructions involving the subjunctive, it is interesting to consider the similarity between the analysis of the St'át'imcets subjunctive provided here and von Fintel and Iatridou's (2008) ideas about weak necessity modals. von Fintel and Iatridou are concerned with the difference in quantificational strength between *ought* and *have to/must.* In (70), we see that the restriction on employees is stronger than that on everyone else.

(70)   After using the bathroom, everybody *ought* to wash their hands; employees *have to.*   (von Fintel and Iatridou 2008:116)

(71) also illustrates the contrast between the different modal strengths. In (71a), taking Route 2 is the only option, if you want to get to Ashfield: *all* the worlds in which you get to Ashfield are Route 2-worlds. In (71b), there are other getting-to-Ashfield worlds apart from only Route 2-worlds. But the Route-2 worlds are the best, taking into consideration some other factors (such as a scenic route).

(71) a.   To go to Ashfield, you *have to / must* take Route 2.
     b.   To go to Ashfield, you *ought to* take Route 2. (von F. & I. 2008:118)

von Fintel and Iatridou argue that *ought* is a weak necessity modal, and that weak necessity modals signal the existence of a *secondary ordering source.* This is illustrated informally in (72-73). (72) contains a strong necessity modal, and gives a strong reading, as usual. In (73), a secondary ordering source further restricts the set of worlds which are universally quantified over, leading to a weaker reading.

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[30] For example, attempts to elicit 'Hey, wait a minute!' responses to presupposition failures for a wide range of standard presupposition triggers have all failed (Matthewson 2006, 2008b). We are therefore unable to decide the presupposition issue for the subjunctive by using the 'Hey, wait a minute!' test (as was suggested by an anonymous reviewer).

(72) To go to Ashfield, you *have to / must* take Route 2.

> **Modal base**: Restricts worlds considered to those in which the same facts about roads hold as in the actual world.
> **Ordering source**: Orders worlds in the modal base so that the best worlds are those in which you attain your goal of getting to Ashfield.
> **Universal quantification**: In all the *best* worlds, you take Route 2.

(73) To go to Ashfield, you *ought to* take Route 2.

> **Modal base**: Restricts worlds considered to those in which the same facts about roads hold as in the actual world.
> **Ordering source 1**: Orders worlds in the modal base so that the best worlds are those in which you attain your goal of getting to Ashfield.
> **Ordering source 2**: Further orders the best worlds picked out by ordering source 1, so that the *very best* worlds are those in which you not only attain your goal of getting to Ashfield, but also attain an additional goal of going via a scenic route.
> **Universal quantification**: In all the *very best* worlds, you take Route 2.

As von Fintel and Iatridou (2008:137) put it: 'The idea is that saying that to go to Ashfield you *ought to* take Route 2, because it's the most scenic way, is the same as saying that to go to Ashfield in the most scenic way, you *have to* take Route 2.' This is very parallel in spirit to Rullmann et al.'s (2008) analysis of St'át'imcets modals, where a weak reading is obtained by a universal quantifier with a restriction provided by a choice function. And just like Rullmann et al.'s analysis, von Fintel and Iatridou's actually predicts gradience: how 'weak' a weak necessity modal is can vary, depending on which secondary ordering source you pick. In fact, given that the motivation for using a choice function rather than an ordering source was weak anyway (cf. Kratzer 2009, Peterson 2009a,b and Portner 2009), the Rullmann et al.-style analysis is better implemented using a double ordering source, exactly as in von Fintel and Iatridou (2008).[31]

So what is the difference between English and St'át'imcets? Simply that in English, we *lexically* encode the weak necessity *(ought* vs. *have to/must)*. In St'át'imcets, no differences in quantificational force are lexically encoded by modals, but what English modals do, St'át'imcets does via *mood*. Another way of describing the analysis offered here would be to say that the St'át'imcets subjunctive enforces weak necessity: it forces there to be two (non-vacuous) restrictions on the set of worlds in the modal base.

While further cross-linguistic investigation goes beyond the scope of this paper, it is worth pointing out a connection to another intriguing observation

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[31] Like von Fintel and Iatridou, I omit a formal definition of a modal with a double ordering source; see von Fintel and Iatridou (2008:138) for some suggestions on how to do this.

of von Fintel and Iatridou's, namely that in many languages, weak necessity modals are created transparently from a strong necessity modal plus *counterfactual morphology.* This is illustrated in (74) for French, where the modal appears in the conditional mood, the mood which occurs in counterfactual conditionals.

(74)   tout le monde   ***devrait***   se   laver   les   mains
        everybody   must/*COND*   REFL   wash   the   hands
             mais   les   serveurs   sont   obligés
             but   the   waiters   are   obliged
        'Everybody ought to wash their hands but the waiters have to.'
                                    (von Fintel and Iatridou 2008:121)

This is very reminiscent of St'át'imcets, where a modal which allows strong necessity readings is turned into a weak necessity modal by the addition of the subjunctive. In St'át'imcets, I have analyzed the weakening effect as the sole contribution of the subjunctive mood. Of course, 'counterfactual' and 'subjunctive' are not the same thing, and I am not in a position to claim that the current analysis of the subjunctive can extend to counterfactual morphology in the languages discussed by von Fintel and Iatridou. However, the present analysis at the very least supports von Fintel and Iatridou's cross-linguistic generalization that mood morphology can derive weak necessity modals, and may offer a potential new avenue for looking at languages like French.

7   Applying the analysis to other subjunctive constructions

In the previous section I presented an analysis of the St'át'imcets subjunctive and applied it to cases involving a normative modal. In this section I aim to establish that the analysis of the subjunctive as restricting the quantificational force of a co-occurring modal can extend to the other uses of the subjunctive. I deal in turn with imperatives (section 7.1), questions (7.2), ignorance free relatives (7.3), the 'pretend' cases (7.4), and finally I return to the fact that in St'át'imcets, the subjunctive is not licensed by any attitude verbs (7.5).

7.1   Imperatives

Recall that the subjunctive, when added to an imperative, makes the command more polite. An example is repeated here:

(16) a.   lts7á=malh   lh=kits-in'=ál'ap!
           here=ADHORT   COMP=put.down-DIR=2PL.SBJN
           'Just put it over here!'

b. lts7á=***has***=malh   lh=kits-in'=ál'ap
 here=***3SBJN***=ADHORT COMP=put.down-DIR=2PL.SBJN
 'Could you put it down here?'/'You may as well put it down over
 here.'

The easiest way to analyze the imperatives would be as subcases of the deontic cases already analyzed above. We could say that the imperative introduces a deontic necessity modal, and the subjunctive weakens the modal. That is what I will in fact say, adopting Schwager's (2005, 2006) analysis of imperatives.

  Schwager (2005, 2006) claims that imperatives introduce a modal operator, which is a more restricted version of a deontic necessity modal.[32] Normally, the imperative modal expresses necessity, with the Common Ground serving as the modal base, and a contextually given set of preferences giving the ordering source. In addition, imperatives carry presuppositions, as shown in (75). The presuppositions restrict an imperative to situations where a performative use of a deontic modal would be possible, namely those in which the speaker is an authority on the matter.[33]

(75) Presuppositions of an imperative:

   1. The speaker is an authority on the parameters. [modal base and ordering source]
   2. The ordering source is preference-related.[34]
   3. The speaker affirms the ordering source as a good maxim for acting in the given scenario.
          (Schwager 2006:248-249)

A simple case is illustrated in (76).

(76) Get up!

   Modal base: What the speaker and hearer jointly take to be possible
   Ordering source: The speaker's commands

(76) is true iff all worlds in the Common Ground that make true as much as

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[32] See Han (1997,1999) for an earlier proposal of a similar idea. Han's modal analysis shares many of the advantages for St'át'imcets of Schwager's approach. However, since Han models the modal claim of the imperative as a presupposition rather than part of the assertion, extra assumptions would be required to apply it to St'át'imcets subjunctive imperatives.

[33] The descriptive vs. performative use of a deontic modal is shown in (i), from Schwager 2008:26).

(i) a. Peter may come tomorrow. (The hostess said it was no problem.) DESCRIPTIVE
  b. Okay, you may come at 11. (Are you content now?)   PERFORMATIVE

[34] The preferences may relate to the addressee's wishes, as in the case of advice or suggestions.

possible of what the speaker commands at the world and time of utterance make it true that the addressee gets up within a certain event frame t (Schwager 2005: chapter 6). The difference between (76) and the plain modal statement 'You must get up' is that with the imperative, the speaker is presupposed to be an authority. This has the consequence that whenever an imperative is defined, it is necessarily true.

Adopting Schwager's analysis enables us to treat the St'át'imcets subjunctive imperatives the same way we treated the weakened normative *ka*-statements above. We have to assume that the deontic modal in a St'át'imcets imperative is, like the overt *ka,* a variable-quantificational-force modal which introduces a choice function or secondary ordering source. While a normal imperative roughly says that in all the best worlds (the worlds where you obey my commands), you do P, a subjunctive imperative presupposes that at least one world in which you obey my commands is a world in which you do *not* do P. This predicts that a weakened imperative means that in the *very best* worlds, you do P, but there are other ways to satisfy me. The requirement on the addressee becomes weaker, just as the requirement on the child to sleep becomes weaker in the examples discussed above.

An advantage of Schwager's analysis for St'át'imcets is that it makes the correct predictions for 'permission imperatives' like 'Have a cookie!' These do not perform a speech act of ordering, but rather of invitation. It might be natural to think that permission imperatives involve a *possibility* modal, but Schwager argues that imperatives always introduce a necessity operator. For Schwager, the permission effect arises due to the contextual parameters; this is shown in (77).

(77)   Take an apple if you like!

         Given what we know the world to be like and given what you want, it is
         necessary that you take an apple.   (cf. Schwager 2008:49)

Under Schwager's analysis, then, the difference between an order and an invitation consists not in a difference in quantificational force, but in ordering source. This correctly predicts that in St'át'imcets, permission imperatives do *not* take the subjunctive:[35]

(78)   Context: Your friend comes over and is visiting with you. You hear her
         stomach rumbling. You give her a plate and say 'Have some cake!'

    a.   wá7=malh   kiks-tsín-em
         be=ADHORT   cake-eat-MID
         'Have some cake!'

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[35] (78b) is marked as infelicitous in this context, which is how the consultant judges it. (79b) appears to be ungrammatical. The difference probably relates to the presence in (78b) of the adhortative particle *malh,* an interesting element whose analysis must await future research.

b. # wá7=***acw***=malh   kiks-tsín-em
   be=***2SG.SBJN***=ADHORT   cake-eat-MID
   'You may as well have some cake.'

(79)   Context: You are at a gathering and they are almost running out of
        food. You take the last piece of fish and then you see an elder is behind
        you and is looking disappointed and has no fish on her plate. You say
        'Take mine!'

    a.   kwan   ts7a   ti=n-tsúw7=a
        take(DIR)   DEIC   DET=1SG.POSS-own=EXIS
        'Take mine!'

    b. * kwán=***acw***   ts7a   ti=n-tsúw7=a
        take(DIR)=***2SG.SBJN***   DEIC   DET=1SG.POSS-own=EXIS
        intended: 'Take mine!'

We have seen that an analysis of imperatives as containing a concealed necessity
modal works for St'át'imcets. In the remainder of this section I briefly discuss
the alternative analysis of Portner (2004, 2007).

        Portner's (2004, 2007) analysis of imperatives relies on the notion of a
'To-Do List'. The idea is that each participant in a conversation has a To-Do
List, a set of properties which they are committed to satisfying. The To-Do list
Function (which maps each participant to their own To-Do List) is a component
of the Discourse Context (along with the Common Ground and the Question
Set). An imperative, as in (80), denotes a property whose subject is the
addressee. This causes the property to be added to the addressee's To-Do List.

(80)   [[*Leave!*]]^{w*,c} = [λw λx : x = addressee (c) . x leaves in w]

The important feature of this analysis for current purposes is that under the To-
Do List approach, imperatives do not contain modal operators. While for
Portner, imperatives and root modals are closely linked – for example, the
successful utterance of an imperative leads to the truth of a corresponding
sentence containing a root modal – imperatives do not themselves contain
modals.[36] My analysis of the St'át'imcets subjunctive, however, requires the
presence of a modal, whose quantificational force is weakened via a restriction
on the conversational background. A unified analysis of the St'át'imcets
subjunctive across all its uses would therefore seem to require a modal in the
imperative.

        However, a slight modification of Portner's analysis of imperatives *will*
work for St'át'imcets.[37] We simply analyze the imperative morpheme in a
parallel way to a normative modal. The imperative morpheme takes three

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[36] See Portner (2007:363ff) for arguments against Han's (1999) and Schwager's
(2005,2007) analysis of imperatives as containing concealed modals.
[37] Thanks to an anonymous reviewer for the suggestion which follows.

arguments: the Common Ground (which corresponds to the modal base), and two To-Do Lists (which correspond to ordering sources). The subjunctive then presupposes that there is a world among the best worlds in which the imperative is not satisfied. Assuming that the second To-Do List is 'more ignorable' than the first (cf. also von Fintel and Iatridou 2008 on the primacy of the first ordering source), then a hearer can decide to be bound either by both To-Do Lists, or only by the first. If the speaker has set up her own desires as the secondary To-Do List, we obtain a politeness reading.

In summary, we have seen that our analysis of the St'át'imcets subjunctive extends to the weakened imperatives, as long as we assume that imperatives are concealed deontic modal statements. This idea can be implemented within either the approaches of Schwager (2005, 2006, 2008) or Portner (2004, 2007).

7.2   Questions

The subjunctive appears, in combination with an evidential or future modal, in both yes-no and *wh* questions in St'át'imcets, in each case turning the question into a statement of uncertainty. Some examples are repeated here. Following Littell et al. (2009), I use the term 'conjectural questions' for this construction.

(22) a.   lán=***ha***   kwán-ens-as   ni=n-s-mets-cál=a
       already=*YNQ* take-DIR-3ERG DET.ABS=1SG.POSS-NOM=write-ACT=EXIS
       'Has she already got my letter?'

   b.   lan=***as=há=k'a***   kwán-ens-as
       already=*3SBJN=YNQ=INFER*   take-DIR-3ERG
         ni=n-s-mets-cál=a
         DET.ABS=1SG.POSS-NOM=write-ACT=EXIS
     'I wonder if she's already got my letter.'/'I don't know if she got my
     letter or not.'

(21) a.   nká7=***kelh***   lh=cúz'=acw   nas
       where=*FUT*   COMP=going.to=2SG.SBJN go
       'Where will you go?'

   b.   nká7=***as=kelh***   lh=cúz'=acw   nas?
       where=*3SBJN=FUT*   COMP=going.to=2SG.SBJN go
       'Wherever will you go?' / 'I wonder where you are going to go now.'
                                         (cf. Davis 2006: chapter 24)

Previous discussion of conjectural questions in Salish includes Matthewson (2008a), Littell et al. (2009) and Littell (2009).[38] The analysis given here will essentially be that of Littell (2009), with the addition of an account of the role of the subjunctive (which Littell does not discuss), and an extension to cases where the subjunctive in a conjectural question is licensed by a future modal, rather than an evidential.

The paradigms in (81) and (82) illustrate the distributional facts for conjectural questions which contain an evidential (as opposed to a future modal). We see that the evidential is obligatory (the (b) examples), but the subjunctive – while strongly preferred – is not quite obligatory (the (c) examples).[39]

(81) a.　t'íq=**Ø**=ha　　　　　　k=Bill
　　　　arrive=**INDIC**=YNQ　　DET=Bill
　　　　'Did Bill arrive?'　　　　　　　　　　　INDIC

　　 b. * t'íq=**as**=ha　　　　　　k=Bill
　　　　arrive=**3SBJN**=YNQ　　DET=Bill　　　SBJN

　　 c. ? t'íq=ha=**k'a**　　　　　k=Bill
　　　　arrive=YNQ=**INFER**　　DET=Bill
　　　　'I wonder if Bill arrived.'　　　　　EVID + INDIC

　　 d.　t'iq=**as**=há=**k'a**　　　　　k=Bill
　　　　arrive=**3SBJN**=YNQ=**INFER**　DET=Bill
　　　　'I wonder if Bill arrived.'　　　　　EVID + SBJN

(82) a.　ínwat=wit
　　　　say.what =3PL
　　　　'What did they say?'　　　　　　　INDIC

　　 b. * ínwat=wit=**as**
　　　　say.what=3PL=**3SBJN**　　　　SBJN

　　 c. ? inwat=wít=**k'a**
　　　　say.what=3PL=**INFER**
　　　　'I wonder what they said.'　　　　EVID + INDIC

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[38] Littell et al. (2009) investigate conjectural questions in three languages: St'át'imcets, Nłeʔkepmxcín (Thompson Salish) and Gitksan, while Littell (2009) focuses mainly on Nłeʔkepmxcín.
[39] While subjunctive evidential questions (as in (81d), (82d)) are obligatorily interpreted as statements of uncertainty rather than questions, indicative evidential questions (as in (81c), (82c)) can optionally be interpreted as ordinary questions. I return to this below.

d.   inwatwít=**as**=**k'a**
     say.what=3PL=**3SBJN=INFER**
     'I wonder what they said.'   EVID + SBJN

As argued in the above-mentioned references, conjectural questions have the syntax and the semantics of a question, but the pragmatics of an assertion (as they do not require an answer in discourse). With respect to syntax, conjectural questions clearly pattern with ordinary questions. Littell et al. (2009) point out that not only do conjectural questions contain the normal yes-no question particle or sentence-initial *wh*-phrase plus extraction morphology, they embed under the same predicates as ordinary questions do. This is shown in (83), where (83a) contains an ordinary question and (83) a conjectural question.

(83) a.   aoz   kw=s=zwát-en-as   k=Lisa
          NEG   DET=NOM=know-DIR-3ERG   DET=Lisa
              lh=wa7=as   áma-s-as   k=Rose   ku-tíh
              COMP=IMPF=3SBJN   good-CAUS-3ERG   DET=Rose   DET=tea
          'Lisa doesn't know whether Rose likes tea.'

     b.   aoz   kw=s=zwát-en-as   k=Lisa
          NEG   DET=NOM=know-DIR-3ERG   DET=Lisa
              lh=wa7=**as**=**há=k'a**   áma-s-as   k=Rose
              COMP=IMPF=**3SBJN=YNQ=INFER** good-CAUS-3ERG   DET=Rose
                  ku-tíh
                  DET=tea
          'Lisa doesn't know whether Rose likes tea.'

The ability to embed under question-taking predicates is also prima facie evidence that conjectural questions have the same semantic type as ordinary questions.

Pragmatically, however, conjectural questions do not behave like ordinary questions, because conjectural questions do not require an answer from the addressee. In fact, conjectural questions are infelicitous in any situation where the hearer can be assumed to know the answer. This is illustrated in (84).[40]

(84) a.?? lan=**acw=há=k'a**   q'a7
         already=**2SG.SBJN=YNQ=INFER**   eat
         'I wonder if you've already eaten.'

     b.   Context: You see your friend wearing a watch and you say:

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[40] See Rocci (2007:147) for the same claim for an Italian construction with similar semantics to St'át'imcets conjectural questions.

?? zwat-en=***ácw=ha=k'a***   lh=k'wín=as=t'elh
know-DIR=***2SG.SBJN=YNQ=INFER*** COMP=how.many=3SBJN=now
'Would you know what the time was?'

Consultant's comment: "You wouldn't have seen the watch if you say this."

Nor are conjectural questions a type of rhetorical question. Han (2002) argues that rhetorical questions have the force of a negative assertion, as in (85).

(85)   Did I tell you it would be easy? ≈ I didn't tell you it would be easy.

But this is not the meaning we get in St'át'imcets for conjectural questions. In order to express a true rhetorical question, St'át'imcets speakers use something which is string-identical to an *ordinary* question, just as in English. This is illustrated in (86-87). (87b) shows that adding a subjunctive plus an evidential to a rhetorical question results in rejection of the utterance.

(86)   Context: Your daughter is complaining that learning how to cut fish is hard. You say:

    a.   tsun-tsi=***lhkán=ha***   k=wa=s   lil'q
        say(DIR)-2SG.OBJ=***1SG.INDIC=YNQ*** DET=IMPF=3POSS easy
        'Did I tell you it would be easy?'

    b.   swat   ku=tsút k=wa=s   lil'q
        who   DET=say DET=IMPF=3POSS easy
        'Who said it would be easy?'

(87)   Context: You are at the PNE (a fair) and there is this very scary ride which looks really dangerous. Your friend asks you if you are going to go on it. You say:

    a.   tsut-anwas=***kácw=ha***   kw=en=klíisi
        say-inside=2***SG.INDIC=YNQ***   DET=1SG.POSS=crazy
        'Do you think I'm crazy?'

    b. * tsut-anwas=***ácw=ha=k'a***   kw=en=klíisi
        say-inside=2***SG.SBJN=YNQ=INFER*** DET=1SG.POSS=crazy
        'Do you think I'm crazy?'

The status of speaker and addressee knowledge also differs between rhetorical questions and conjectural questions. In rhetorical questions, the speaker knows the true answer to the question, and typically assumes that the hearer does as well (e.g., Caponigro and Sprouse 2007). Subjunctive questions are the exact opposite: *neither* the speaker *nor* the addressee typically knows the answer.

In the remainder of this section I will first present the analysis of conjectural questions which contain evidentials, and then explain an interesting difference between the evidential and the future with respect to subjunctive licensing.

First, we need an analysis of questions. I adopt a fairly standard approach, according to which a question denotes a set of propositions, each of which is a (partial, true or false) answer to the question (Hamblin 1973).[41] This is illustrated in (88-89).

(88)   [[*does Hotze smoke*]]^w = {that Hotze smokes, that Hotze does not smoke}

(89)   [[*who left me this fish*]]^w = {that Ryan left me this fish, that Meagan left me this fish, that Ileana left me this fish, …}

= {$p : \exists x[p =$ that x left me this fish]}

Next, we need an analysis for the inferential evidential *k'a.* I adopt Matthewson et al.'s (2007) and Rullmann et al.'s (2008) analysis of *k'a* as an epistemic modal with a presupposition about evidence source.

(90)   [[$k'a$(h)(g)]]^{c,w} is only defined if h is a modal base, g is an ordering source, and for all worlds w', $\cap$h(w') is the set of worlds in which the inferential evidence in w holds.

If defined, [[$k'a$(h)(g)]]^{c,w} = $\lambda q_{<s,t>}$. $\forall w' \in f_c(\max_{g(w)}(\cap h(w)))$ [q(w') = 1]   (adapted from Matthewson et al. 2007: 245)

I assume that the evidential modal scopes under the question operator, so that each proposition in the question denotation contains the evidential. This is shown in (91). A conjectural question thus bears some similarity to an English question containing a possibility modal (e.g., 'Could Bill have (possibly) arrived?').

(91)   t'iq=**as**=há=**k'a**   k=Bill
         arrive=**3SBJN**=YNQ=**INFER**   DET=Bill
         'I wonder if Bill arrived.'

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[41] As far as I am aware, this choice is not critical and a different approach to questions would work just as well. This differs from the situation with imperatives seen in section 7.1, where the St'át'imcets subjunctive seems to offer some insights into what an adequate analysis of imperatives must look like.

> $[[(91)]]^w$ = {that Bill possibly arrived [presupposing there is inferential evidence that Bill arrived], that Bill possibly did not arrive [presupposing there is inferential evidence that Bill did not arrive]}

Notice that the evidence presuppositions of the two propositions in (91) conflict with each other – there is presupposed to be evidence both that Bill did arrive, and that Bill did not arrive. In previous work (Matthewson 2008a, Littell et al. 2009), I assumed that the mixed-evidence presuppositions which result if we conjoin the presuppositions of all the propositions in the question set could derive the reduced interrogative force of conjectural questions. The idea was that a speaker who utters a question while presupposing that there is mixed or even contradictory evidence about the true answer cannot be taken to be requiring that the hearer provide the true answer to the question. That is, the mixed presuppositions about evidence signal that the speaker does not believe the question is easily answerable, and this lets the hearer off the hook with respect to providing an answer. [42]

However, there are various problems with this analysis, as pointed out by Littell (2009). One is that the evidence presuppositions are not always contradictory. For example, a conjectural question such as 'Who likes ice cream?' would presuppose for each contextually salient individual x that there is inferential evidence that x likes ice cream. But it is perfectly possible that everyone likes ice cream, and the evidence presuppositions in this case do not rule out the possibility that the hearer knows the true answer. A second problem is seemingly incorrect predictions about questions which contain other evidentials, such as reportative or direct evidentials. Littell argues that an analysis of conjectural questions which relies on conjoined evidence presuppositions should predict reduced interrogative force for *any* evidential question – yet cross-linguistically it is overwhelmingly only inferential or conjectural evidentials which result in reduced interrogative force. This is certainly true of St'át'imcets, as shown in the minimal pair in (92).[43]

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[42] Rocci (2007) analyzes a construction in Italian with strikingly similar semantics and pragmatics: the *che*-subjunctive construction. According to Rocci, *che*-subjunctives, which are formed from questions, are interpreted as statements of doubt. He argues that they involve epistemic modality and inferential evidentiality, and induce the following presuppositions:

(i)   p is not in the Common Ground and ¬ p is not in the Common Ground
(ii)   There is no sign that either Speaker or Hearer knows whether p or ¬ p
(iii)   There is some set of facts E in CG, such that E is non-conclusive evidence in favor of p

These are very similar to the effects of the St'át'imcets conjectural questions. However, Rocci does not give a compositional analysis, perhaps partly because the *che*-subjunctives have no overt evidentials or epistemic modals in the structure.

[43] Cheyenne is an exception; reportatives in questions in Cheyenne allow non-interrogative readings (Murray 2009).

(92) a. stám'=**as=k'a**   ts7a
         what=**3SBJN=INFER**   here
         'I wonder what these are.'

   b. # stám'=**as=ku7**   ts7a
        what=**3SBJN=REPORT**   here
        ≠ 'I wonder what these are.'

For these reasons, I instead adopt and extend an alternative analysis proposed by Littell (2009). Two assumptions are required. First, the evidence source requirement of an evidential in a question can or must undergo 'interrogative flip' (or 'origo shift'; Garrett 2001, Faller 2002, 2006, Aikhenvald 2004, Tenny and Speas 2004, Tenny 2006, Davis et al. 2007, Murray 2009, among others). Thus, a question containing an evidential expects that the hearer, rather than the speaker, has the relevant type of evidence for the answer. For example, (93) is not appropriate if directed to your mother, if she is the one who always cooks dinner. However, it is acceptable when directed to a third person, who might have heard from your mother what you are going to eat.

(93)   stám'=**ku7**   ku=cuz'=s-q'á7-lhkalh
        what=REPORT   DET=going.to=NOM-eat-1PL.POSS
        'What are we going to eat?'

The second assumption is that a speaker who uses an evidential which is low on a hierarchy of evidence strength implicates that there is no available evidence of a stronger type (Faller 2002, among others). This also seems to be correct in St'át'imcets; the use of an inferential evidential, for example, leads a hearer to infer that the speaker did not have reportative or direct evidence.[44]
These two assumptions together lead to the following result: a question containing an evidential which is low on the scale of evidence strength will lead to an implicature that the *hearer* does not have evidence of any stronger type. This is illustrated in (94).

(94)   man'c-em=**há=k'a**   k=Hotze
        smoke-MID=**YNQ=INFER**   DET=Hotze
        'I wonder if Hotze smokes.'

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[44] Evidential hierarchies are a topic of some debate and there are many interesting questions to be investigated (see Faller 2002 for an overview). It is also an interesting question how evidence-type hierarchies interact with the variable modal strength of all evidentials in St'át'imcets (Matthewson et al. 2007, Rullmann et al. 2008). Although all quantificational strengths are possible for all evidentials in St'át'imcets, *k'a* is more likely to have weaker quantificational force, while the reportative *ku7* and the perceived-evidence *=an'* are much more likely to have strong quantificational force.

= {that Hotze might smoke [presupposing the hearer has inferential evidence that Hotze smokes], that Hotze might not smoke [presupposing the hearer has inferential evidence that Hotze does not smoke]}

Implicature: The hearer does not have any stronger type of evidence than inferential about the correct answer.

According to Littell (2009), this analysis accounts for the reduced interrogative force of conjectural questions. The idea is that inferential evidence is a fairly weak type of evidence, and a speaker who asks a question while implicating that the hearer only has inferential evidence about the true answer is letting the hearer off the hook with respect to answering. This is intended to account for (a) the judgments of St'át'imcets consultants that conjectural questions do not require an answer, (b) the fact that conjectural questions are infelicitous when the addressee *is* likely to know the answer (cf. (84)), and (c) the fact that conjectural questions are translated as 'I wonder' or 'maybe'-statements (although they do not literally have the semantics of 'wonder'). 'I wonder' is simply a typical method in English of raising a question without demanding an answer.

However, this account does not seem to predict a complete absence of interrogative force. After all, the inferential evidence the hearer is assumed to possess is better than no evidence at all. In line with this, an English question like 'According to the weak evidence you have, could Hotze smoke?' still functions pragmatically as an interrogative. I conclude, therefore, that interrogative flip plus implicatures about the absence of stronger evidence are not sufficient in and of themselves to completely let the hearer off the hook with respect to answering. This is actually a welcome result, since questions containing *k'a* in the indicative mood are sometimes translated by speakers into English using ordinary questions (rather than as statements of doubt; see footnote 39). However, conjectural questions containing the *subjunctive* are *never* translated as ordinary questions. I therefore assume that while a question containing an evidential is already somewhat 'weakened' in terms of its interrogative force, the subjunctive performs a further weakening. The task now is to see whether this falls out from the analysis of the subjunctive proposed above.

Recall that in the context of a governing modal, the subjunctive adds the presupposition that in at least one of the best worlds in the modal base, the proposition is false. The best worlds here (as the modal is epistemic) are those which conform to the propositions known to be true, and in which things happen as normal. Since the evidential has undergone interrogative flip, the epistemically accessible worlds must also be flipped to be the worlds compatible with the hearer's knowledge. The results are shown in (95).

(95) cúz'=**as=ha=k'a**   ts7as   s=Bill
       going.to=**3SBJN=YNQ=INFER**   come   NOM=Bill
       'I wonder if Bill is going to come.'

> {that Bill is going to come [presupposes the hearer has inferential
> evidence that Bill is going to come, presupposes that he doesn't come
> in at least one normal world compatible with the hearer's knowledge],
> that Bill is not going to come [presupposes the hearer has inferential
> evidence that Bill is not going to come, presupposes that he comes in at
> least one normal world compatible with the hearer's knowledge]}

> <u>Implicature</u>: The hearer does not have any stronger type of evidence
> than inferential about the correct answer.

As before, the implicature that the hearer does not have strong evidence about
the true answer, combined with the mixed-evidence effect of the evidential
presuppositions, will partially reduce the expectation that the hearer is able to
answer the question. In addition, thanks to the subjunctive, the question now
presupposes not only that the evidence about Bill's possible arrival is mixed, but
also that there are worlds compatible with the hearer's knowledge in which Bill
does come, and worlds compatible with the hearer's knowledge in which he
does *not* come. In other words, *the hearer does not know whether he will come
or not.* The result is that a subjunctive conjectural question has a significantly
reduced expectation on the hearer to provide an answer.[45]

The account just given, which incorporates the analysis of the
St'át'imcets subjunctive as a modal weakener, successfully accounts for the
distributional and interpretive facts illustrated in (81-82) above. The fact that the
subjunctive requires a modal licenser in a question follows from the analysis of
the subjunctive as requiring a governing modal. The fact that an evidential in a
question always licenses at least slightly reduced interrogative force, regardless
of mood, falls out from the fact that the evidential plays a part in reducing
interrogative force. However, the added contribution of the subjunctive accounts
for the preferred presence of the subjunctive in conjectural questions, as well as
for the fact that questions containing an evidential plus the subjunctive, in
contrast to indicative evidential questions, can *only* be interpreted with reduced
interrogative force.

In the final part of this section I extend the discussion to conjectural
questions which contain a future morpheme rather than an evidential. We have
already seen some examples of this ((20b, 21b) above). In contrast to the
evidential *k'a,* the future modal obligatorily requires the subjunctive mood if it
is to be interpreted as a statement of doubt. This is shown in (96-97), where the
(a) examples are only interpretable as ordinary questions which expect an
answer.

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[45] As noted above, conjectural questions also imply that the speaker does not know the
answer. I assume that this follows, by Gricean reasoning, from the fact that the speaker
uttered a question, rather than having simply asserted the true answer.

(96) a. t'íq=ha=**kelh**   k=Bill
      arrive=YNQ=**FUT** DET=Bill
      'Is Bill going to come?'   FUT + INDIC

     b. t'iq=**as**=há=**kelh**   k=Bill
        arrive=**3SBJN**=YNQ=**FUT** DET=Bill
        'I wonder if Bill will come.'   FUT + SBJN

(97) a. inwat=wít=**kelh**
      say.what=3PL=**FUT**
      'What will they say?'   FUT + INDIC

     b. inwatwít=**as**=**kelh**
        say.what=3PL=**3SBJN=FUT**
        'I wonder what they will say.'   FUT + SBJN

The contrast between the evidential and the future with respect to whether the subjunctive is required to create a conjectural question is striking. So far, I have argued that the evidential *k'a* contributes to reduced interrogative force by means of an implicature that the hearer has no better than inferential evidence for the true answer, and that the subjunctive contributes to further reduced interrogative force by presupposing that it is compatible with the hearer's knowledge state that each possible answer is false. Now unlike *k'a,* the future modal *kelh* has not been analyzed as an epistemic modal, and it does not introduce any evidence presuppositions. The denotation for *kelh* is given in (98).

(98) $[[kelh(h)(g)]]^{c,w,t}$ is only defined if h is a circumstantial modal base and g is a stereotypical ordering source.

        If defined, $[[kelh(h)(g)]]^{c,w,t} = \lambda q_{<s,<i,t>>} . \forall w' \in f_c(max_{g(w)}(\cap h(w))(t))$
        $[\exists t'[t<t' \wedge q(w')(t') = 1]]$
        (adapted from Rullmann et al. 2008)[46]

Applying this analysis of *kelh* to questions containing a subjunctive gives (99).

(99)   nká7=**as**=**kelh**   lh=cúz'=as   nas k=Gloria
       where=**3SBJN=FUT** COMP=going.to=2SG.SBJN go DET=Gloria
       'I wonder where Gloria will go.'

        {that Gloria will go home [presupposes that the future claim is made on the basis of the facts, presupposes that Gloria won't go home in at least one stereotypical world compatible with the facts], that Gloria will go

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[46] I have altered Rullmann et al.'s formula to incorporate the ordering source and to make the format parallel to that of other formulas above. The modal base in (98) is a function from world-time pairs to sets of worlds.

to her mother's house [presupposes that the future claim is made on the basis of the facts, presupposes that Gloria will not go to her mother's house in at least one stereotypical world compatible with the facts], …}

There are no implicatures about evidence types this time, but interestingly, we still predict reduced interrogative force. And this time, the contribution of the subjunctive is absolutely critical to deriving the effect. Due to the subjunctive, the question as a whole presupposes for each contextually salient place that Gloria might go, that there is at least one stereotypical world compatible with the facts in which she doesn't go there. This means that the facts underdetermine where she might go – and thus, that the addressee may not know where she will go. Given that the subjunctive is crucial in deriving the reduced interrogative force, we correctly predict that the subjunctive is obligatory in conjectural questions like (99).

7.3   Ignorance free relatives[47]

Ignorance free relatives in St'át'imcets are formed by the combination of a *wh*-word, the subjunctive, and the inferential evidential *k'a.* Some examples are repeated here.

(24) a.   qwatsáts=t'u7 múta7   súxwast   áku7, t'ak aylh áku7, nílh=k'a
            leave= PRT   again   go.downhill DEIC go   then DEIC FOC=INFER
                s=npzán-as   k'a=lh=***swát=as=k'a***   káti7
            NOM=meet(DIR)-3ERG INFER=COMP=***who=3SBJN=INFER***   DEIC
                    ku=npzán-as
                DET=meet(DIR)-3ERG
            'So he set off downhill again, went down, and then he met whoever he
            met.'   (van Eijk and Williams 1981:66, cited in Davis 2009)

     b.   o,   púpen'=lhkan   [ta=***stam'=as***=á=***k'a***]
            oh   find=1SG.INDIC   [DET=***what=3SBJN***=EXIS=***INFER***]
            'Oh, I've found something or other.'
            (Unpublished story by "Bill" (Francis) Edwards, cited in Davis 2009)

There is a large literature on free relatives, concentrating mainly on English (although see Dayal 1997 for discussion of Hindi and Davis 2009 for discussion of St'át'imcets). Here I adopt von Fintel's (2000) analysis; as far as I know, nothing crucial hinges on the differences between von Fintel's analysis and those of, for example, Jacobson (1995) or Dayal (1997). I will argue that the St'át'imcets ignorance free relatives are compatible with von Fintel's proposals, and that their interpretation relies on the independently-attested semantics of the subjunctive and the evidential.

    According to von Fintel, both ignorance and indifference free relatives

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[47] Thanks to Henry Davis (p.c.) for helpful discussions of free relatives in St'át'imcets.

presuppose that there is variation among the worlds in the modal base with respect to the identity of the referent. The free relative denotes a definite description, and the sentence as a whole asserts that the definite description satisfies the relevant property.

(100)   *(whatever) (w) (F) (P) (Q)*

    a.   presupposes: $\forall w' \in \min_w [F \cap (\lambda w'. \; \iota x. \; P(w')(x) \neq P(w)(x))]$:
                                        $Q(w')(\iota x. \; P(w')(x)) = Q(w)(\iota x. \; P(w')(x))$
    b.   asserts: $Q(w) \; (\iota x. \; P(w)(x))$ (von Fintel 2000:34)

With ignorance free relatives, the modal base F is the epistemic alternatives of the speaker.[48] Consider (101), for example.

(101)   There's a lot of garlic in whatever (it is that) Arlo is cooking.
                                                 (von Fintel 2000:27)

(101) presupposes that in all the speaker's epistemically accessible worlds which are minimally different from the actual world and in which Arlo is cooking something different from what he is actually cooking, there is the same amount of garlic in what he is cooking. As the *min*-operator introduces an existential presupposition, (101) presupposes that there *are* epistemically accessible worlds in which Arlo is cooking something different from what he is actually cooking. This amounts to a presupposition that the speaker is ignorant about the identity of what Arlo is cooking. (101) then asserts that the unique thing which Arlo is cooking has a lot of garlic in it.

      Turning to St'át'imcets, we see that von Fintel's semantics captures the required meanings accurately. (24a) presupposes that the speaker does not know who 'he' (the man being talked about) met, and asserts that he met whoever he met. Moreover, it seems that we can account for the presence of the subjunctive in free relatives, and also for the presence of the inferential evidential. In particular, I would like to suggest that the presupposition of speaker ignorance about the denotation of the free relative actually derives from the evidential *k'a* and the subjunctive.

      The basic idea is that an ignorance free relative is formed from a conjectural question (see Davis 2009 for this insight, although Davis does not word it in this way). The free relative in (24a), for example, is formed from the conjectural question in (102).

(102)   **swát=as=k'a**   káti7   ku=npzán-as
        who=3SBJN=INFER   DEIC   DET=meet(DIR)-3ERG
        'I wonder who he met.'

Following the analysis of conjectural questions given in section 7.2, (102)

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[48] With indifference free relatives, the modal base includes counterfactual alternatives.

denotes the set of propositions of the form 'he met x'. The evidential in (102) would normally undergo interrogative flip, giving rise to the inference that the hearer is not in a position to answer the question of who he met. When (102) is embedded in a non-matrix environment as in (24a), however, I assume that interrogative flip does not take place. The free relative based on (102) will therefore carry a conjoined presupposition that the *speaker* has inferential evidence for each alternative, and an implicature that the speaker has no stronger evidence about who he met. And due to the subjunctive, it will presuppose that for each alternative, there is at least one best world in the modal base in which that alternative is false. Thus, the free relative formed from (102) will presuppose that there is mixed evidence about who he met, and that for each person x, it's compatible with the speaker's knowledge that he did *not* meet x. This derives the desired 'speaker ignorance' presupposition. Moreover, we can regard the subjunctive as an overt spell-out of the existential presupposition of the *min*-operator, namely that there are epistemically accessible worlds in which the person he met is not who he met in the actual world.

A final advantage of this approach is that we correctly capture the fact that the modal base contains epistemic alternatives, as *k'a* lexically encodes an epistemic conversational background. This accounts for the fact that only ignorance free relatives, and not indifference free relatives, contain *k'a* in St'át'imcets (Davis 2007).[49]

7.4   'Pretend'

There are two patterns to account for with the 'pretend' cases, depending on the dialect. In Upper St'át'imcets, the subjunctive plus the normative modal *ka* frequently renders a 'pretend to be ...' interpretation. In Whitley et al. (no date), a native-speaker-produced St'át'imcets teaching manual, the standard construction when the teacher is asking the students to pretend something is that in (15b).

(15) a.   skalúl7=*acw*=*ka:*   saq'w   knáti7   múta7   em7ímn-em
            owl=*2SG.SBJN*=*DEON*   fly   DEIC   and   make.animal.noise-MID
            'Pretend to be an owl: fly around and hoot.'

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[49] Free relatives in St'át'imcets are far from solved. For example, Davis (2007) points out a problem with free relatives which surface as DPs, as in (24b) above. Davis shows that syntactically, this wh-word acts like the head noun of a relative clause. This poses a challenge for the claim that (24b) is formed from a conjectural question. Moreover, if the wh-word is functioning as a head noun in (24b), the evidential *k'a* should not be able to attach to it, as *k'a* attaches only to predicates. This is a peculiarity of *k'a;* Davis shows that other second-position evidentials, such as reportative *ku7* or perceived-evidence =*an',* are ungrammatical in free relatives. Further research is required.

b. snu=***hás=ka***   ku-skícza7
   2SG.EMPH=***3SBJN=DEON***   DET=mother
   'Pretend to be the mother.'   (Whitley et al. no date)

In Lower St'át'imcets, however, examples like (15a,b) are rejected in 'pretend'
contexts. Lower St'át'imcets uses either an emphatic pronoun in a cleft, as in
(103a), or the adhortative particle *malh,* as in (103b). In each case, the
subjunctive is present, but *ka* is absent.

(103) a. nu=***hás***   ku=skalúla7:   sáq'w=kacw   knáti7
         2SG.EMPH=***3SBJN*** DET=owl   fly=2SG.INDIC   DEIC
         'Pretend to be an owl.'

   b. skalúl7=***acw=malh:***   sáq'w=kacw   knáti7
      owl=***2SG.SBJN=ADHORT***   fly=2SG.INDIC   DEIC
      'Pretend to be an owl: fly around.'

In each of the dialectal variants, the apparent 'pretend' construction seems to
reduce to another usage, rather than really meaning 'pretend'. (15a,b) are merely
instances of the subjunctive adding to a normative modal assertion. (15a) thus
really means something like 'I wish you were an owl', and (15b) means 'I wish
you were the mother.' In (103a), the subjunctive adds to a plain assertion to
create a wish, something which is possible with clefts; cf. (8) above. As for
(103a), the consultant spontaneously translates this into English as 'You may as
well be an owl'. The presence of adhortative *malh* here is a matter for future
research; see comments in section 8 below.
        Support for the idea that (15) and (103) are not really 'pretend'
constructions comes from the fact that exactly parallel structures are used when
the wish is not that someone pretend to be something, but rather is a wish which
has a chance of coming true. This is shown in (104). While the consultant
accepts a 'pretend' translation for (104a,b), she spontaneously translates them
into English using simply 'you be …'. She judges that the St'át'imcets sentences
do not really mean 'pretend'.

(104)a. nu=***hás***   ku=kúkwpi7
        2SG.EMPH=***3SBJN*** DET=chief
        'Pretend to be the chief.'   [accepted]
        'You be the chief.'   [spontaneously given]

   b. nu=***hás***   ku=kúkw
      2SG.EMPH=***3SBJN*** DET=chief
      'Pretend to cook.'   [accepted]
      'You be the cook.'   [spontaneously given]

7.5   Why St'át'imcets is not like Romance

In this final sub-section I return to a major cross-linguistic difference between the St'át'imcets subjunctive and more familiar, Indo-European subjunctives, namely that in St'át'imcets the subjunctive is never selected by a matrix predicate, and in fact is ungrammatical under all attitude verbs (as shown in (43) above).

It turns out that this falls out from the current analysis. The St'át'imcets subjunctive is parasitic on a modal, and introduces the presupposition that in at least one of the best worlds in the modal base according to the ordering source, the embedded proposition is false. This presupposition is incompatible with the semantics of attitude verbs, which are standardly analyzed as introducing universal quantification over a set of worlds. This is illustrated in (105) for English *believe*.

(105) $[[$ *believe* $]]^{w,g} = \lambda p_{<s,t>} . \lambda x . \forall w'$ compatible with what x believes in
w: p(w') = 1   (von Fintel and Heim 2007:18)

There is no reason to assume that attitude verbs like 'believe' have different semantics in St'át'imcets than they do in English. On the contrary, the St'át'imcets verb *tsutánwas* 'think, believe' must involve universal quantification over belief-worlds, and not variable-force quantification over belief-worlds. That is, (106), just like its English gloss, requires that in *all* Laura's belief-worlds, John has left. It cannot mean that Laura's beliefs allow, but do not require, that John has left.

(106)   tsut-ánwas   k=Laura   kw=s=qwatsáts=s   k=John
         say-inside   DET=Laura   DET=nom=leave=3POSS   DET=John
         'Laura thinks that John left.'

Given this, adding the subjunctive under the verb 'believe' in St'át'imcets leads to the following contradictory result.

(107) * tsut-ánwas   k=Laura   kw=s=qwatsáts=***as***   k=John
         say-inside   DET=Laura   DET=nom=leave=***3SBJN***   DET=John
         'Laura thinks that John left.'

         $[[(107)]]^w$ is only defined if $\exists w'$ compatible with Laura's beliefs in w:
         John didn't leave in w'

         If defined, $[[(107)]]^w = 1$ iff $\forall w'$ compatible with Laura's beliefs in w:
         John left in w'

The presupposition of the subjunctive contradicts the assertion. This explains why the subjunctive is not used under verbs like 'believe' in St'át'imcets, unlike in Romance.

We need to separately discuss the absence of subjunctive under desire

verbs in St'át'imcets. An example was given in (43e), repeated here.[50]

(43) e. xát'-min'-as   k=Laura   kw=s=t'iq=***Ø***   k=John
         want-RED-3ERG   DET=Laura   DET=NOM=arrive=***3INDIC***   DET=John
         'Laura wanted John to come.'

Desire verbs are widely treated as involving comparison between alternative worlds (e.g., Stalnaker 1984, Heim 1992 and much subsequent work). The intuition is that *John wants you to leave* means that John thinks that if you leave he will be in a more desirable world than if you don't leave' (Heim 1992:193). Here I adopt Portner's (1997) analysis of desire verbs, and in particular we will see that the St'át'imcets verb *xát'min'* is more successfully analyzed as similar to English *hope,* than to English *want*.

Portner analyzes *hope* in terms of a buletic accessibility relation $Bul_\alpha(s,b)$. For any situation s and belief situation b of an agent α, $Bul_\alpha(s,b)$ is the set of buletic alternatives for α in s – i.e., 'the worlds in which the most of α's plans in s (relative to his or her beliefs in b) are carried out' (Portner 1997:178). The number of an agent's plans which are carried out is taken to correlate with how desirable a world is for that agent. The agent's buletic alternatives are thus those worlds which are more desirable than other worlds in a certain belief situation. The sentence in (108) receives the interpretation shown: it is true just in case in all James's buletic alternatives, Joan arrives in Richmond soon.

(108)   James hopes that Joan arrives in Richmond soon.

         $\{s: Bul_{James}(s,b) \subseteq [[Joan\ arrives\ in\ Richmond\ soon]]^s\}$
                                                            (Portner 1997:188)

If we apply this analysis to St'át'imcets *xát'min',* and attempt to use the subjunctive in the embedded clause, we get the result in (109).

(109) * xát'-min'-as   k=Laura   kw=s=t'iq=***as***   k=John
         want-RED-3ERG   DET=Laura   DET=NOM=arrive=***3SBJN***   DET=John
         'Laura wanted John to come.'

         $[[(109)]]^s$ is only defined if $\exists s \in Bul_{Laura}(s,b)$: John does not come in s

         If defined, $[[(109)]]^s = 1$ iff $\{s: Bul_{Laura}(s,b) \subseteq [[John\ comes]]^s\}$

(109) is defined only if there is at least one situation in Laura's buletic alternatives in which John does not come, but it asserts that in all Laura's buletic alternatives, John comes. The contradiction between the presupposition and the assertion leads to the unacceptability of the sentence.

As a final note, the reason I have analyzed *xát'min'* as parallel to

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[50] Thanks to an anonymous reviewer for discussion of this issue.

English *hope* rather than *want* is because of a difference between these two verbs with respect to whether the modal contexts they induce are expandable or not.[51] In brief, Portner (1997) argues that the English indicative requires an expandable modal context, and this explains why *want,* which does not introduce an expandable context, cannot embed an indicative clause. *Hope,* on the other hand, allows the semantics in (108), which involves an expandable modal context and therefore allows the indicative. The reader is referred to Portner (1997) for further discussion and details.

8   Conclusions and questions for future research

The goal of this paper was to extend the formal cross-linguistic study of modality to the related domain of mood. Prior work on St'át'imcets has proposed that languages vary in whether their modals encode quantificational force (as in English), or conversational background (as in St'át'imcets) (Matthewson et al. 2007, Rullmann et al. 2008, Davis et al. 2009). Here, I have argued that languages vary in their mood systems along the same dimension. While some languages use moods to encode distinctions of conversational background (buletic, deontic, etc.), St'át'imcets functionally uses mood to achieve a restriction on modal quantificational force.[52] If this view is correct, then each language-type draws on its moods and its modals together to allow the full range of specifications. In other words, what modals don't encode, moods do. The simplified typological table is repeated here.

(6)	lexically encode quantificational force	lexically encode conversational background
Indo-European	*modals*	**moods**
St'át'imcets	**moods**	*modals*

The analysis presented here raises some questions for future research. One outstanding issue is the status of subjunctives with no overt licenser at all, as in (8-9). As noted earlier, these appear to be productive only in clefts, as in (8). It is not immediately obvious that a cleft contains a modal operator which would license the subjunctive, so further investigation is required (although see fn. 22).

A second interesting puzzle relates to subjunctive imperatives (see section 7.1). These seem to strongly prefer the presence of the adhortative particle *malh*, which is normally optional in imperatives. Perhaps *malh* (which has not previously been analyzed) is a modal, and perhaps its obligatoriness reflects the licensing requirement of the subjunctive. But what consequence would this have for the analysis provided above, which assumes that even imperatives with *no* adhortative particle contain a concealed deontic modal?

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[51] An expandable proposition contains only whole worlds (Portner 1997:175).
[52] Although technically, with both modals and moods in St'át'imcets, it is conversational backgrounds which are restricted: the modal force is always universal.

This question cannot be answered without a real investigation of *malh*, something which goes beyond the bounds of the current paper.

An even trickier element is the particle *t'u7*. *t'u7* is the culprit in the two uses of the subjunctive I have declined to analyze here, the 'might as well' cases and the indifference free relatives. Like *malh, t'u7* has not yet been formally analyzed, but for *t'u7* there are not even any clear descriptive generalizations about its usage. It is often translated as 'just' or 'still', but also occurs where there is no obvious English translation, or even any detectable semantic contribution. *t'u7* frequently appears with strong quantifiers, as in (110a), is almost obligatory if one wants to express 'only', as in (110b), and is also a common St'át'imcets way to express 'but', as in (110c) (although here, unlike in its other uses, it is not a second-position enclitic, and this may therefore be a case of homophony).

(110)a. tákem=***t'u7*** swat áo<u>s</u>vm l=ti=tsítcw=a
all=***PRT*** who sick in=DET=house=EXIS
'Everyone in the house was sick.' (Matthewson 2005:311)

b. tsúkw=***t'u7*** snilh ti=tsícw=a ao<u>s</u>vm-áolhcw
finish=***PRT*** 3SG.EMPH DET=get.there=EXIS sick-house
'It was only him who went to the hospital.' (Matthewson 2005:324)

c. plan aylh láku7 wa7 cw7it i=tsetsítcw=a,
already then DEIC IMPF many DET.PL=houses=EXIS
   t'u7 pináni7 cw7aoz láti7 ku=wá7 tsitcw
   but TEMP.DEIC NEG DEIC DET=IMPF house
'Now there are lots of houses there, but then there were no houses.'
(Matthewson 2005:54)

As noted above, *t'u7* is present in the 'might as well' uses of the subjunctive, and in indifference free relatives. Examples are repeated here.

(26)a. wá7=lhkacw=***t'u7*** lts7a lhkúnsa ku=sgáp
be=2SG.INDIC=***PRT*** DEIC now DET=evening
'You are staying here for the night.'

b. wá7=***acw=t'u7*** lts7a lhkúnsa ku=sgáp
be=***2SG.SBJN=PRT*** DEIC now DET=evening
'You may as well stay here for the night.'

(27)c. [***stám'=as=t'u7*** káti7 i=wá7 ka-k'ac-s-twítas-a
[***what=3SBJN=PRT*** DEIC DET.PL=IMPF CIRC-dry-CAUS-3PL.ERG-CIRC
   i=n-slalíl'tem=a] wa7 ts'áqw-an'-em
   DET.PL=1SG.POSS-parents=EXIS] IMPF eat-DIR-1PL.ERG
   lh=as sútik
   COMP(IMPF)=3SBJN winter
'Whatever my parents could dry, we ate in wintertime.'
(Matthewson 2005:141, cited in Davis 2007)

Given the analysis above, we expect there to be a modal present in any structure where the subjunctive is licensed. The interpretation of subjunctive + *t'u7* in (16) is plausibly modal – the consultants are remarkably consistent with the 'might as well' translation. There is also a certain similarity between the 'might as well' construction and the Sufficiency Modal Construction (Krasikova and Zchechev 2005, von Fintel and Iatridou 2007), illustrated in (111).

(111)   To get good cheese, you only have to go to the North End!
(von Fintel and Iatridou 2007:445)

The crucial elements of the Sufficiency Modal Construction are (a) a necessity modal and (b) an exclusive operator such as 'only'.[53] The possible connection between (26) and (111) may be fruitful to investigate in future work.[54]

        As for indifference free relatives as in (27c), these also very plausibly contain a covert modal, presumably a necessity one. The important question will be whether the subjunctive can be analyzed as a weakener in the indifference free relatives. Ideally, the future analysis of (26-27) will also elucidate the semantic connection between the two *t'u7*-subjunctives, both of which somehow express the notion of 'indifference' (although perhaps in different senses of the word). (26b), for example, conveys that you can stay here for the night or not, I don't really care.

        In spite of these outstanding questions, I believe that the empirical coverage of the analysis presented here is encouraging. Out of the nine meaningful uses of the St'át'imcets subjunctive, we set aside two which rely on the poorly-understood particle *t'u7,* but have managed to unify the remaining seven. The analysis accounts for such seemingly disparate effects as the weakening of imperatives, the reduction in interrogative force of questions, and the non-appearance of the subjunctive under any attitude verb. The analysis, if correct, supports the modal approach to mood advocated by Portner (1997), and suggests that languages have a certain amount of freedom in how they divide up the various functional tasks required of moods and modals.

        Finally, the research reported on here opens up broader questions about the nature of mood cross-linguistically, for example about the relation between subjunctive and irrealis. In section 2, I showed that the St'át'imcets subjunctive patterns morpho-syntactically, as well as in some of its semantic properties, like a subjunctive rather than an irrealis. However, we also saw that the St'át'imcets subjunctive differs semantically from Indo-European subjunctives. I argued above (see fn. 9) that the use of the term 'subjunctive' was justified, even in the face of such non-trivial cross-linguistic variation. However, there is much more work to be done on the formal semantics of mood cross-linguistically. Once a wider range of systems are investigated in depth, we may find that the traditional terminology does not correlate with the cross-linguistically interesting divisions. Topics for future inquiry include whether there is a minimal semantic change

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[53] For von Fintel and Iatridou, the 'only' is decomposed into 'NEG … except' (and shows up overtly as this in some languages).
[54] See also Mitchell (2003) on 'might as well' in English.

which would turn a subjunctive morpheme into an irrealis one, or vice versa, and in general what the semantic building blocks are from which moods are composed.

Acknowledgments

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