Evidentials are epistemic modals in St'át'imcets[*]

Lisa Matthewson, Hotze Rullmann and Henry Davis
University of British Columbia

This paper presents an analysis of the semantics of three evidential clitics in St'át'imcets (Lillooet; Northern Interior Salish). We show that the three evidentials encode reportative, inferential and perceived-evidence meanings, respectively. We argue that all three should be analyzed as epistemic modals, which carry additional presuppositions about the source of the speaker's evidence for the assertion. Thus our analysis of the St'át'imcets evidentials is similar to Izvorski's (1997) analysis of the perfect of evidentiality in Bulgarian. On the other hand, we demonstrate that St'át'imcets evidentials differ significantly from some evidentials in Quechua, which have been analyzed as illocutionary operators by Faller (2002).

1 Introduction

St'át'imcets (Lillooet; Northern Interior Salish) possesses at least three second-position clitics which pre-theoretically can be classified as evidentials. These clitics are listed in (1); an example of the use of each is given in (2-4).

(1)

clitic	our gloss	van Eijk's (1997) gloss
ku7	reportative	quotative
k'a	inferential	possibility, surmise
an'	perceived evidence	evidential

(2) wa7 *ku7* ku sts'éts'qwaz' l-ta stswáw'cw-a
be *REPORT* DET trout in-DET creek-DET
'[I heard] There are trout in the creek.'

(3) plan *k'a* tu7 wa7 tsu7c na máq7-a
already *INFER* then IMPF melt(INCH) DET snow-DET
'The snow must have melted already.' (Davis in prep. chapter 23)

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(4) pel'p-s-ácw-*an'*[1] nelh neklíh-sw-a
lost-CAUS-2SG.CONJ-*PERC.EVID* DET.PL key-2SG.POSS-DET
'It looks like you've lost your keys.' (Davis in prep. chapter 23)

The goal of this paper is to provide an analysis of the semantics of these three evidential elements. Our main proposal is that *ku7, k'a,* and *an'* are all epistemic modals. The paper therefore contributes to current debate about the status of evidentials cross-linguistically. We argue that the St'át'imcets evidentials pattern with the Bulgarian perfect of evidentiality in being modal in nature (Izvorski 1997).[2] On the other hand, the St'át'imcets evidentials are unlike most evidentials in Quechua, which are analysed by Faller (2002) as illocutionary operators, and thus do not contribute to the content of the proposition expressed. Our current proposals support and extend claims made in Matthewson, Rullmann and Davis (2005) for *k'a*; we argued there that *k'a* was an epistemic modal. The present paper provides more in-depth argumentation for this claim, as well as extending the analysis to the other evidentials in the language.

The structure of the paper is as follows. In section 2 we provide evidence that *ku7, k'a,* and *an'* are reportative, inferential, and perceptual evidentials, respectively. In section 3 we argue that *ku7, k'a* and *an'* are epistemic modals. We do this in part by showing that the St'át'imcets clitics follow some predictions made by Izvorski's (1997) analysis of Bulgarian. However, unlike in Izvorski's analysis, we propose that the St'át'imcets evidentials involve existential (rather than universal) quantification over possible worlds. In section 4 we demonstrate that an illocutionary force analysis of the St'át'imcets evidentials is inadequate. Section 5 concludes the paper.

2 A pre-theoretical classification

Pre-theoretically, it is natural to classify all of the clitics in (1) as 'evidentials'. Each of them encodes information about the source of the speaker's evidence for the assertion, and each falls within the standard set of evidential meanings which are found cross-linguistically. Willett's (1988) categorization of evidentials (based on a study of 38 languages) is given in (5). Those categories which correspond to St'át'imcets clitics have been highlighted.

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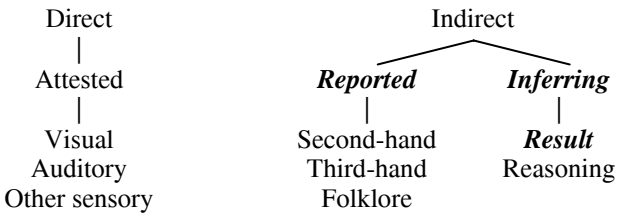
[1] The enclitic *an'* differs morphosyntactically from the other two evidential enclitics in two ways. First, it obligatorily induces conjunctive morphology on the predicate; and second, it precedes rather than follows the existential enclitic *a* which occurs with existence-asserting determiners, as well as the homophonous suffix *–a* which forms part of the discontinuous 'out-of-control' morpheme. The latter accounts for the orthographic convention whereby *an'* is written together with the preceding word, whereas *k'a* and *ku7* are written as separate words, even though all three are enclitics. We set these issues aside here, since they are irrelevant to the present analysis.

[2] See also Kratzer (1991), Garrett (2000), Ehrich (2001), Chung (2005) for analyses of evidentials as epistemic modals (with an extra meaning component).

(5) Types of Evidence (Willett 1988:57)



In this section we will show that according to Willett's categorization, *ku7* is an *indirect reported evidential. ku7* covers all reportative cases; it does not further specify whether the report is second-hand, third-hand, or derives from folklore. We call *ku7* 'reportative' for short. *k'a* is an *indirect inferring evidential. k'a* is felicitous in all cases involving inference; it does not specify whether the inference is based on observable results or solely on reasoning. We call *k'a* 'inferential' for short. Finally, *an'* is an *indirect inferring evidential of result*; any claim made using *an'* must be based on perceived evidence. We call *an'* 'perceived evidence' for short.

First let us look at *ku7.* A sentence of the form [*ku7* φ] is felicitous whenever the speaker came to believe the content of φ by means of a report from some other person. *ku7* may be used regardless of whether the report is second-hand, third-hand, or folklore: this is illustrated in (6-9). Note that the category 'third-hand' is not restricted literally to third-hand reports. Rather, any case where the speaker has heard about the situation from someone who did not themselves directly witness the situation is classified as third-hand. 'Folklore' cases are those where the speaker claims that the situation described is part of established oral history.

(6) *second-hand:*

wá7-lhkan *ku7* nq'san'k
IMPF-1SG.SUBJ *REPORT* laugh
'[I was told that] I was laughing.' (Matthewson 2005:380)

Context: Speaker is talking about a time during her childhood when a chicken attacked her. The speaker does not remember the occasion, but was told about it by her mother, who witnessed it.

(7) *third-hand:*

l-ta cácl'ep-a *ku7* lh-kwís-as ku skícza7-s
in-DET Fountain-DET *REPORT* HYP-fall-3CONJ DET mother-3POSS
'Her mother was born at Fountain.' (Matthewson 2005:391)

Context: Speaker is talking about the birthplace of her grandmother's mother. She was told about this by one of her relatives, but not by anyone who witnessed the birth.

(8) *third-hand:*

nilh *ku7* i tsúkw-as k-wa q'eltwácw
FOC *REPORT* when.PAST finish-3CONJ DET-IMPF wage.war
kenkw7ú Europe-a
DEIC Europe-DET
'That was when they stopped fighting in Europe.'
(Matthewson 2005:454)

Context: Speaker is talking about when she heard bells ringing everywhere, and she was told that the bells were ringing because World War II had ended.

(9) *folklore:*

wá7 *ku7* láti7 ti pápel7-a smúlhats
be *REPORT* DEIC DET one(HUMAN)-DET woman
'There was this woman.'

Context: First line of a legend 'The Dog Children'.
(van Eijk and Williams 1981:32; told by Martina LaRochelle)

The data in (6-9) confirm that *ku7* falls under Willett's definition of a general reported evidential.

Turning to *k'a* and *an'*, we find that these are both indirect inferring evidentials. The distinction between the usual two sub-types of indirect inferring evidentials is given in (10) (from Willett 1988:96):

(10) i. Inference from results: The speaker infers the situation described from the observable evidence (i.e. from *perception* of the results of the causing event or action).

ii. Inference from reasoning: The speaker infers the situation described on the basis of intuition, logic, a dream, previous experience, or some other mental construct.

The data reveal that *k'a* is a general indirect inferring evidential: it does not specify whether the inference is based on observable results or solely on mental reasoning. *an'*, on the other hand, is restricted to cases where the inference is based on perceived results.[3] Thus, *an'* is usable in a subset of cases in which *k'a* is. This is illustrated in (11-12). In (11), there is no observable evidence; the assertion is based only on reasoning, and only *k'a* is good. In (12), there *is* observable evidence, and both *k'a* and *an'* are good.[4]

[3] Davis (in prep.: chapter 23) observes that *an'* 'refers to a situation where the speaker has come to a conclusion about the truth of an event on the basis of appearances.'
[4] The examples in (11-12) are adapted from similar data presented by Izvorski (1997).

(11) Context: You had five pieces of *ts'wan* (wind-dried salmon) left when you checked yesterday. Today, you go to get some *ts'wan* to make soup and you notice they are all gone. You are not sure who took them, but you know that John is the person in your household who really loves *ts'wan* and usually eats lots whenever he gets a chance.

a. ts'aqw-an'-ás *k'a* i ts'wán-a kw
eat-DIR-3ERG *INFER* DET.PL wind-dried.salmon-DET DET
s-John
NOM-John
'John must have eaten the *ts'wan.'*

b.?? ts'aqw-an'-ás-*an'* i ts'wán-a kw
eat-DIR-3ERG-*PERC.EVID* DET.PL wind-dr.salmon-DET DET
s-John
NOM-John
'John apparently ate the *ts'wan.'*

Consultant's comment re (b): "[Good] if he has bits of *ts'wan* on his shirt."

(12) Context: Same as above, except that this time, it's not just that you think it must be John because he's the one who likes *ts'wan.* This time, you see the *ts'wan* skins in his room.

a. ts'aqw-an'-ás *k'a* i ts'wán-a kw
eat-DIR-3ERG *INFER* DET.PL wind-dried.salmon-DET DET
s-John
NOM-John
'John must have eaten the *ts'wan.'*

b. ts'aqw-an'-ás-*an'* i ts'wán-a kw
eat-DIR-3ERG-*PERC.EVID* DET.PL wind-dr.salmon-DET DET
s-John
NOM-John
'John apparently ate the *ts'wan.'*

Another minimal pair is given in (13-14). We see that when the deduction is based on reasoning rather than any observable evidence, only *k'a* is felicitous (13); the presence of perceived evidence makes both *k'a* and *an'* felicitous (14).

(13) Context: You are a teacher and you come into your classroom and find a caricature of you drawn on the blackboard. You know that Sylvia likes to draw caricatures.

a. nilh *k'a* s-Sylvia ku xílh-tal'i
FOC *INFER* NOM-Sylvia DET do(CAUS)-TOP
'It must have been Sylvia who did it.'

b. # nílh-as-*an'* s-Sylvia ku xílh-tal'i
FOC-3CONJ-*PERC.EVID* NOM-Sylvia DET do(CAUS)-TOP
'Apparently it was Sylvia who did it.'

Consultant's comment for (b): "If you could see Sylvia hiding behind the door, you might say that."

(14) Context: You are a teacher and you come into your classroom and find a caricature of you drawn on the blackboard. You look around and you see that only one child is covered in chalk dust, Sylvia.

a. nilh *k'a* s-Sylvia ku xílh-tal'i
FOC *INFER* NOM-Sylvia DET do(CAUS)-TOP
'It must have been Sylvia who did it.'

b. nílh-as-*an'* s-Sylvia ku xílh-tal'i
FOC-3CONJ-*PERC.EVID* NOM-Sylvia DET do(CAUS)-TOP
'Apparently it was Sylvia who did it.'

Summarizing so far, we have established a pre-theoretic classification of the three clitics as in (15). In the next section we will begin to develop a more formal analysis.

(15) *ku7* indirect reported evidential ('reportative')
k'a indirect inferring evidential ('inferential')
an' indirect inferring evidential of result ('perceived evidence')

3 The St'át'imcets evidentials are epistemic modals

Within the semantics literature, there are at least two prominent approaches to evidentials. The first is to analyse evidentials as epistemic modals with an extra meaning component (see for example Kratzer 1991, Izvorski 1997, Garrett 2000, Ehrich 2001, Chung 2005, among others). The second approach is to analyse them as illocutionary operators which do not contribute to the content of the proposition expressed (see for example Faller 2002). These two approaches are not necessarily in conflict, since they have been applied to different evidential elements in different languages.[5] Thus, it may well be that

[5] Faller herself notes that 'The framework of speech act theory might also prove to be the right one in analyzing evidentials in other languages, although not necessarily of evidentiality in general. It is a reasonable hypothesis that evidentiality that is encoded by markers of tense and modality can more fruitfully be analyzed within a framework such as possible world semantics, which was developed for these categories' (Faller 2002:264; cited in Lecarme 2005). See also Blain and Déchaine (to appear) for claims that different

both kinds of evidential exist in natural language: those which are epistemic modals, and those which are not. However, we will provide evidence here that all three of the St'át'imcets evidentials are of the epistemic modal type.

In this section, we begin by providing some brief background on the semantics of epistemic modals. In section 3.2 we summarize Izvorski's (1997) modal analysis of the perfect of evidentiality in Bulgarian. In section 3.3 we present our own modal analysis of the three St'át'imcets enclitics, and in section 3.4 we test the empirical predictions of the analysis.

3.1 The semantics of epistemic modals

We adopt a standard view of the semantics of modals in English, following the work of Kratzer (1977, 1981, 1991), among others. We assume that modals such as *must, may, should, might, could, would, can, will,* and so on are quantifiers over possible worlds. For example, *must* is a universal quantifier over worlds, while *may* is an existential quantifier over worlds. The set of worlds quantified over is restricted by the context. The examples in (16a,b) mean, as a first pass, something like (17a,b) respectively.

(16) a. Arabella *must* sit in the comfortable chair.
b. Arabella *may* sit in the comfortable chair.

(17) a. In all possible worlds in which the rules (in the actual world) about seating arrangements are obeyed, Arabella sits in the comfortable chair.
b. In at least one possible world in which the rules (in the actual world) about seating arrangements are obeyed, Arabella sits in the comfortable chair.

A couple of important points of clarification are in order. (Those readers who are familiar with a possible-world semantics for modals should skip ahead to section 3.2.) First, modal statements of the form 'modal φ' do not make claims about the truth of φ in the actual world. For example, (16a,b) are not dependent on where Arabella actually sits for their truth value. Both (16a) and (16b) can be true if Arabella actually does sit in the comfortable chair, but they may equally be true if she doesn't. (Imagine a case where I utter (16a) to my four-year-old son, and he promptly sits in the comfortable chair. His action does not falsify (16a).)

However, (16a,b) do make *some* reference to the actual world, in that they make claims about the *rules* in the actual world. For example, (16a) says that the rules in the actual world require Arabella to sit in the comfortable chair. The sentence is true if the rules are like that, and false if the rules do *not* require Arabella to sit in the comfortable chair.

The second point is that the meaning of a modal like *must* or *may* is dependent on context. In (16a,b) we have imagined a context where there are

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types of evidentials can appear within the same language.

some rules about seating arrangements. But whose rules are relevant? Some examples with different rules or requirements are given in (18).

(18) a. Children must be picked up by 5pm. (rules of daycare centre)
b. Faculty may park in these spots. (rules of campus parking office)
c. I must go now. (speaker's need to get to a meeting on time)

All the examples so far involve *deontic* modality; that is, they deal with the satisfaction of some rules or requirements. A second major class of modal interpretations, the ones which will be most relevant for the current paper, are *epistemic*. Epistemic modal statements make claims about possible worlds compatible with someone's knowledge or beliefs. Examples are given in (19), with paraphrases given in (20).

(19) a. John *must* be home by now.
b. John *may* have drunk the wine.

(20) a. In all worlds compatible with the speaker's knowledge in the actual world, John is home now.
b. In at least one world compatible with the speaker's knowledge in the actual world, John has drunk the wine.

In Kratzer's (1981, 1991) analysis, the effect of context on the interpretation of modal statements is achieved by the use of implicit conversational backgrounds. The conversational background determines an accessibility relation between worlds, which in turn delimits a *modal base* or set of accessible worlds over which the modal quantifies. This is illustrated in (21), where R_c is the accessibility relation determined by the conversational background c, and w_0 is the actual world. *must* introduces a universal quantifier, and *may* introduces an existential quantifier.

(21) a. Michl *must* be the murderer
$\forall w[R_c(w_0, w) \rightarrow \text{murderer}(w)(\text{Michl})]$

b. Michl *may* be the murderer
$\exists w[R_c(w_0, w) \wedge \text{murderer}(w)(\text{Michl})]$

The final point of clarification concerns a further contextual restriction on modal statements. Observe that (22a) on its epistemic reading does not appear to entail (22b).

(22) a. Michl must be the murderer.
b. Michl is the murderer.

Under the semantics proposed so far, (22a) *should* entail (22b). If Michl is the murderer in all worlds compatible with the speaker's knowledge in the actual world, then (22b) must automatically be true, since the actual world is one of the worlds compatible with what the speaker knows (by the definition of *know).*

However, such a conclusion about entailment is clearly unwarranted. This (among other facts) leads Kratzer (1991) to propose that the set of worlds determined by the modal base is further restricted by a contextually determined *ordering source*. The ordering source orders the set of accessible worlds according to, for example, how close they are to the normal course of events. Such a 'stereotypical' ordering source means that (22a) involves quantification only over worlds which are compatible with the speaker's knowledge in w_0 and which are as close as possible to what is the normal course of events. We then correctly predict that (22a) does not entail (22b), since in the actual world something very surprising or abnormal may have happened. In that case, w_0 fails to be included by the ordering source and (22a) may be true (as a statement about normal worlds) while (22b) is false (as a statement about our abnormal actual world).

With this basic modal semantics taken care of, we now proceed to Izvorski's analysis of the perfective of evidentiality in Bulgarian.

3.2 Izvorski (1997)

Izvorski (1997) claims that in Bulgarian, the perfect is ambiguous between a perfect interpretation and an indirect evidential.[6]

(23) Az sâm došal
I be-1SG.PRES come-P.PART
'I have come.' (perfect)
'I apparently came.' (perfect of evidentiality)
(Izvorski 1997:222)

Izvorski argues that the perfect of evidentiality (PE) introduces a universal epistemic modal. However, she also observes that (23) under its evidential meaning does not simply mean 'I must have come'. Instead, the indirect evidential has an additional meaning component beyond the necessity modal. This is illustrated in (24).

(24) Knowing how much John likes wine…
a. toy *trybvada* e izpil vsičkoto vino včera
he *must* is drunk all.the wine yesterday
'…he must have drunk all the wine yesterday.'

b. # toy izpil vsičkoto vino včera
he drunk-*PE* all.the wine yesterday
'…he apparently drank all the wine yesterday.'
(Izvorski 1997:227)

Unlike the plain epistemic modal in (24a), the perfect of evidentiality in (24b) is only appropriate if there are observable results of John's having drunk the wine

[6] Izvorski also discusses Turkish and to a lesser extent Norwegian, which appear to have very similar constructions.

(e.g., one sees empty wine bottles). Izvorski accounts for this by analyzing the PE as asserting an epistemic modal meaning, and in addition presupposing that the speaker's evidence for the embedded proposition is indirect evidence. Note that the PE allows reportative as well as inferential interpretations. Thus, the presupposition is worded in terms of 'indirect evidence' generally. Izvorski's central idea is summarized in (25).

(25) assertion: □p, in view of the speaker's knowledge state
presupposition: the speaker has indirect evidence for p
(Izvorski 1997:226)

According to Izvorski, the modal base is restricted by the indirect evidence presupposition; the modal base contains only those worlds in which the available indirect evidence for p holds. The PE contrasts with a plain epistemic modal in that with a plain modal, the modal base is merely restricted to worlds in which the available evidence (which may be of any kind) holds.[7] Izvorski in addition utilizes a contextually-determined ordering source, which orders the worlds in the modal base according to how closely they correspond to certain beliefs about the indirect evidence.

We will not go into the formal details of Izvorski's proposal here, since we will be adopting a modified version of her analysis. Her analysis is informally illustrated in (26). Listed under 'modal base' and 'ordering source' are the propositions which narrow down the set of accessible worlds.

(26) Ivan izpil vsičkoto vino včera
Ivan drunk-*PE* all.the wine yesterday
'Ivan apparently drank all the wine yesterday.'
(Izvorski 1997:228)

a. Inferential interpretation:
Modal base: {*There are empty wine bottles in Ivan's office*}
Ordering source: {*If there are empty wine bottles in someone's office, that person has drunk the wine*}

b. Reportative interpretation:
Modal base: {*Mary said that Ivan drank the wine*}
Ordering source: {*Normally, Mary is reliable as a source of information*}

The reportative case requires some clarification; we clarify by comparison with the inferential case. Just like ordinary epistemic modals, evidentials quantify over worlds which are compatible with some actual-world evidence. Another way of stating this is that the evidentials (epistemic modals) quantify over worlds in which some actual-world evidence holds. In the inferential case, this means that we quantify over worlds in which (for example) there are empty wine bottles in Ivan's office. The sentence asserts that in all

[7] Although see section 5 below, where we argue that there are no true 'plain' epistemics in this sense; instead, all epistemic modals involve an indirect evidence presupposition.

such worlds, Ivan drank the wine. Since the actual world is presupposed to be a world in which there are empty wine bottles in Ivan's office, the sentence makes a strong claim about the actual world: unless the actual world is very abnormal, Ivan drank the wine in the actual world.

Now let us turn to the reportative case. As with the inferential, the accessible worlds must be those in which some actual-world evidence holds. In a reportative case, what *is* the speaker's evidence for the assertion? It is *the fact that a report was made.* Therefore, the accessible worlds in the reportative case are all those worlds in which (for example) Mary said that Ivan drank the wine. Since the actual world is presupposed to be a world in which Mary said that Ivan drank the wine, the sentence makes a strong claim about the actual world: unless the actual world is very abnormal, Ivan drank the wine in the actual world.

The point of potential confusion here relates to what it means in a reportative case for worlds to be 'compatible with the evidence'. There are two possible ways of understanding this: does it mean 'the worlds in which a certain report was *made',* or 'the worlds in which a certain report is *true'?* As will be clear from the preceding paragraph, the former is how we understand Izvorski's analysis, and the former is also how our own analysis will work below. It is, however, important that the speaker of a reportative sentence is *not neutral* with respect to the truth of the report. This is captured in Izvorski's analysis by the ordering source; the accessible worlds are further narrowed to those in which (for example) Mary is reliable as a source of information. If Mary is reliable, then it is likely that she spoke truly in her report. Another way of thinking of this is that Mary's report would not count as evidence for Ivan's having drunk the wine, if the speaker did not consider that it was at least likely that Mary spoke the truth. We will see below that this analysis makes clear predictions about when reportatives are felicitous, which are upheld for St'át'imcets.

A consequence of this style of analysis of reportatives is that a reportative sentence containing an embedded proposition p does *not* mean the same thing as 'Somebody / Mary said that p.' In the reportative case, the sentence *presupposes* the existence of some report, and *asserts* that p must be true, given that report. In a sentence containing a verb of saying, the sentence *asserts* that a report was made, and does not commit the speaker to any claim about the truth or otherwise of p. Again, we will see data below that confirm this difference between reportatives and verbs of saying in St'át'imcets.

3.3 A modal analysis of St'át'imcets evidentials

In this section we present our analysis, which preserves Izvorski's essential insight about the modal nature of the PE in Bulgarian, while differing from her analysis in several details. Before presenting our analysis, we provide some data concerning the quantificational force of the St'át'imcets evidentials.

In Matthewson, Rullmann and Davis (2005), we observed that the St'át'imcets modals *kelh* (future), *ka* (deontic), *ka* (irrealis) and *k'a* (inferential) all seem to allow both existential and universal interpretations. Some data for *k'a* are given in (27); we see that either universal ('must') or existential ('maybe') English translations can be used. Elicitation as well as observation of spontaneously-provided texts confirms that the modals are used in contexts which support universal interpretations as well as existential ones; we discussed this in more detail in Matthewson, Rullmann, and Davis (2005) as well as Rullmann, Matthewson, and Davis (2005).

(27) a. t'ak *k'a* tu7 kents7á ku míxalh
go.along *INFER* then DEICTIC DET bear
'A bear *must* have gone by around here.' (Davis in prep.)

b. Context: His car isn't there.

plan *k'a* qwatsáts
already *INFER* leave
'Maybe he's already gone.'

With reportative *ku7,* the difference between universal and existential force would correspond to a difference between '[given what I've been told], p *must* be true' and '[given what I've been told], p *may* be true'. We certainly find cases of the former. While *ku7* is never compatible with the speaker knowing for *certain* that p is true (i.e., the speaker may not have personally witnessed the event described in p; see section 3.3.1 below for further discussion), *ku7* is felicitous in cases where the speaker is strongly convinced of the truth of p, because the evidence is strong and the source is very reliable. This is the case in (28), where the speaker may not have ever witnessed her father driving a cab, but must have been quite convinced that he did drive a cab. This looks like a universal reading similar to the English sentence 'My father apparently drove a taxicab around town.'

(28) wa7 *ku7* aylh múta7 tqálk'-en-as ta taxicab-a
IMPF *REPORT* then and drive-DIR-3ERG DET taxicab-DET
knáti7 táown-a
DEIC town-DET (Matthewson 2005:378)
'[I was told] He [my father] also drove a taxicab around town.'

It seems that *ku7* is primarily used when the speaker is relatively certain about the truth of the embedded proposition. However, there are cases where this is demonstrably not the case, and *ku7* is still acceptable. For example, (29) seems more compatible with an existential analysis ('in some possible worlds in which I was told that p, p is true').

(29) Context: There is a rumour going around that Roger was elected chief. Sometimes that kind of rumour is right, sometimes it's wrong. You really have no idea whether it's likely to be right or wrong. You tell me:

aw-an-ém *ku7* kw s-Roger ku cuz' kúkwpi7
choose-DIR-PASS *REPORT* DET NOM-R. DET going.to chief
'[I was told] Roger was elected to be chief.'

The perceived-evidence clitic *an'* appears to be less likely to allow existential interpretations. As shown in (30-31), *an'* is rejected in cases where it is made explicit that only an existential claim is being made.

(30) * qwatsats-as-*án'* tu7 kw s-John, t'u7 wa7 k'a sxek
leave-3CONJ-*PERC.EVID* then DETNOM-J. but IMPF INFER maybe
k-wa-s cw7aoz t'u7 k-wa-s qwatsáts
DET-IMPF-3POSS NEG just DET-IMPF-3POSS leave
'John apparently left, but maybe he hasn't left.'
[i.e., attempted meaning: There is some evidence that John has left, e.g. his bag has gone, but maybe he just took his bag to the bathroom.]

(31) * qwatsats-as-*án'* tu7 kw s-John, t'u7 aoz t'u7
leave-3CONJ-*PERC.EVID* then DET NOM-J. but NEG just
kw-en-s-wá zwát-en lh-qwatsáts-as
DET-1SG.POSS-NOM-IMPF know-DIR HYP-leave-3CONJ
'John may have left, but I don't know whether he did leave.'

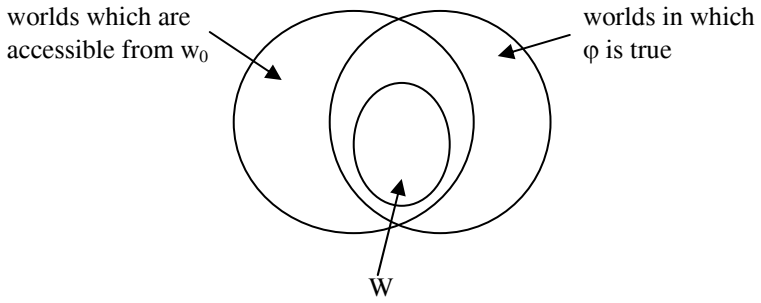
In Rullmann, Matthewson and Davis (2005), we argue that the data involving apparent variable quantificational force are amenable to an analysis involving uniform existential force. We adopt an idea proposed by Klinedinst (2005) in his analysis of free choice permission. Klinedinst's proposal is that possibility modals are like plural indefinites: they introduce a plurality of worlds W. There is universal quantification over the worlds within that plurality, as illustrated in (32).

(32) $\exists W[R_c(w_0,W) \wedge \forall w[w \in W \rightarrow \varphi(w)]]$
(where $R_c(w_0, W)$ iff for every $w \in W$, $R_c(w_0,w)$)

According to (32), a possibility modal of this type asserts that there is a set of worlds W that are accessible from the actual world w_o, such that φ is true in every world in W. In other words, "in some set of accessible worlds W, φ is true." Note that assuming W is non-empty, (32) is truth-conditionally equivalent to (33), a simple existential. The analysis is illustrated diagrammatically in (34).

(33) $\exists w[R_c(w_o,w) \wedge \varphi(w)]$

(34)



We adopt Klinedinst's analysis for the St'át'imcets modals, but with a twist: first, we claim that on the apparently strong reading (as in e.g., (28,30-31) above), the "some set of accessible worlds" is a *specific* indefinite. On the weak reading (as in (29) above), it is a non-specific indefinite. On the specific reading, the speaker has a particular set W 'in mind', which possibly has been previously established in discourse. In the usual case, the most obvious set W to be chosen under a specific interpretation is the *entire* set of worlds picked out the by modal base. In that case, we appear to get a universal reading.

Our analysis of the three St'át'imcets evidentials is summarized in (35-37). We begin with the inferential.

(35) $[[k'a\ p]]^c$ is only defined if c provides inferential evidence in w_0 which determines an accessibility relation R_c, such that for all worlds w, $R_c(w_0,w)$ iff the inferential evidence in w_0 holds in w

If defined, $[[k'a\ p]]^c = 1$ iff $\exists W[R(w_0,W) \wedge \forall w[w \in W \rightarrow p(w)]]$

This analysis says that an inferential statement *k'a p* presupposes that there is some inferential evidence in the actual world. The sentence then asserts that in each of some set of worlds in which that inferential evidence holds, p is true. The 'strong' (universal-like) reading of *k'a* obtains when the set W is *specific,* and picks out the *entire* contextually salient set of worlds – in this case, all the worlds in which the inferential evidence holds. For the weaker reading, we simply assume that W is non-specific; it does *not* pick out all the worlds in which the inferential evidence is true. If W picks a set of worlds which fails to include all the worlds in which the inferential evidence holds, then the sentence will reduce to making a pure existential claim. The sentence will (a) presuppose that the speaker has inferential evidence, and (b) assert that in some subset of worlds where that evidence holds, p is true.

The perceived-evidence case is parallel, as shown in (36).

(36) $[[an'\ p]]^c$ is only defined if c provides perceived evidence in w_0 which determines an accessibility relation R_c, such that for all worlds w, $R_c(w_0,w)$ iff the perceived evidence in w_0 holds in w

If defined, $[[an'\ p]]^c = 1$ iff $\exists W[R_c(w_0,W) \wedge \forall w[w \in W \rightarrow p(w)]]$

Recall from above that *an'* seems to allow only strong readings. Our account for this is as follows. The presupposition of *an'* is that there is some perceived evidence. As Davis (in prep.: Chapter 23) observes, sentences containing *an'* are often translated with 'it looks like'; this suggests that the perceived evidence with *an'* must be visible to the speech participants at the utterance time. We therefore suggest that the set W is more likely to be specific (pick out *all* the worlds determined by R_c) with *an'* than with *k'a.* With *k'a,* the evidence may be based more on an indirect chain of reasoning; the full set of worlds determined by R_c may not be contextually salient.

Finally, we turn to the reportative in (37).

(37) $[[ku7\ p]]^c$ is only defined if c provides reported evidence in w_0 which determines an accessibility relation R_c, such that for all worlds w, $R_c(w_0,w)$ iff the reported evidence in w_0 holds in w

If defined, $[[ku7\ p]]^c = 1$ iff $\exists W[R_c(w_0,W) \wedge \forall w[w \in W \rightarrow p(w)]]$

The reportative parallels the inferential evidentials; a sentence *ku7 p* presupposes that there is reported evidence, and asserts that in each of some set of worlds in which that reported evidence holds, p is true. As with the other clitics, *ku7* will allow both strong and weak readings, depending on whether W is specific or non-specific.[8]

The analysis presented here is similar to Izvorski's in many respects. It differs from Izvorski's in the use of (specific or non-specific) existential quantification. It further differs in the way the presupposition is implemented. For Izvorski, the presupposition restricts the modal base; see Izvorski (1997:230). However, merely restricting the accessible worlds to those in which there is certain indirect evidence does not have the required effect of presupposing that there *is* actually indirect evidence. For this reason, we retain a simple presupposition that the indirect evidence holds. (This actually corresponds closely to Izvorski's *informal* description of her analysis, given above in (25). It does not, however, correspond to her analysis as it is formally implemented.)

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[8] With the reportative case, there is the issue of whether the report is perceived to be reliable. Izvorski enters this information into the ordering source; the ordering source restricts the accessible worlds to those in which, for example, Mary is reliable as a source of information. It is not clear to us at the time of writing whether this is necessary, or whether the speaker's belief in the source's reliability is part of what is indirectly *asserted* by the sentence. That is, by asserting 'in all worlds in which there is a certain report, p is true', the speaker is in effect asserting that s/he believes that the report was reliable. Note that there are parallel issues with inferential evidence. The speaker sees blood on John's shirt and asserts that John must be the murderer. The blood *could* be from a sheep, but the speaker assumes that it is not. Similarly, the speaker hears Mary say that John is the murderer and asserts that John must be the murderer. Mary *could* have lied, but the speaker assumes that she did not. So, whether or not the relevant information is part of the ordering source (as in Izvorski's analysis) or not, it should be executed in a parallel manner for all evidentials.

In the next section we begin testing the predictions of our modal analysis of the St'át'imcets evidentials.

3.3 *ku7, k'a,* and *an'* are epistemic modals

In this section we will show that *ku7, k'a,* and *an'* are epistemic modals, and that the particular evidential meanings of the clitics come from presuppositions.

We begin by observing that our analysis (as well as Izvorski's) makes the predictions summarized in (38). We will show that these predictions are upheld in St'át'imcets.

(38) a. The indirect evidence requirement is not cancelable.
b. The indirect evidence requirement is not an entailment.

3.3.1 Indirect evidence requirement not a cancelable implicature

The analysis presented above places the requirement that the speaker have indirect evidence in a presupposition; this predicts that this requirement will not be cancelable (as mere implicatures are). A Bulgarian example illustrating the impossibility of canceling the indirect evidence requirement is given in (39).

(39) A: Maria celunala Ivan
Maria kiss-*PE* Ivan
'Maria apparently kissed Ivan.'

A': # (Actually) I witnessed it. / # (Actually) I know that for a fact.
(Izvorski 1997:228)

Similar results obtain in St'át'imcets, as shown in (40-45) for all three evidentials, from two different speakers. If the speaker witnessed the event, evidentials may not be used.

(40) * ts'um'-qs-án'-as *ku7* kw s-Lémya7 kw s-Roger;
lick-nose-DIR-3ERG *REPORT* DET NOM-L. DET NOM-Roger

ats'x-en-lhkán wi7 zam'
see-DIR-1SG.SUBJ EMPH after.all
'[I was told] Lémya7 kissed Roger; actually I saw it.'

Consultant's comment: "If you saw it, you wouldn't be able to say it. You'd just make the statement."

(41) * nilh *ku7* k-Sylvia ku wa7 xílh-tal'i;
FOC *REPORT* DET-Sylvia DET IMPF do(CAUS)-TOP
wá7-lhkan t'u7 áts'x-en
IMPF-1SB.SUBJ just see-DIR
'[I was told] it was Sylvia who did it; I saw her.'

Consultant's comment: "… *ku7* means somebody told you, you didn't see it."

(42) * ts'um'-qs-án'-as *k'a* kw s-Lémya7 kw s-Roger;
lick-nose-DIR-3ERG *INFER* DET NOM-L. DET NOM-Roger
ats'x-en-lhkán wi7 zam'
see-DIR-1SG.SUBJ EMPH after.all
'Lémya7 must have kissed Roger; actually I saw it.'

Consultant's comment: "You're guessing but you're saying you saw it."

(43) * nilh *k'a* k-Sylvia ku xilh-tal'i; wá7-lhkan t'u7 áts'x-en
FOC *INFER* DET-S. DET do(CAUS)-TOP IMPF-1SB.SUBJ just see-DIR
'It must have been Sylvia who did it; I saw her.'

(44) * ts'um'-qs-án'-as-*an'* kw s-Lémya7 kw s-Roger;
lick-nose-DIR-3ERG-*PERC.EVID* DET NOM-L. DET NOM-Roger
ats'x-en-lhkán wi7 zam'
see-DIR-1SG.SUBJ EMPH after.all
'Lémya7 apparently kissed Roger; actually I saw it.'

Consultant's comment: "If you saw it, you wouldn't use *an'*."

(45) * nilh-as-*an'* k-Sylvia ku wa7 xílh-tal'i;
FOC-3CONJ-*PERC.EVID* DET-Sylvia DET IMPF do(CAUS)-TOP
wá7-lhkan t'u7 áts'x-en
IMPF-1SB.SUBJ just see-DIR
'It was apparently Sylvia who did it; I saw her.'

3.3.2 Indirect evidence requirement not an entailment

On the other hand, Izvorski argues that the indirect evidence requirement is not an entailment; it cannot be negated, as shown in (46). This is typical presupposition behaviour.

(46) Ivan ne izkaral izpita
Ivan not passed-PE the-exam
= 'Ivan didn't pass the exam (it is said/I infer).'
≠ 'It is not the case that {it is said/I infer} that Ivan passed the exam.'
(Izvorski 1997:228)

The readings in (46) require some clarification. Under an analysis of the PE as a necessity modal, there should be two readings, depending on the scope of the modal with respect to negation. This is independent of the inability of the indirect evidence requirement to be negated. Under an Izvorski-style analysis, we therefore might expect both the readings informally summarized in (47a,b) to be available. We do not expect the reading in (47c).

(47) a. It is not the case that in all accessible worlds, Ivan passed the exam.
[allows Ivan to pass in some accessible worlds]
[presupposes speaker has indirect evidence for the modal claim]

b. In all accessible worlds, it is not the case that Ivan passed the exam.
[Ivan fails in all accessible worlds]
[presupposes speaker has indirect evidence for the modal claim]

c. It is not the case that I have indirect evidence that in all accessible worlds, Ivan passed the exam.
[can be understood as denying that speaker's evidence is indirect]

Based on the translations given by Izvorski in (46), it appears that the Bulgarian PE sentence has only reading (47b). This result is consistent with the modal analysis. An extra explanation would need to be offered about why (47a) is absent. However, such restrictions on available scope relations between modals and negation are widespread in English and other languages; see for example Horn (1989) and some discussion in section 4.1.1 below.

The same results hold for the St'át'imcets evidentials, as shown in (48-51). The negation cannot be construed as negating the indirect status of the evidence. For discussion of the scope of the modal assertion with respect to negation, see section 4.1.1 below.

(48) cw7aoz *ku7* séna7 ku qu7 láti7
NEG *REPORT* COUNTER DET water DEIC
= '[I was told] There was no water there.' (Matthewson 2005:389)
≠ 'I was not told that there was water there.'

For the second reading, the consultant corrects (48) to (49).

(49) cw7aoz kw sqwal'-en-tsál-em kw s-wá7 láti7 ku
NEG DET tell-DIR-1SG.OBJ-PASS DET NOM-be DEIC DET
qu7; pún-lhkan s7éntsa
water find(DIR)-1SG.SUBJ 1SG.EMPH
'I wasn't told that there was water there; I found it myself.'

(50) aoz *k'a* k-wa-s Sylvia ku xílh-tal'i
NEG *INFER* DET-IMPF-3POSS Sylvia DET do(CAUS)-TOP
= '[I have indirect evidence that] It wasn't Sylvia who did it.'
≠ 'it is not the case that I have indirect evidence that Sylvia did it.'

(51) cw7áoz-as *an'* kw s-nilh-ts s-Sylvia
NEG-3CONJ *PERC.EVID* DET NOM-FOC-3POSS NOM-S.
ku xílh-tal'i
DET do(CAUS)-TOP
'[I have indirect perceived evidence that] It wasn't Sylvia who did it.'
≠ 'I don't have indirect perceived evidence that it was S. who did it.'

So far, the St'át'imcets data correspond exactly to Izvorski's predictions about the status of the indirect evidence requirement – namely, that it is a presupposition. We now turn to a prediction about the assertion that is made in evidential statements.

3.3.3 Speaker conveys that p is possibly true

If the St'át'imcets evidentials are epistemic modals, we predict that they will only be felicitous in contexts where the speaker is neither sure that the embedded proposition is false, nor sure that the embedded proposition is true. With respect to the first prediction, (52) illustrates the fact that epistemic modals (whether necessity or possibility modals) do not allow the speaker to be sure that the embedded proposition is false.

(52) # It may/must be raining, but it is not (raining). (Faller 2002:191)

The St'át'imcets evidentials behave like modals in this respect; the speaker may not be sure that the embedded proposition is false. This is shown in (53-54) for the inferential evidentials.

(53) * wa7 *k'a* kwis, t'u7 aoz t'u7 k-wa-s kwis
IMPF *REPORT* rain but NEG just DET-IMPF-3POSS rain
'It may/must be raining, but it's not raining.'

(54) * wá7-as-*an'* kwis, t'u7 aoz t'u7 k-wa-s kwis
IMPF-3CONJ-*PERC.EVID* rain but NEG just DET-IMPF-3POSS rain
'It's apparently raining, but it's not raining.'

Consultant's comment: "It's contradictory."

With the reportative evidential, we need to control for whether the speaker believes the source of the report to be reliable. (55-56) show that whether or not the source is perceived to be reliable, reportative statements are always infelicitous if the speaker knows the embedded proposition to be false. (56) is adapted from similar data (albeit with different results) given in Faller (2002); see (98) below.[9,10]

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[9] See Faller (2002:105 for detailed discussion of the predictions of Izvorski's analysis for felicity in various discourse contexts, and in particular for discussion of the effect of the reliability of the source.

[10] An issue which needs thought concerns folklore uses of *ku7.* Legends are usually

(55) Context: Your husband always tells the truth; he is very reliable, and he also tries never to say things unless he knows for sure they are true. So when he says things, you always believe him. However, this time you know he was mistaken. Someone was injured at the Country Store and you know for sure it was Maria, because you were there when it happened and you saw it (a big display of canned goods fell on her and she fell over and hurt herself). You also know that Julia wasn't injured because you just saw Julia and she was not injured and had been in Kamloops all day. But your husband misunderstood the story when he heard it, and he thinks it was Julia who was injured at the Country Store. Your husband comes home and tells you *xan' kw sJulia láku7 Country Storeha lhkúnsa ku sq'it* 'Julia was injured at the Country Store today.' Then, when you see me later that evening, you say:

xan' *ku7* kw s-Julia láku7 Country.Store-ha lhkúnsa ku sq'it
hurt *REPORT* DET NOM-J. DEIC C.S-DET now DETday
'[I was told] Julia was injured at the Country Store today.'

Consultant's comment: "Okay if you add something like *tsut nkwtámtsa* [my husband said] at the end."

(56) Context: You had done some work for a company and they said they put your pay, $200, in your bank account. but actually, they didn't pay you at all.

* um'-en-tsal-itás *ku7* i án'was-a xetspqíqen'kst
give-DIR-1SG.OBJ-3PL.ERG *REPORT* DET.PL two-DET hundred
táola, t'u7 aoz kw s-7um'-en-tsál-itas ku stam'
dollar but NEG DET NOM-give-DIR-1S.OBJ-3P.ERG DET what
'They gave me $200 [I was told], but they didn't give me anything.'

Corrected to:

tsút-wit kw s-7um'-en-tsal-itás ku7 i
say-3PL DET NOM-give-DIR-1SG.OBJ-3PL.ERG REPORT DET.PL
án'was-a xetspqíqen'kst táola …
two-DET hundred dollar …
'They SAID they gave me $200 …'

What happens when the speaker already knows that the embedded proposition is true? Here, we also predict infelicity. This is firstly because the

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liberally sprinkled with *ku7*. However, the storyteller often does not believe that the legend is literally true. This is illustrated in (i), which is the final sentence of 'The Girl and the Owl', told by Martina LaRochelle. This legend contains many tokens of *ku7*.

(i) cw7aoz hem' ti7 k-wa-s wenácw, sptakwlh ti7
NEG after.all DEMON DET-IMPF-3POSS true legend DEMON
'It is not true, it is a legend.' (van Eijk and Williams 1981:30)

evidentials presuppose that the evidence for p is only indirect; this implies that the speaker cannot know for certain that p is true. Moreover, there will be a violation of pragmatic principles (specifically, Grice's Quantity Maxim) if a speaker who knows that p is true asserts 'possibly p' (or even 'necessarily p'), since the modal statement makes a weaker claim than the simple assertion of p.

These predictions are correct for the St'át'imcets evidentials. For the inferential evidentials, the relevant data were already given above in (40-45). The reportative data, given in (57-58), include a case where the source is reliable, and a case where the source is unreliable.

(57) Context: You were invited to Rose's son Ted's wedding and you went there and watched him get married. Marilyn (Ted's sister) didn't see you at the wedding and didn't know you had been invited. She told you 'Ted got married'. Later, you see me and you tell me:

\# melyíh *ku7* kw s-Ted
marry *REPORT* DET NOM-Ted
'[I heard] Ted got married.'

(58) Context: You were invited to Rose's son Ted's wedding and you went there and watched him get married. Henrietta (Ted's sister) didn't see you at the wedding and didn't know you had been invited. Henrietta has a reputation for being unreliable and often lying. She told you 'Ted got married'. Later, you see me and you tell me:

\# melyíh *ku7* kw s-Ted
marry *REPORT* DET NOM-Ted
'[I heard] Ted got married.'

Finally, our analysis of the St'át'imcets evidentials as modals predicts that they *will* be felicitous in cases where the speaker is not certain about the truth of the embedded proposition. This is fairly obviously the case for the inferential evidentials, as can be seen with the data in (27b) above, for example. For the reportative, data are given in (59-61). This time, we include a case with a reliable source (59), an unreliable source (60), and a source whose reliability is unknown (61). We see that if the source is unreliable, the sentence is infelicitous.

(59) Context: You heard from your reliable friend Grace that Roger was elected chief. You didn't hear anything else about the election except what Grace told you. Then you tell me:

aw-an-ém *ku7* kw s-Roger ku cuz' kúkwpi7
choose-DIR-PASS *REPORT* DET NOM-R. DET going.to chief
'[I was told] Roger was elected to be chief.'

(60) Context: There was an election in Fountain and you haven't heard yet who was elected. Then Josie tells you that it was Roger who was elected. However, Josie is a pathological liar. She always lies – everything she says is a lie. So if Josie says something, you always assume the opposite. So, you have only heard from Josie that Roger is going to be the new chief, and you haven't heard anything from anyone else. Then you meet me, and you say:

aw-an-ém *ku7* kw s-Roger ku cuz' kúkwpi7
choose-DIR-PASS *REPORT* DETNOM-R. DET going.to chief
'[I was told] Roger was elected to be chief.'

Consultant's comment: "You'd have to add something to the effect that Josie might be lying."

Our analysis accounts for the infelicity of (60) as follows. (60) presupposes that there is reported evidence that Roger was elected, and asserts that in each of some (possibly contextually salient) set of accessible worlds, Roger was elected. Assume that the set of worlds picked out by R is the worlds where Josie said that Roger was elected. However, Josie is so unreliable that we always believe the opposite of what she says. We therefore have to subtract from the modal base any worlds in which Roger was elected. Once that happens, (60) comes out false. This accounts for the speakers' rejection of the sentence.

(61) is repeated from (29) above, where we used it to demonstrate that *ku7* cannot have unambiguously universal quantificational force. (61) is in fact the crucial test-case for the quantificational force of the modal. Faller notes (2002:109) that if the reliability of the source is unknown, Izvorski's analysis predicts infelicity for a reportative. However, she observes that the analysis would predict felicity in this case (in accordance with the St'át'imcets facts) if it is altered to involve an *existential* quantifier, rather than a universal. See Faller (2002:109) for the argumentation.

(61) Context: There is a rumour going around that Roger was elected chief. Sometimes that kind of rumour is right, sometimes it's wrong. You really have no idea whether it's likely to be right or wrong. You tell me:

aw-an-ém *ku7* kw s-Roger ku cuz' kúkwpi7
choose-DIR-PASS *REPORT* DET NOM-R. DET going.to chief
'[I was told] Roger was elected to be chief.'

We have shown that our analysis makes the right predictions for St'át'imcets *ku7, k'a* and *an'*. This constitutes strong evidence that these clitics are epistemic modals.

In summary, then, we have shown that the St'át'imcets evidential clitics behave as predicted by a modified version of Izvorski's (1997) analysis. We argue that an evidential statement makes an epistemic modal claim, and carries a presupposition about the types of evidence which lead the speaker to

make the statement.

In the next section we turn to a very different analysis of evidentials, that of Faller (2002), and show that this alternative analysis is not applicable to St'át'imcets.

4 The St'át'imcets evidentials are not illocutionary operators

In contrast to Izvorski, Faller (2002) argues that most Quechua evidentials are *not* epistemic modals. Rather, they are illocutionary operators.[11] In this section we will outline Faller's analysis, and then show that its predictions are not upheld for the St'át'imcets evidential clitics.

Faller argues that the Quechua Direct and Reportative are not analyzable in terms of necessity or possibility, and that they do not contribute to the proposition expressed. She analyses the Direct and the Reportative as illocutionary modifiers; they modify the sincerity conditions of the speech act. They may also change the illocutionary force of the sentence from plain 'assertion' to something else.

The idea is illustrated in (62) for the Qechua Direct evidential *-mi*. The propositional content is p; the illocutionary force is assertion, and the sincerity condition states that the speaker believes that p and that that belief is justified by the speaker's having seen the event e described by p (Faller 2002:25;164). The sincerity condition results in an increase in illocutionary strength over an ordinary assertion.

(62) Para-sha-n-*mi*
rain-PROG-3-*mi*
p = 'It is raining.'
ILL = ASSERT_s (p)
SINC = {*Bel (s,p),* EV = *See (s,* e_p*)*}
STRENGTH = +1 (Faller 2002:164)

The fact that Quechua statements containing the Direct evidential are understood as *stronger* than their plain counterparts is in line with their non-modal status.[12] As noted above, either existential or universal modal statements are *weaker* than their plain counterparts (see (22)).

The analysis of the Qechua Reportative *–si* is illustrated in (63). The illocutionary force is that of 'presentation', and the sincerity condition says that there is some other speaker, neither the current speaker nor hearer, who asserted p.

[11] There is one exception: the Quechua Conjectural involves epistemic modal semantics, as well as sharing the illocutionary semantics of the other evidentials.

[12] Quechua consultants often state that assertions containing *-mi* are more emphatic than those without (Faller 2002:156).

(63) Para-sha-n-*si*
rain PROG-3-*si*
p = 'It is raining.'
ILL = PRESENT (p)
SINC = $\{\exists s_2 [Assert (s_2, p) \wedge s_2 \notin \{h,s\}]\}$ (Faller 2002:199)

As mentioned in footnote 12, there is one evidential in Quechua, the Conjectural, which Faller analyses as involving epistemic modal semantics (as well as being an illocutionary operator along the lines of (62) and (63)). There is also a tense marker in Quechua which gives rise indirectly to an evidential meaning. Faller analyses the latter as being neither an illocutionary operator nor an epistemic modal; instead, it operates at the event level and locates the event outside the speaker's perceptual field at the reference time. We do not address the Quechua tense marker here, as the St'át'imcets clitics clearly operate at the propositional level and have no relation to tense. See Faller (2003) for discussion.

In the following sub-section we outline the predictions of Faller's illocutionary operator analysis, and then show that it is not applicable to St'át'imcets.

4.1 Predictions of Faller's analysis

Faller discusses four predictions of the illocutionary operator analysis of evidentials; these are listed in (64).

(64) Illocutionary force evidentials:

a. should take scope over negation
b. should not contribute to truth of proposition expressed:
   i. should not be challengeable
   ii. should not be embeddable
c. should give rise to an ambiguity in content questions

In the following three sub-sections we will test predictions (64a-bii). Data collection is still under way regarding prediction (64c).

4.1.1 Scope with respect to negation

With respect to the first test, scope with respect to negation, Faller shows that the Quechua evidentials obligatorily scope over negation (65). She observes that these data are accounted for under an illocutionary operator analysis.[13]

[13] Sentence negation in Quechua involves the co-occurrence of the particle *mana* with the enclitic *chu;* see Faller (2002:27).

(65) Ines-qa *mana-n / -chá / -s* qaynunchaw nana-n-ta-*chu* watuku-rqa-n
Inés-TOP *not-mi / -chá / -si* yesterday sister-3-ACC-*chu* visit-PST1-3
'Inés didn't visit her sister yesterday.'

EV = speaker has direct / conjectural / reportative evidence that Inés did not visit her sister yesterday
EV ≠ speaker does not have direct / conjectural / reportative evidence that Inés visited her sister yesterday (Faller 2002:227)

The same facts hold in St'át'imcets, as shown in (48,50-51) above, repeated here:

(66) cw7aoz *ku7* séna7 ku qu7 láti7
NEG *REPORT* COUNTER DET water DEIC
= '[I was told] There was no water there.' (Matthewson 2005:389)
≠ 'I was not told that there was water there.'

(67) aoz *k'a* k-wa-s Sylvia ku xílh-tal'i
NEG *INFER* DET-IMPF-3POSS Sylvia DET do(CAUS)-TOP
= '[I have indirect evidence that] It wasn't Sylvia who did it.'
≠ 'It is not the case that I have indirect evidence that Sylvia did it.'

(68) cw7áoz-as *an'* kw s-nilh-ts s-Sylvia
NEG-3CONJ *PERC.EVID* DET NOM-FOC-3POSS NOM-S.
ku xílh-tal'i
DET do(CAUS)-TOP
='[I have indirect perceived evidence that] It wasn't Sylvia who did it.'
≠ 'I don't have indirect perceived evidence that it was S. who did it.'

However, the fact that an element takes widest scope does not necessarily mean that it is operating above the propositional level. In fact, we showed above that under the epistemic modal analysis, the restrictions on the kind of evidence are *predicted* to take wide scope over negation – since these requirements are modeled as presuppositions (see section 3.3.2). It therefore looks as if the scope-with-respect-to-negation test does not help us distinguish between the two analyses being considered.

However, we might consider testing whether the asserted part of the modal semantics – basically, ◊p – also takes wide scope over negation in St'át'imcets. That is, we could ask whether (69) has both readings (a) and (b).[14]

(69) aoz *k'a* k-wa-s Sylvia ku xílh-tal'i
NEG *INFER* DET-IMPF-3POSS Sylvia DET do(CAUS)-TOP

[14] In a sense, this question is beside the current point, since if we assume that the clitic is a modal, we are already assuming it's not an illocutionary operator. However, we present the results anyway, since they suggest that the St'át'imcets evidentials behave similarly to English modals with respect to scope interactions with negation.

a. ‘It is possible that it wasn’t S. who did it.’ [presupp: indirect evidence]
b. ‘It is not possible that it was S. who did it.’ [presupp: indirect evidence]

The data for this kind of example indicate that *k’a* does not give rise to ambiguity with respect to negation. This is illustrated in (70-72). (70) is a context which supports only a ‘possibly-not’ reading, and the consultant rejects the sentence. (72) is a context which supports only a ‘not-possible’ reading, and the sentence is fine.

(70) Context: Someone drew a caricature of you on the blackboard. Sylvia has chalk on her clothes, but you notice that another kid does, too. So you have some reason to doubt it was Sylvia.

* aoz *k’a* k-wa-s Sylvia ku xílh-tal’i
NEG *INFER* DET-IMPF-3POSS Sylvia DET do(CAUS)-TOP
‘I guess it possibly wasn’t Sylvia who did it.’

The consultant corrected (70) to (71). (71) differs from (70) in containing the word *nscwákwekw* ‘I think’ (literally ‘my heart’). (71) therefore means ‘I think that it is not possible that Sylvia did it.’

(71) cw7aoz *k’a* n-scwákwekw k-wa-s Sylvia ku
NEG *INFER* 1SG.POSS-heart DET-IMPF-3POSS
Sylvia DET
xílh-tal’i
do(CAUS)-TOP
‘I think it wasn’t Sylvia who did it.’

(72) Context: Same as above, except this time I have evidence that it’s not possible that it was her: I know that Sylvia can’t draw for peanuts and the caricature on the board is beautifully drawn.

aoz *k’a* k-wa-s Sylvia ku xílh-tal’i
NEG *INFER* DET-IMPF-3POSS Sylvia DET do(CAUS)-TOP
‘I guess it isn’t possible that it was Sylvia who did it.’

(70) vs. (72) suggest that when *k’a* co-occurs with negation, the only reading is ‘not possible’. This looks like a narrow-scope reading for the modal. However, recall that while we analyze *k’a* as an existential, we also allow for the possibility of specific readings. Under a specific reading, *k’a* quantifies over the entire set of contextually salient worlds – meaning that the observed interpretation in (72) is actually a wide-scope reading for the modal.

With *an’,* which recall from above seems to only allow strong readings, we see that the clitic allows wide scope with respect to negation.[15]

[15] Preliminary data suggest that narrow scope is also allowed for *an’*; further testing is

(73) Context: I have evidence that it's not possible that it was Sylvia, because I know that Sylvia can't draw for peanuts and the caricature on the board is beautifully drawn.

cw7áoz-as-*an'*	kw	s-nilh-ts		s-Sylvia	ku
NEG-3CNJ-*PERC.EVID*	DET	NOM-FOC-3POSS		NOM-Sylvia	DET
xílh-tal'i					
do(CAUS)-TOP					

'I guess it wasn't Sylvia who did it.'

Finally, sentences containing reportative *ku7* and negation show that the reportative must take wide scope over negation. For example, in (66) above, the sentence relies on a report that there was no water, and asserts that it must be true that there is no water. The report itself therefore must have contained a negation. In other words, if (66) has the form *ku7 p,* then p = 'There is no water'. Interestingly, reportative adverbials in English also strongly resist narrow scope with respect to negation:

(74) a. Reportedly / allegedly, this factory does not pollute the river.
b.??This factory does not reportedly / allegedly pollute the river.

Data which conclusively showed narrow scope for an evidential with respect to negation would be strong evidence against an illocutionary force analysis. We do not seem to have such data here. However, the data are also entirely compatible with our modal analysis. The facts seem to be that whether the modal is interpreted as weak or strong, we always get the strongest reading when it is combined with negation. That is, we always get a 'not-possible / necessarily-not' reading, and never a 'possibly-not / not-necessarily' reading. Interestingly, English modals display similar behaviour. English universal modals tend to take obligatory wide scope with respect to negation, while most of the existential modals take obligatory narrow scope. This is illustrated in (75). While the reason for these restrictions is unknown, the cross-linguistic parallels are intriguing.[16]

(75) a. should not = $\forall\neg$
b. must not = $\forall\neg$
c. will not = $\forall\neg$
d. would not = $\forall\neg$

---

required.

[16] Horn (1989:259ff) offers detailed discussion of this issue. According to Horn, the issue in English is primarily one of lexicalization; it is only the contracted forms of the modals plus negation *(can't, couldn't)* that involve scope rigidity. It is true that with stress on the negation, the opposite reading is possible for, e.g., *could not.* However, it is still intriguing that the facts tend in the same direction in both languages. The St'át'imcets data may support the idea (also suggested by Horn) that there is a general problem with the 'not all' reading. This problem happens to manifest itself in English as a constraint on lexicalization, but may operate to rule out some readings altogether in St'át'imcets.

e. cannot = ¬∃
f. could not = ¬∃
g. may not = ¬∃ / ∃¬
h. might not = ∃¬

To conclude this section, we have seen that there is so far no evidence against the modal analysis of the St'át'imcets evidentials. Neither the projection of the presupposition of indirect evidence, nor the scope of the modal assertion itself with respect to negation, are unexpected under our analysis.

4.1.2 The challengeability test

The second of Faller's predictions is that illocutionary force evidentials should not contribute to the truth of the proposition expressed and therefore should not be challengeable. The test works as follows: if the relevant aspect of meaning can be questioned, doubted, rejected or disagreed with, then it forms part of the propositional content. Faller argues that while epistemic modals pass the challengeability test, the Quechua direct and reportative evidentials do not.

Faller notes that it has been claimed in some literature that epistemic modals do not contribute to the proposition expressed (e.g., by Lyons 1977, Sweetser 1990, Palmer 2001, Papafragou 2000). The examples in (76), from Papafragou (2000), are purported to demonstrate that epistemic *must* does not pass the challengeability test. Supposedly, (b-d) do not challenge the epistemic claim, but rather the embedded proposition:

(76) a. Alfred must be secretly seeing Barbara.
b. Is that so?
c. I agree.
d. I don't believe it. (Faller 2002:111)

However, Faller rightly observes that, for example, the speaker who utters (76c) in response to (76a) is not agreeing that Alfred is seeing Barbara, but rather is agreeing that Alfred *must* be seeing Barbara. Thus, the modal *is* part of the asserted propositional content (Faller 2002:112).

Further examples are given in (77-78). With either an epistemic possibility or necessity modal, B's utterance does not deny that Jo is the thief. Rather, B denies the modal claim.[17] This indicates that the modal is contributing to the propositional content.

[17] It might seem as if in (77), B *is* denying that Jo is the thief, since B states that she cannot be the thief. Recall, however, that in the semantics we are assuming for modal statements, ¬◊p does not entail ¬p. B is asserting that there are no worlds compatible with what s/he knows that are stereotypical and in which Jo is the thief. However, if the actual world is non-stereotypical in some way, Jo might be the thief in the actual world. See Faller (2002:113, fn 18) for discussion.

(77) A: Jo *could* be the thief.
B: That's not true. She cannot be the thief. She would never do something like this. (Faller 2002:113)

(78) A: Jo *must* be the thief.
B: That's not true. There are some other plausible suspects. Jo may be entirely innocent.

Faller argues that a hearer usually disagrees with modal statements by disagreeing with one or more of the propositions which narrow down the set of worlds in the modal base. That is, the disagreement is with the premises used by the speaker, rather than with the logical relation that the speaker claims holds between the premises and the embedded proposition. Her example is:

(79) A: If it's snowing down here, Truckee *must* be buried in snow.
B: That's not true. A hundred years or so ago, it snowed down here, but not a single flake in Truckee. So, it could well be that it's not snowing now in Truckee at all. (Faller 2002:112)

The respondent in (79) is not denying that it *is* snowing in Truckee; thus, she is not denying p. Nor is she denying the logical relation asserted by the speaker. What she is denying is the premise *If it is snowing down here, it is snowing in Truckee.*

Von Fintel (2005) also discusses this issue, and similarly concludes that epistemic modals do contribute to truth conditions. He suggests (following work by Mandy Simons) that sentences containing epistemic modals may contain two speech acts. The first involves the standard truth-conditional semantics for epistemic modality (asserting that it is either a necessity or a possibility that p holds, given the available evidence). The second may consist of an assertion of p with a lack of conviction, or advice not to overlook the possibility that p holds. Von Fintel claims that hearers can respond by targeting either the epistemic claim *or* the prejacent proposition. His example is as follows: Imagine a game of Mastermind between me and my son.[18] After some rounds where I give him some hints about the solution, he says:

(80) There might be some reds.

Possible responses include:

(81) a. That's right. There might be.
b. That's right. There are.
c. That's wrong. There can't be.
d. That's wrong. There aren't.

[18] Mastermind is a game in which one player places coloured pegs behind a screen and the other must work out the colours and the order of the pegs after eliciting some clues.

The St'át'imcets data involving challengeability with evidentials are given in (82-84). We see that the relevant aspects of meaning are challengeable just as with epistemic modals in English.

(82) Context: A is driving past John's house with B and sees John's lights are on.

A: wá7 *k'a* l-ta tsítcw-s-a s-John; tákem i
be *INFER* in-DET house-3POSS-DET NOM-John all DET.PL
sts'ák'w-s-a wa7 s-gwel
light-3POSS-DET IMPF STAT-burn
'John must be home; all his lights are on.'

B: aoz kw s-wenácw; papt wa7 lháp-en-as kw-a-s
NEG DETNOM-true always IMPF forget-DIR-3ERG DET-IMPF-3POSS
lháp-an'-as i sts'ák'w-s-a lh-as úts'qa7
put.out-DIR-3ERG DET.PL light-3POS-DET when-3CNJ go.out
'That's not true. He always forgets to turn his lights off when he goes out.'

B's statement ≠ 'John is not home.'
B's statement = 'It is not true that John must be home.'
B denies the premise: *If John's lights are on, he is home.*

(83) Context: A is driving past John's house with B and sees John's lights are on.

A: wá7-as-*an'* l-ta tsítcw-s-a s-John; tákem
be-*3CONJ-PERC.EVID* in-DET house-3POSS-DET NOM-J. all
i sts'ák'w-s-a wa7 s-gwel
DET.PL light-3POSS-DET IMPF STAT-burn
'Looks like John is home; all his lights are on.'

B: aoz kw s-wenácw; papt wa7 lháp-en-as kw-a-s
NEG DETNOM-true always IMPF forget-DIR-3ERG DET-IMPF-3POSS
lháp-an'-as i sts'ák'w-s-a lh-as úts'qa7
put.out-DIR-3ERG DET.PL light-3POS-DET when-3CNJ go.out
'That's not true. He always forgets to turn his lights off when he goes out.'

B's statement ≠ 'John is not home.'
B's statement = 'It is not true that John must be home.'
B denies the premise: *If John's lights are on, he is home.*

(84) Context: Your car was stolen.

A: nilh *ku7* s-Bill ta naq'w-ens-táli-ha n-káoh-a
FOC *REPORT* NOM-Bill DET steal-DIR-TOP-DET 1SG.POSS-car-DET
'[I was told] It was Bill who stole my car.'

B: aoz kw s-wenácw; plan-lhkacw lháp-en kw s-7áts'x-en-acw
NEG DET NOM-true already-2S.SBJ forget-DIR DET NOM-see-TR-2S.CJ
ta káoh-sw-a láku7 tsítcw-s-a s-Bill
DET car-2SG.POSS-DET DEIC house-3POSS-DET NOM-Bill
'That's not true. You forgot you already SAW your car at Bill's house.'

B's statement ≠ 'It wasn't Bill who stole your car.'
B's statement = 'It's not true that you heard about Bill's stealing your car from a 3rd person.'

We see that the hearer can challenge the premises used by the speaker (i.e., part of the ordering source, as in (82-83)), or the presupposition that the evidence for p was by report (as in (84)). In none of (82-84) does B deny the embedded proposition p.

The Mastermind examples are given in (85-86) for *k'a* and for *an'*; the results are almost the same as in English. It is true that the St'át'imcets speakers do not much like responses of the form 'yes, there might be' or 'no, there can't be' in this context (see footnotes 20 and 21). However, this is not because they are unable to challenge the modal claim, but rather because in the Mastermind example, the responder is in possession of all the facts. Therefore, it is felt to be misleading to make a modal assertion instead of a plain assertion. However, once it is explained to the consultants that in this context, the responder is trying not to reveal the answer to the problem, but rather to confirm or disconfirm the son's modal hypothesis, the relevant sentences are accepted. These data therefore support the claim that the St'át'imcets evidentials contribute to the proposition expressed in the same way that English epistemic modals do.

(85) Context: Imagine a game where someone places some different coloured pegs behind a screen and the other person has to guess the colours and the order after getting some clues. After some rounds where I give my son some hints about the solution, he says:

wá7 *k'a* i tseqwtsíqw-a
be *INFER* DET.PL red-DET
There might be some reds.'

Possible responses include:

a. wenácw; wá7 k'a
true be INFER
'That's right. There might be.'[19]

b. wenácw; wá7
true be
'That's right. There are.'

c. aoz kw s-wenácw; aoz k'a kw s-wá7
NEG DET NOM-true NEG INFER DET NOM-be
'That's wrong. There can't be.'

d. aoz kw s-wenácw; aoz kw s-wá7
NEG DET NOM-true NEG DET NOM-be
'That's wrong. There aren't.'

(86) Same context as above.

wá7-as-*an'* i tseqwtsíqw-a
be-*3CONJ-PERC.EVID* DET.PL red-DET
There might be some reds.'

Possible responses include:

a. wenácw; wá7-as-*an'*
true be-3CONJ-*PERC.EVID*
'That's right. There might be.'[20]

b. wenácw; wá7
true be
'That's right. There are.'

c. aoz kw s-wenácw; áoz-as-*an'* kw s-wá7
NEG DET NOM-true NEG-3CONJ-*PERC.EVID* DET NOM-be
'That's wrong. There can't be.'

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[19] The consultant's initial response to (85a) was "You know, so you can't really say *k'a."* Once the context was more fully explained, she commented "It's okay, if you don't want to let him know."

[20] The consultant's initial response to (86a) was "You wouldn't say *wá7asan'* because then *you* would be guessing." When asked whether it would it be okay if the responder is trying not to let the son know the facts, but merely wants to say "You're right, there might be," the consultant accepted the sentence. This consultant (a different consultant than for the data in (85)) also displayed the same initial reluctance to accept (86c).

d. aoz kw s-wenácw; aoz kw s-wá7
NEG DET NOM-true NEG DET NOM-be
'That's wrong. There aren't.'

Our conclusion is that *ku7*, *k'a* and *an'* pass the challengeability test, and therefore are not illocutionary operators.

4.1.3 The embedding test

The third test offered by Faller also relates to whether the evidentials contribute to the proposition expressed: the embedding test. The idea is that an illocutionary operator cannot be embedded, but an element that contributes to the proposition expressed should be able to be embedded. Two core constructions which are expected not to allow illocutionary operators are the antecedent of a conditional, and under a factive attitude verb or verb of saying. For example, the data in (87) show that illocutionary adverbials such as *frankly* are not embeddable, while *reportedly* and *obviously* are.

(87) a. If John's book has *frankly* sold very little, you shouldn't be surprised.
b. If the ball was *reportedly* over the line, the matter should be investigated further.
c. If the cook *obviously* won't poison the soup, we can eat the meal without worrying.
(Faller 2002: 216; data from Ifantidou-Trouki 1993)

In (87a), the addressee is instructed not to be surprised if John's book has sold very little – *not* if the speaker is frank when saying the sentence. The meaning of *frankly* is not embeddable (and the sentence is, in our judgement, somewhat degraded). In (87b), on the other hand, the matter should be investigated if the ball is *reported* to be over the line; the requirement is not that the ball *be* over the line before an investigation is warranted. Similar results obtain for (87c) with *obviously.*

We might expect, then, that we can test whether St'át'imcets *ku7, k'a* and *an'* can be embedded, and that if they cannot, this will constitute evidence that they are not epistemic modals. However, as Faller herself notes, applying the embedding tests turns out to be very problematic. Firstly, the data are disputed for epistemic modals. For example, Papafragou (2000) claims that epistemic modals are not embeddable, but Faller (2002:213-214, 217) gives data suggesting that they are. More importantly, Faller observes that the test is only valid in one direction: elements which *can* embed clearly contribute to the proposition expressed. However, it is not a valid conclusion to claim that if an element can*not* embed, it necessarily does not contribute to the proposition expressed. Faller notes that the latter question is still unsolved, since 'the elements that cannot be embedded are precisely those for which the discussion regarding their contribution to the proposition expressed is still ongoing, namely epistemic modals, sentential adverbs, and performative verbs (in the speech act performativity sense)' (2002:219). In fact, Faller herself argues that the Quechua

Conjectural evidential *is* an epistemic modal but yet can*not* be embedded under *if*. This suggests that there are elements which contribute to the proposition expressed but which for some independent reason cannot be embedded in certain circumstances. In conclusion, Faller claims that 'the results of the [embedding] test regarding an element's contribution to the truth conditions of the sentence are at best inconclusive' (2002:219).

Having said all this, we will nevertheless present the data concerning the embedding possibilities of the St'át'imcets evidentials. We will see again that the data do not support an illocutionary operator analysis.

The reportative *ku7* can be embedded under verbs of saying, and has two readings: it may be 'harmonic', in which case it merely reinforces the matrix verb of saying, or it may be semantically embedded (in which case it was the embedded subject who in turn heard about the proposition from someone else). Examples of each are given in (88) and (89) respectively. Note that the issue here is not one of relative scope between the evidential and the attitude verb. The contrast here is between an essentially meaningless (or reinforcing) use of the modal, as opposed to a true embedded reading. It is the latter reading which provides evidence against an illocutionary operator analysis.

(88) *harmonic reportatives:*

a. Context: Lémya7 saw Mary at the bank and Mary was obviously pregnant. Later, Lémya7 told you that Mary was pregnant. You yourself haven't seen Mary yet. Then you tell me:

tsut kw s-Lémya7 kw sqwemémn'ek *ku7* s-Mary
say DET NOM-L. DET pregnant *REPORT* NOM-Mary
'Lémya7 said that Mary is pregnant.'
[speaker was told by Lémya7; Lémya7 witnessed it; *ku7* merely reinforces the matrix verb of Lémya7's saying]

b. wa7 tu7 tsun-tumúl-itas kw s-wá7 *ku7*
IMPF then say(DIR)-1PL.OBJ-3PL.ERG DET NOM-be *REPORT*
cw7it láti7 i ámh-a melk
many DEIC DET.PL good-DET milk
'They told us that there was lots of good milk there.'
[We were told by them; they witnessed it; *ku7* merely reinforces matrix verb of telling] (Matthewson 2005:204)

c. tsut kw s-ats'x-en-ás *ku7* ku wa7 'sasquatch'
say DET NOM-see-DIR-3ERG *REPORT* DET IMPF sasquatch
'He said he saw a sasquatch.'
[speaker was told by him; he witnessed it; *ku7* merely reinforces matrix verb of saying] (adapted from Matthewson 2005:416)

(89) *embedded reportatives:*

a. tsut kw s-Lémya7 kw s-melyíh *ku7* ta
say DET NOM-L. DET NOM-marry *REPORT* DET
í7mats-s-a s-Rose
grandchild-3POSS-DET NOM-Rose
'Lémya7 said that [she was told that] Rose's grandchild got married.'
[Lémya7 was told; Lémya7 did not witness it; *ku7* relates to the report given to Lémya7]

Consultant's comment: "Lémya7 was saying that and she wasn't there either."

b. tsut s-Lémya7 kw sqwemémn'ek *ku7* s-Mary, t'u7
say NOM-L. DET pregnant *REPORT* NOM-M. but
plán-lhkan ti7 zwát-en – áts'x-en-lhkan
already-1SG.SUBJ DEM know-DIR see-DIR-1SG.SUBJ
s-Mary áta7 tecwp-álhcw-a inátcwas
NOM-M. DEIC buy-place-DET yesterday
'Lémya7 said that [she was told that] Mary is pregnant, but I already knew that; I had seen Mary at the store.'
[Lémya7 was told; Lémya7 did not witness it; *ku7* relates to the report given to Lémya7]

St'át'imcets *ku7* contrasts in its behaviour with the Quechua reportative *–si,* which cannot scope under a verb of saying, as shown in (90). (90ii) corresponds to the 'harmonic' reading, and (90iii) to the embedded reading.

(90) Marya ni-wa-rqa-n Pilar-*(*si)* chayamu-sqa-n-ta-*s*
Mary say-1O-PAST1-3 Pilar arrive-PP-3-ACC-*si*
'Marya told me that Pilar arrived.'

(i) speaker was told by someone else that Marya told the speaker that Pilar arrived
(ii) speaker was told by Marya that Pilar arrived
(iii) ≠ Marya was told that Pilar arrived (Faller 2002:222)

The St'át'imcets inferential *k'a,* like *ku7,* also has not only harmonic but crucially also embedded readings, as shown in (91) and (92).

(91) *harmonic inferentials:*

Context: Your small nephew comes running up to you and tells you that his sister punched him in the face. He has a red mark on his face, and you notice that the sister is looking guilty. You tell the kids' mother what happened and she says she doesn't believe it, because her daughter never punches people. You say:

wenácw-nun'-lhkan kw s-tup-un'-ás *k'a* ta
true-TR-1SG.SUBJ DET NOM-punch-DIR-3ERG *INFER* DET
n-sqwsés7-a, ka-kíi̲lus-a ta smém'lhats-a
1SG.POSS-nephew-DET OOC-embarrassed-OOC DET girl-DET
'I believe she must have hit my nephew, the girl looks guilty.'
[*k'a* relates to speaker's belief; speaker has inferential evidence]

(92) *embedded inferentials:*

Context: Lémya7 was babysitting your nephew and niece and she noticed at one point that the boy had a red mark on his face and his sister was looking guilty. She tells you when you get home what she noticed. Then you tell the mother of the kids:

tsut s-Lémya7 kw s-tup-un'-ás *k'a* s-Maria ta
say NOM-L. DET NOM-punch-DIR-3ERG INFER NOM-M. DET
sésq'wez'-s-a
younger.sibling-3POSS-DET
'Lémya7 said that Maria must have hit her younger brother.'
[*k'a* relates to Lémya7's belief; Lémya7 has evidence]

Finally, the same is true of *an',* as shown in (93-94).

(93) *harmonic inferentials:*

Context: Same as for (91).

wenácw-nun'-lhkan kw s-tup-un'-ás-*an'* ti
true-TR-1SG.SUBJ DET NOM-punch-DIR-3ERG-*PERC.EVID* DET
n-sqwsés7-a, ka-kíi̲lus-a ti smém'lhats-a
1SG.POSS-nephew-DET OOC-embarrassed-OOC DET girl-DET
'I believe she must have hit my nephew, the girl looks guilty.'
[*an'* relates to speaker's belief; speaker has inferential evidence]

(94) *embedded inferentials:*

Context: Same as for (92).

tsut k-Lémya7 kw s-tup-un'-ás-*an'* s-Maria
say DET-L. DET NOM-punch-DIR-3ERG-PERC.EVID NOM-M.
ti sésq'wez'-s-a
DET younger.sibling-3POSS-DET
'Lémya7 said that Maria must have hit her younger brother.'
[*an'* relates to Lémya7's belief; Lémya7 has evidence]

The data presented in this section provide good evidence against an illocutionary operator analysis of the St'át'imcets evidentials.

Let us summarize the results of the three tests to determine whether the St'át'imcets evidential clitics are illocutionary operators. Recall that for the last of Faller's tests, data collection is still ongoing at the time of writing.

(95)

test	illocutionary operators	St'át'imcets evidentials
take scope over negation?	ALWAYS	SOMETIMES
are challengeable?	NO	YES
are embeddable?	NO	YES

We see that the St'át'imcets evidentials do not display any evidence of being illocutionary operators, but rather pattern as expected if they are epistemic modals. We will finish this section by providing two further arguments in support of our claim that the St'át'imcets evidentials are modals.

4.2 Speaker conveys that p is possibly true

In section 3.3.3 above, we showed that the St'át'imcets evidentials are infelicitous in contexts where the speaker does not believe that the embedded proposition is at least possibly true. We pointed out that this fully accords with the modal analysis of the evidential clitics. One of the relevant examples is repeated in (96).

(96) * wá7-as-*an'* kwis,t'u7 aoz t'u7 k-wa-s kwis
IMPF-3CONJ-*PERC.EVID* rain but NEG just DET-IMPF-3POSS rain
'It's apparently raining, but it's not raining.'

Consultant's comment: "It's contradictory."

The purpose of this sub-section is to show that the St'át'imcets evidentials contrast in this respect with the Quechua illocutionary operator evidentials. The latter *do* allow the speaker to know that the embedded proposition is false. This is illustrated in (97-98).[21]

(97) para-sha-n-*si,* ichaqa mana crei-ni-chu
rain-PROG-3-*si* but not believe-1-NEG
p = 'It is raining, but I don't believe it.'
EV = speaker is/was told that it is raining (Faller 2002:194)

[21] In this respect, the Quechua reportative patterns like an overt verb of saying. In both English and St'át'imcets, it is fine to say 'They *said* it is raining, but I don't believe it.' Recall that the modal analysis clearly differentiates a St'át'imcets reportative from a verb of saying. A verb of saying asserts that a certain report was made, and makes no claim about the truth or falsity of that report. A St'át'imcets reportative *presupposes* that a report was made, and asserts that the report was (at least) possibly true.

(98) Pay-kuna-***s*** ñoqa-man-qa qulqi-ta muntu-ntin-pi saqiy-wa-n,
(s)-he-PL-*si* I-ILLA-TOP money-ACC lot-INCL-LOC leave-1O-3
mana-má riki riku-sqa-yui ni un sol-ta centavo-ta-pis
not-SURP right see-PP-2 not one sol-ACC cent-ACC-ADD
saqi-sha-wa-n-chu
leave-PROG-1O-3-NEG
'They left me a lot of money, but, as you have seen, they didn't leave me one *sol,* not one cent.'
EV = It is said/They said that they left me a lot of money.'
(Faller 2002:191)

4.3 No evidential paradigm

An interesting feature of St'át'imcets is that in spite of the clearly evidential meanings of *ku7, k'a* and *an',* there is evidence that the clitics do not form part of an 'evidential system'. This further supports our claim that the clitics are simply epistemic modals.

The evidence that the St'át'imcets clitics do not form part of an evidential system is that there appears to be no *direct* evidential in the language – not even a null one. Some clarification is in order here. It is sometimes asserted about Salish languages that sentences without any markers of evidentiality involve direct speaker witness. For example, Davis and Saunders (1975:15) state that 'any declarative utterance in Bella Coola implies that the speaker has witnessed what he reports'; a 'declarative utterance' is one which does not contain any of a set of speaker-knowledge particles. Similarly, Matthewson (1998:160) argues for St'át'imcets that 'a declarative sentence without any speaker-knowledge particles unambiguously implies that the speaker has personal knowledge of the events or states reported on.' Matthewson cites the following data:

(99) a. zac-al'qwem' k John
long-appear DET John
'John is tall.'
(Speaker has seen John, and knows first-hand that John is tall.)

b. túp-un'-as s-John ti plísmen-a
punch-DIR-3ERG NOM-John DET policeman-DET
'John hit a policeman.'
(Speaker witnessed the event.) (Matthewson 1998:160)

Matthewson concludes that 'the non-ambiguity of a sentence which contains no particles suggests that in such sentences there is a null particle with a default interpretation of 'speaker witness'.'

However, subsequent investigation has revealed that the preference for clitic-less sentences to involve speaker witness is only an implicature. The implicature of speaker witness will naturally arise due to the presence in the language of overt clitics which encode such notions as reportative, or indirect inferential evidentiality. If the speaker chooses not to use these grammaticalized

means of indicating that their evidence for the assertion was indirect, then the hearer infers that the evidence was obtained via direct speaker witness.

The evidence that the speaker witness effect is only an implicature is as follows. In languages with a real direct evidential, contradictions obtain when one combines the direct evidential with a claim that the evidence was *not* obtained directly. For example, Pancheva (2005) shows that in Bulgarian, the direct evidential is incompatible with verbs of saying. Thus, one cannot say 'Ivan said that he drank the wine yesterday' using a direct evidential. Pancheva notes that the status of such sentences improves if 'said' is interpreted as 'acknowledged' – that is, in a context where the speaker *did* see Ivan drink the wine, and the sentence reports that Ivan later acknowledged having done so.

Similarly, in Korean, the indirect evidential *–ess* contrasts strictly with direct evidential cases. Chung (2005, in press) shows that in the absence of any other tense or aspect forms, the suffixes *-ney* or *-te* result in a direct evidential meaning, whereby the speaker witnessed the event. This is illustrated in (100).

(100) a. mina-ka chayk-ul ilk-*ney*
Mina-NOM book-ACC read-*S.PRES*
'[I see] Mina is reading a book.'

b. mina-ka chayk-ul ilk-*te*-la
Mina-NOM book-ACC read-*S.PAST*-DEC
'[I saw] Mina was reading a book.' (Chung in press:3-4)

Although Chung shows that the suffix *–te,* for example, does not *always* indicate speaker witness (that is, the system is more complicated than this over-brief introduction implies), there are in at least some cases strong effects, such that the sentence is unacceptable if it is impossible for the speaker to have witnessed the event. This is illustrated in (101).

(101) * ku tansi shakespeare-ka ce cip-ey sal-*te*-la
that time Shakespeake-NOM that house-LOC live-*TE*-DECL
'[I saw] Shakespeare was living in that house at that time.'
(Chung 2005:120)

Neither of these test constructions give rise to the same result in St'át'imcets; evidential-less clauses are entirely acceptable in the complement of a verb of saying, as shown in (102-103), and the absence of speaker witness does not cause a declarative sentence be judged as ungrammatical. (103) shows that even folklore can be expressed without any overt evidential.

(102) wa7 tsút-wit k-wa-s peq
IMPF say-3PL DET-IMPF-3POSS white
'They said it was white.' (Matthewson 2005:227)

Context: The speaker is talking about a car that hit her son's car. She did not personally witness the white car.

(103) wa7 tsut ti sqwéqwel'-a kw s-kakza7-mín-as
IMPF say DET story-DET DET NOM-lie-RED-3ERG
ta sqátsza7-s-a ti twéw'w'et-a
DET father-3POSS-DET DET boy-DET
'The story says that this boy lied about his father.'
(Matthewson 2005:106)

(104) is directly parallel to the Bulgarian example 'Ivan said that he drank the wine'. In Bulgarian, this is bad with a direct evidential in the embedded clause. (105) is directly parallel to the Korean example from Chung above concerning Shakespeare. The speaker of (105) cannot have witnessed Shakespeare living in the house, yet the plain form is fine.

(104) tsut k Dale kw s-ts'áqw-an'-as i
say DET Dale DET NOM-eat-DIR-3ERG when.PAST
ts'wán-a i-nátcw-as
wind-dried salmon when.PAST-day-3CONJ
'Dale said he ate the ts'wan yesterday.'

(105) wa7 tu7 wá7 l-ta tsítcw-a láti7 kw Shakespeare
IMPF then be in-DET house-DET DEIC DET Shakespeare
'Shakespeare lived in that house.'

The absence of a direct evidential in St'át'imcets is compatible with our claim that the three evidential clitics are epistemic modals, rather than part of an 'evidential paradigm' which must also encode direct evidentiality. [22]

5 Conclusions and consequences

In this paper we have argued that the St'át'imcets clitics with evidential meanings *(k'a, an', ku7)* are epistemic modals with a presupposition restricting the source of the evidence. They are similar to Izvorski's (1997) perfect of evidentiality in Bulgarian, and differ fundamentally from the Quechua speech-act evidentials (Faller 2002).

One theoretical consequence of the analysis presented here is that there can be no unified category of evidentials. This supports the growing evidence in the literature that (a) evidential elements vary cross-linguistically in their semantics, and (b) within a single language, evidential notions are not restricted to a single syntactic position (see for example Blain and Déchaine to appear). With respect to the latter point, we have shown that elements which fulfill 'evidential' functions may be simply epistemic modals. It is well known that epistemic modality may be part of the semantics of elements of any syntactic category / position (auxiliaries, adverbs, adjectives, lexical verbs, nouns, and so

[22] Note, however, that while Quechua does possess a direct evidential *(–mi),* in line with what we are suggesting here, Quechua also allows sentences without any evidential. A sentence without any evidential implicates a direct evidential meaning (as opposed to a sentence containing *–mi,* which encodes the direct evidentiality in the sincerity condition).

on). We therefore would strongly resist the attempt to place evidentials in some fixed location such as 'EvidP'.

Another consequence of our analysis concerns the correct analysis of 'plain' epistemic modals in languages like English. Recall that Izvorski contrasts the perfect of evidentiality with a plain epistemic modal like *must* in the following way: only the former carries a presupposition that there is available indirect evidence. Izvorski observes that typical analyses of epistemic modals involve accessibility relations determined on the basis of 'what the available evidence is'; there is no restriction on what *kind* of evidence is allowed. This is illustrated in (106). In (106b), the adverb *apparently* is infelicitous because it carries a presupposition that there is some available observable evidence of John's having drunk all the wine. The same infelicity arises with the Bulgarian evidential, and with St'át'imcets *an',* as shown above. In (106a) with *must,* on the other hand, there is no restriction on the type of evidence. We showed above in (11a) that St'át'imcets *k'a*, like English *must*, is felicitous in this kind of context.

(106) Knowing how much John likes wine …
a. … he *must* have drunk all the wine yesterday.
b. # … he *apparently* drank all the wine yesterday.

According to this contrast, then, St'át'imcets *k'a* (the indirect inferring evidential) patterns with English *must,* while *an'* (the indirect inferring evidential of result) patterns with the Bulgarian PE. The question might then arise of whether we were correct to analyse *k'a* as carrying an evidential presupposition at all. If it behaves like English *must,* is it a plain epistemic modal instead?

Our answer is the reverse: even 'plain' epistemic modals like *must* carry a requirement that the evidence for the embedded proposition must be indirect. Sentences containing *must* may not rely on *direct* evidence for the embedded proposition. Thus, (107) is bad:

(107) Context: You saw John eat your *ts'wan.*

John must have eaten the ts'wan.

This fact was noted by von Fintel (2005); his example is given in (108).

(108) a. [seeing wet umbrellas] It must be raining.
b. [seeing the pouring rain] # It must be raining.

Von Fintel claims that epistemic readings of modal expressions 'typically signal the presence of an indirect inference'; this is clearly supported by the data in (107) and (108). This in turn means that not only are so-called evidentials really epistemic modals in many languages, but also epistemic modals in at least some languages are really evidentials.

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