Proceedings of SALT 31: 629–646, 2021

Modal versus deictic evidentials in ʔayʔaǰuθəm (Comox-Sliammon)*

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Abstract In this paper, we present novel data from ʔayʔaǰuθəm (a.k.a. Comox-Sliammon; an understudied Salish language) that challenge both the claim that all evidentials are epistemic modals (Matthewson 2012) and the claim that evidentials and modals are distinct, non-overlapping categories (e.g. Aikhenvald 2004; Speas 2010). We take the defining difference between modal and nonmodal evidentials to be that modal evidentials contribute an at-issue claim involving quantification over possible worlds/situations, whereas nonmodal evidentials do not; both types of evidentials contribute information about the speaker's source of evidence for the proposition. We argue that ʔayʔaǰuθəm has two types of evidentials: one set are epistemic modals, while the other set are nonmodal deictic particles. Though we argue against the claims that evidentials are uniformly modal or nonmodal, we propose that both types of evidentials encode relations between situations (following Speas 2010).

Keywords: evidentials, epistemic modals, semantic typology, Salish, Comox-Sliammon

1 Introduction

Both evidentiality and epistemic modality are concerned with the information available to the speaker, but the relationship between these categories is debated. Aikhenvald (2004) and Speas (2010) argue that evidentiality and epistemic modality are non-overlapping categories, despite their similarities. In their view, evidentials do not directly contribute information about speaker certainty, but only about the speaker's source of evidence for the prejacent proposition; implicatures

* We are deeply grateful to our consultants, who have shared their language with us so patiently and with such good humour, especially: Elsie Paul, Betty Wilson, the late Marion Harry, Freddie Louie. Without their brave determination to keep their language alive, this work would not be possible. čačahatanapišt! We also thank Lisa Matthewson, Henry Davis, and the TAP lab at UBC for helpful feedback, as well as the audience at SALT 31 for their questions and discussion, especially Vesela Simeonova, Sophia Malamud, Lingzi Zhuang, Aynat Rubinstein, and Maria Biezma. Finally, we are grateful for financial support through a SSHRC Insight grant (#435-2015-1694) to Henry Davis and the Jacobs Research Funds. All errors are our own.

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about speaker certainty may arise indirectly through pragmatics. For them, epistemic modals do encode speaker certainty (whether the speaker considers the prejacent a possibility or necessity, i.e. quantification over possible worlds), but do not serve as dedicated morphemes contributing information about the speaker's source of evidence. In contrast, von Fintel & Gillies (2010) argue that all epistemic modals are evidential. They point to the fact that even canonical English epistemic modals like *must* presuppose that the speaker does not have direct evidence for the prejacent – an evidential presupposition. Matthewson (2012) takes the next logical step and argues for the stronger counterpart of this hypothesis: all evidentials are epistemic modals, just as all epistemic modals are evidentials. More specifically, all evidentials involve quantification over possible worlds, though their strength may not be fixed (e.g. Matthewson, Rullmann & Davis 2007; Rullmann, Matthewson & Davis 2008), while all epistemic modals contribute information about evidence source (as in von Fintel & Gillies 2010), though they may not specify the exact type of evidence involved (e.g., reportative, visual, auditory). Rather than two separate categories, then, there is just one category encompassing both morphemes analyzed as epistemic modals and those analyzed as evidentials. Within the category, there is variation with regards to the encoding of modal strength and specification of evidence source.

In this paper, we argue based on evidence from ʔayʔaǰuθəm that both modal and non-modal evidentials exist, in this case in the same language; see also Peterson 2010 for Gitksan.[1] We examine four evidentials in the language: an inferential, a reportative, and two direct evidentials that also convey temporal deixis. We show that the two indirect evidentials (the inferential and reportative) contrast with the two direct evidentials in a series of tests for at-issueness and modality. On the basis of these tests, we argue that the indirect evidentials are modals (see also Huijsmans in press), while the direct evidentials are nonmodal.[2] We conclude that the typology of evidentials includes both modal and nonmodal evidentials.

The remainder of this paper is structured as follows. Section 2 provides background on ʔayʔaǰuθəm. Section 3 provides background on the four evidentials, laying groundwork for Sections 4–6 which discuss the behaviour of these evidentials with regards to tests for at-issueness and modality. Section 4 examines whether the evidentials semantically embed, Section 5 discusses the effect of these evidentials on the entailments of the prejacent, while Section 6 examines whether these

1 Simeonova (2020) reaches a similar conclusion, noting that inferentials seem to be always modal, while arguing that other evidentials are nonmodal. We differ in arguing that the reportative is also modal in ʔayʔaǰuθəm.

2 Faller (2011) and Matthewson (2020) argue that direct evidentials can be modal. We do not intend to claim that all direct evidentials are necessarily nonmodal, but specifically that the ʔayʔaǰuθəm direct evidentials are nonmodal.

evidentials involve quantification over possible worlds. Finally, Section 7 proposes a formal analysis of the evidentials, followed by Section 8 which concludes.

2 Language background

ʔayʔaǰuθəm (a.k.a. Comox-Sliammon, ISO 639-3: coo) is a Central Salish language with ∼47 first language speakers (First Peoples Cultural Council 2018), all over 50 years of age. The language is traditionally spoken by the Tla'amin, Homalco, Klahoose, and K'ómoks First Nations whose traditional territory lies along the northern Georgia Strait in British Columbia, Canada. Though the language situation is dire, there is a group of second language learners determined to carry the language forward to future generations. Data in this paper come from original fieldwork with four fluent elders, three from the Tla'amin Nation and one from the Homalco Nation.

3 ʔayʔaǰuθəm evidentials

3.1 Clausal demonstratives: direct evidence

The clausal demonstratives *ti* and *ta* encode whether the speaker has current direct evidence (CDE) for the event described by the proposition. Usually this means that the speaker has visual direct evidence for the truth of the prejacent at the time of speaking, as in (1).[3]

(1) *Felicitous in context 1: I am looking out the window, see that it's snowing, and say...*
Infelicitous in context 2: I see it snowing, then come inside where I cannot see the snow anymore, and say...

ti	x̓aʔayin	ʔax^{w}.
CDE	start	snow

'It has started to snow.' (Huijsmans & Reisinger in press)

3 The abbreviations used in this paper are: APL = applicative, CAUS = causative, CDE = current direct evidence, CLDEM = clausal demonstrative, CONJ = conjunction, CTR = control transitive, DEM = demonstrative, DET = determiner, DIST = distal, DPRT = discourse particle, EPEN = epenthetic, ERG = ergative, EXCL = exclusive, FUT = future, INFER = inferential, MD = middle, NCTR = non-control transitive, NEG = negative, NMLZ = nominalizer, OBJ = object, OBL = oblique, PASS = passive, PL = plural, POSS = possessive, PRF = perfect, PROG = progressive, PROX = proximal, PST = past, REFL = reflexive, RPT = reportative, SB = subordinate, SBJ = subject, SBJV = subjunctive, SG = singular, STAT = stative.

The clausal demonstratives also provide temporal deictic information. This is illustrated in (2) where *ti* is acceptable for an event that immediately precedes the utterance time, while *ta* is acceptable when there is a lapse of time between the event described by the prejacent and the utterance time.

(2) a. Temporally proximal
Context: The traffic light just changed color, but the driver hasn't noticed. The passenger says:

θu=ga! {**ti** / **#ta**} ʔaǰ-əm.
go=DPRT {CDE.PROX / CDE.DIST} change-MD
'Go! It changed.' (Huijsmans & Reisinger in press)

b. Temporally distal
Context: In the afternoon, you present a basket you made this morning to someone.

č={**ta** / **#ti**} huǰ-əx^{w}-an
1SG.SBJ={CDE.DIST / CDE.PROX} finish-NCTR-1SG.ERG
t^{θ}=pəču skʷəjuł.
1SG.POSS=basket morning
'I finished my basket this morning.' (Huijsmans & Reisinger in press)

These two clausal demonstratives belong in a paradigm with two additional particles *k^{w}i* and *k^{w}a* which do not encode evidentiality, but encode parallel temporal deictic contrasts. The whole paradigm resembles the 'regular' demonstratives in the language which also encode CDE vs. evidence neutrality via an initial *t* vs. *k^{w}*, respectively, while using *i* for proximal and *a* for distal deictic relationships (see Reisinger & Huijsmans 2021).[4] Both the evidential and deictic components of the regular demonstratives are speaker-oriented, and the clausal demonstratives are speaker/utterance-time oriented as well. This is illustrated for the evidential component in (3), where the addressee need not see that it is snowing in order for the speaker to use a clausal demonstrative encoding CDE.

(3) *Context: Gloria is facing the window and can see the snow, but Marianne is facing the other way and can't see the snow. Gloria says to Marianne:*

ti x̓aʔayin ʔax^{w}.
CDE.PROX.CLDEM start snow
'It's starting to snow.' (Huijsmans & Reisinger 2018)

4 The determiners also encode CDE with an initial *t* and evidence neutrality with an initial *k^{w}*, but do not encode distinctions of deictic distance (see Huijsmans, Reisinger & Matthewson 2020 and Reisinger, Huijsmans & Matthewson in press).

We will show that the evidential contribution remains speaker-oriented in embedded contexts as well (Section 4).

3.2 Reportative and inferential clitics

The reportative *k̓ʷa* and inferential *č̓a* encode that the speaker bases the prejacent on indirect evidence. In (4a), the inferential is used to mark an inference from the sound of rain to the claim that it is raining, while in (4b) the reportative indicates that the claim is based on report from a third party.

(4) a. *Context: I hear rain on the roof.*
č̓ə∼č̓ɬ=**č̓a**.
PROG∼rain=INFER
'It must be raining.'

b. *Context: I heard a rumour that Roger has a girlfriend.*
niʔ=**k̓ʷa** kʷ=watla-s Roger.
be.there=RPT DET=sweetheart-3POSS Roger
'I heard Roger has a girlfriend.'

Neither *č̓a* nor *k̓ʷa* can be used in matrix clauses when the speaker has direct evidence that the prejacent is true. This is illustrated in (5a–b).

(5) a. *Context: I hear rain on the roof, so I think it's raining, and then I walk outside and I see rain.*
#č̓ə∼č̓ɬ=**č̓a**.
PROG∼rain=INFER
Intended: 'It must be raining.'
Consultant's comment: "No, cause you see it."

b. *Context: I heard that Roger has a girlfriend, but I also have firsthand evidence because I've seen them together.*
#niʔ=**k̓ʷa** šə=watla-s Roger.
be.there=RPT DET=sweetheart-3POSS Roger
Intended: 'I heard Roger has a girlfriend.'
Consultant's comment: "*niʔ=k̓ʷa*... you only heard it, you didn't see it."
(Huijsmans in press)

These two morphemes, like the two direct evidentials, are paradigmatic alternatives. They occupy the same 'slot' within the second-position clitic string, which

realizes a series of functional heads in the upper part of the clause (Davis & Huijsmans in press), and cannot co-occur (Huijsmans in press). This is shown in (6)–(7).[5]

(6) a. ho **k̓ʷa** səm.
hu=**k̓ʷa**=səm
go=RPT=FUT
'They say he'll go.'

b. ho **c̓ɛ** səm.
hu=**c̓a**=səm
go=INFER=FUT
'I guess he'll go.'
(Huijsmans in press)

(7) a. *ho **c̓ɛ** **k̓ʷa** səm.
hu=**c̓a**=**k̓ʷa**=səm
ho=INFER=RPT=FUT

b. *ho **k̓ʷa** **c̓ɛ** səm.
*hu=**k̓ʷa**=**c̓a**=səm
ho=RPT=INFER=FUT
(Huijsmans in press)

4 Embedding

Since modals contribute an at-issue claim, they can be semantically embedded in a variety of environments. If the ʔayʔaǰuθəm evidentials are modal, then, we expect to find them semantically embedded. Not-at-issue content, in contrast, cannot be embedded semantically. In this section, we show that the direct evidentials – the clausal demonstratives – cannot be semantically embedded, while the indirect evidentials – the inferential and reportative – can.

4.1 The direct evidentials

The direct evidentials *ti* and *ta* do not semantically embed. Here we examine two embedding environments: under attitude predicates and within relative clauses.

In order for *ti* and *ta* to be used, even when syntactically embedded under an attitude predicate, the speaker must have direct evidence (DE) for the prejacent (8a). The direct evidentials are not felicitous where the matrix subject has direct evidence but the speaker does not, as shown in (8b).[6]

5 *c̓a* and *k̓ʷa* also sometimes occur pre-predicatively, procliticizing to the clausal demonstratives *kʷi* and *kʷa*. They do not co-occur with *ti* and *ta* due to the clash in evidentiality.

6 We set up the context for (8a) so that the speaker had both reportative and direct evidence for the fish being done. The report was necessary to set up the embedding under the verb of saying, but the speaker also has direct evidence because the fish is visible at the time of speech. In the context, Betty is an expert on preparing fish in this way, while the other two characters are newer to the process, so it is relevant both for Betty to announce that the fish is done, and for the speaker to share this with Daniel, the addressee, despite the fact that the fish is visible to all of them.

(8) a. *Context: I was talking to Betty next to fish that is barbecuing around the fire. She told me the fish (which we can both see) was done. Daniel came up. Betty is just getting busy with the fish again, so I filled Daniel in:*

ta∼taw-θiy-əm Betty [s=**ti** čəχ
PROG∼tell-1SG.OBJ-PASS Betty [NMLZ=CDE cook
tə=ms=ṫin].
DET=1PL.POSS=bbq'd.fish]
'Betty was telling me our barbecued fish is cooked.'
[Matrix subject has DE; speaker has DE.]

b. *Context: Betty told Daniel and me she'd have us over for cake when it was ready. Later, she phoned me to tell me:* ti čəχ tə kiks. *('The cake is cooked.'). I tell Daniel that Betty phoned:*

#taw-θ-əs [s=**ti** čəχ k^w=kiks].
tell-1SG.OBJ-3ERG [NMLZ=CLDEM cook DET=cake]
'She told me the cake is cooked.'
[Matrix subject has DE; speaker has indirect evidence.]

While the direct evidentials seem to be marginally possible in relative clauses when there is no evidence mismatch between the main clause and relative clause (9a),[7] they are rejected where there is a mismatch in the evidence for the matrix and embedded clause. In (9b), the speaker has reported evidence for the event described by the matrix clause and direct evidence for the event described by the relative clause, but use of the direct evidential in the embedded clause is infelicitous. This indicates that the direct evidentials cannot embed semantically in relative clauses.

(9) a. *Context: Some of our seeds have started to sprout. I tell Felipe:*

tayqnač-t=ga [tə=(**ti**) q^wəḷ χ̌uṁ] ʔə=tə=k̓^{w}ih-ít
move-CTR=DPRT [DET=CDE come enough] OBL=DET=increase-STAT
tih nəpamin.
big container
'Transfer the ones that are ready into the bigger container.'

7 We consider the embedding of *ti* and *ta* in relative clauses marginal because other cases we suggested parallel to (9a) were rejected, although (9a) itself was accepted on multiple occasions.

b. *Context: Felipe tells me he's planning to transfer our seeds that have already sprouted into a bigger container. Later my roommate and I are admiring the seedlings and I tell her:*

tayqnač-t-əm=k̓ʷa=səm Felipe [tə=(***ti**) qʷəl̓ x̌um̓]
move-CTR-PASS=RPT=FUT Felipe [DET=CDE come enough]
ʔə=tə=k̓ʷih-ít tih nəpamin.
OBL=DET=increase-STAT big container
'Felipe is going to transfer the ones that are ready into the bigger container.'

4.2 The indirect evidentials

Both *č̓a* and *k̓ʷa* can be found semantically embedded. Again, we examine embedding under attitude verbs and within relative clauses.[8]

The indirect evidentials *č̓a* and *k̓ʷa* can both be used in clauses embedded under attitude verbs when the speaker has direct evidence for the embedded prejacent, so long as the matrix subject has only indirect evidence (see also Huijsmans in press). In these cases, *č̓a* and *k̓ʷa* are unambiguously semantically embedded, encoding the matrix subject's source of information. In (10), for instance, the speaker has direct evidence of Daniel's whereabouts, while the matrix subject had only indirect evidence of Daniel's whereabouts.

(10) *Context: Daniel, Laura, and I are hiding at Gloria's house to surprise her for her birthday. She comes home and notices Daniel's shoes behind the door. Later, I say:*

hiya nup-nu-m Gloria [s=niš=s=**č̓a**
right.away realize-NCTR-PASS Gloria [NMLZ=be.here=3POSS=INFER
Daniel].
Daniel
'Gloria realized right away that Daniel must be here.'
[Speaker has DE; matrix subject does not have DE.]

Similarly, in (11)–(12), the speaker has direct evidence for the embedded proposition, while the matrix subject has only reported evidence. The reportative in the

8 They do not seem to embed under negation or in the antecedent of conditionals, as discussed in Huijsmans in press; we do not examine these cases here for reasons of space, but note that this restriction is shared by modals such as English *must* (Horn 1989: 259ff).

embedded proposition must reflect the matrix subject's source of evidence, rather than the speaker's, which means that it is semantically embedded.

(11) *Context: Gloria finds out that Roger has a girlfriend and she's excited to spread the news, so she tells me. I've already met his girlfriend though. Later I tell you about it.*

ta∼taw-θiy-əm Gloria s=**ḱ^{w}a**=k^{w}a
PROG∼tell-CTR.1SG.OBJ-PASS Gloria NMLZ=RPT=CLDEM

watla-ʔiyt Roger. təχ^{w}-n<i>x^{w}-uɬ=č=ʔut.
sweetheart-PRF Roger know-NCTR<STAT>-PST=1SG.SBJ=EXCL

qəmgus-əx^{w}-uɬ=č ʔiy taw-θ-as.
meet.up-NCTR-PST=1SG.SBJ CONJ tell-CTR.1SG.OBJ-3ERG

'Gloria told me (she heard) Roger got a girlfriend. I already knew. I met up with them and he told me.'
[Speaker has DE; matrix subject does not have DE.] (Huijsmans in press)

(12) *Context: I was at my friend Peter's wedding, so I know he's married. My other friend Anna also knows Peter but not too well, so she wasn't at the wedding. She heard about it later from a friend. As soon as she hears, she phones to tell me all excited to share the news, and I feel awkward to tell her I was there in case she's upset she wasn't invited. When I get off the phone, I tell you:*

q̓^{w}aq̓^{w}θus-θay-əm Anna [s=**ḱ^{w}a**=k^{w}a malya-h-iyt Peter].
tell-1SG.OBJ-PASS Anna NMLZ=RPT=CLDEM marry-EPEN-PRF Peter

x^{w}aʔ=č=ʔut taw-t=an tə=t^{θ}=niʔ-uɬ.
NEG=1SG.SBJ=EXCL tell-CTR=1SG.SBJV DET=1SG.POSS=be.there-PST

'Anna was telling me Peter got married. I didn't tell her I was there.'
[Speaker has DE; matrix subject does not have DE.]

Both *č̓a* and *ḱ^{w}a* can also semantically embed in relative clauses. In both (13a–b), the speaker has direct evidence for the matrix predicate, but not the embedded predicate, ensuring an embedded interpretation for the evidentials.

(13) a. *Context: I find part of an old letter without clearly identifiable names, but which sounds like something my grandmother would have written to my grandfather. I tell my brother:*

k̓ʷən-əxʷ=č šə=pipa nam-ʔəm-t-it-uɬ=**č̓a**
see-NCTR=1SG.SBJ DET=paper write-APL-CTR-PST-SB.PASS-PST=INFER
ʔə=šə=əms=čičiya-ʔoɬ šə=əms=kʷukʷpa-uɬ.
OBL=DET=1PL.POSS=grandmother-PST DET=1PL.POSS=grandpa-PST
'I found a letter my grandmother must have written to our grandfather.'

b. *Context: I find part of an old letter without clearly identifiable names. I take it to my mother who tells me it is from my grandmother to my grandfather. I tell my brother:*

k̓ʷən-əxʷ=č šə=pipa nam-ʔəm-t-it-uɬ=**k̓ʷa**
see-NCTR=1SG.SBJ DET=paper write-APL-CTR-PST-SB.PASS-PST=RPT
ʔə=šə=əms=čičiya-ʔuɬ šə=əms=kʷukʷpa-ʔuɬ
OBL=DEM=1PL.POSS=grandmother-PST DET=1PL.POSS=grandpa-PST
'I found a letter my grandmother wrote to our grandfather (I'm told).'

5 Effect on entailments

If the ʔayʔaǰuθəm evidentials behave as modals, we expect them to shift the entailments of the prejacent, along with the prejacent itself, into possible worlds. In contrast, if they contribute only not-at-issue information about evidence source, they should not have an effect on the entailments of the prejacent.[9]

When the prejacent is preceded by *ti* or *ta*, the entailments of the prejacent are unaffected and can be claimed without further inference if the prejacent is asserted to be true. In (14), given the context, the initial sentence entails the second. This allows the second to be asserted without an indirect evidential despite not being directly witnessed. The presence of the direct evidential in the initial sentence of (15) does not alter this pattern of entailment: the second sentence can still be asserted without an indirect evidential.

9 This test is adopted from Huijsmans (in press) and extended to the direct evidentials in this paper.

(14) *Context: Freddie had been away in New Westminster. This morning I saw him in his driveway. Then I say:*

ʔamut Freddie. kʷa qʷəl̓ χəpəy tawa kʷins pala.
be.home Freddie CLDEM come return from New Westminster
'Freddie is home. He has returned from New Westminster.'
(Huijsmans in press)

(15) *Context: Freddie had been away in New Westminster and I know he'd been away because I was taking care of his house. I thought he was supposed to be away until tomorrow, but when we're walking by, I saw him in his driveway and say to you:*

oh **ti** niš ʔamut Freddie. kʷa qʷəl̓ χəpi tawa
oh CDE be.here at.home Freddie CLDEM come return from
kʷins pala.
New Westminster
'Oh, Freddie is already home. He's come back from New Westminster.'

In contrast, if the first sentence contains *c̓a* or *k̓ʷa*, the second sentence is no longer entailed and must be inferred. This is illustrated in (16) and (17), where the inferential is obligatory in the second sentence when the inferential or reportative appears in the first.

(16) *Context: Freddie had been away in New Westminster. This morning I saw his car in the driveway. Then I say:*

ʔamut=**c̓a** Freddie. #(**c̓a**)=kʷa qʷəl̓ χəpəy tawa
be.home=INFER Freddie INFER=CLDEM come return from
kʷins pala.
New Westminster
'Freddie must be home. He #(must have) returned from New Westminster.'
(Huijsmans in press)

(17) *Context: Freddie has been away in New Westminster. This morning Gloria told me that he is home. Then I say:*

ʔamut=**k̓ʷa**	Freddie.	#(**c̓a**)=kʷa	qʷəl̓	χəpəy	tawa
be.home=RPT	Freddie	INFER=CLDEM	come	return	from

kʷins pala.
New Westminster

'Freddie must be home. He #(must have) returned from New Westminster.'
(Huijsmans in press)

This behaviour is expected if the inferential and reportative are modals: the prejacent is only claimed of possible worlds consistent with the speaker's evidence, so its entailments likewise only hold in these possible worlds. They cannot be asserted of the actual world without inference.

6 Modal claim

In this section, we examine whether the contribution of the ʔayʔaǰuθəm evidential shows evidence of quantification over possible worlds. We find that the direct evidentials do not exhibit the behaviour we might predict if they were modal evidentials. In contrast, the indirect evidentials do show evidence of encoding quantification over possible worlds, contributing a modal claim whose strength can be challenged.

If *ti* and *ta* were modal direct evidentials, we would expect the speaker's direct evidence to determine the propositions in the modal base B and the modal claim to be that the prejacent is true in all possible worlds in B (Cable 2008). We would therefore predict *ti* and *ta* to be compatible with a situation where the speaker's direct evidence entailed the prejacent, but the prejacent itself was not directly witnessed. This is not the case: the direct evidentials *ti* and *ta* are not compatible with such a situation, as shown in (18).

(18) *Context: There's a big tree in your backyard. Last night when you looked in your yard before you went to bed, it was still standing. Then there was a big windstorm in the night. This morning, when you look into your yard, you see that it has cracked and fallen over.*

{c̓a /	**#ti** /	**#ta**}	ǰaq̓	tə=ǰaʔǰa	snatuł.
{INFER /	CDE.PROX /	CDE.DIST}	fall	DET=tree	last.night

'The tree must have fallen last night.'

In contrast, with *č̓a* and *k̓ʷa*, the speaker's indirect evidence (and relevant knowledge) determines the propositions in the modal base, and the speaker makes a modal claim that the prejacent is true in all these worlds. This modal claim is challengeable, as shown in (19) and (20). Here, the prejacent itself is not challenged, but rather the speaker's certainty, as indicated by the use of *qʷayin* 'maybe' in the challenge.[10]

(19) *Context: A and B are driving past Freddie's house and see that Freddie's lights are on...*

A:. χʷəẇ-ít nikʷayu-s Freddie. ʔamut**=č̓a**.
get.lit-STAT light-3POSS Freddie be.home=INFER
'Freddie's lights are on. He must be home.'

B:. xʷaʔ gənəxʷ=as. qʷayin xʷaʔ ʔamut=as. payaʔ=ʔut
NEG true=3SBJV maybe NEG be.home=3SBJV always=EXCL
χʷaẇ-ít-sxʷ-as nikʷayu-s.
get.lit-STAT-CAUS-3ERG light-3POSS
'That's not true. He may not be home. He always leaves his lights on.'
(Huijsmans in press)

(20) *Context: A had a conversation with Daniel earlier. Now A is telling B what Daniel told her...*

A:. ta∼taw-θiy-əm Daniel niniǰa Freddie. qʷəl̓=**k̓ʷa**
PROG∼tell-CTR.1SG.OBJ-PASS Daniel about Freddie come=RPT
hiwt sǰasuɬ.
get.home yesterday
'Daniel was telling me about Freddie. He got home yesterday (he said).'

B:. xʷaʔ gənəxʷ=as. payaʔ gəχ∼gaχ-nu-mut Daniel. qʷayin
NEG true=3SBJV always PL∼dream-NCTR-REFL Daniel maybe
xʷaʔ ʔamut=as Freddie.
NEG be.home=3SBJV Freddie
'That's not true. Daniel's always fantasizing/making up stories. Freddie is probably not home.' (Huijsmans in press)

10 The context for (19) is adapted from Matthewson et al. 2007: 222.

	Embeddable	Effect on entailments	Modal claim
ti, *ta*	no	no	no
č̌a, *k̓ʷa*	yes	yes	yes

Table 1 Summary of tests for modality

7 Analysis

To summarize so far, the direct evidentials *ti* and *ta* do not behave as modals with respect to a series of tests: they are not semantically embeddable, they do not affect the entailments of the prejacent, and they are not compatible with the contexts where they might be expected if contributing a modal claim based on direct evidence. In contrast, the indirect evidentials *č̌a* and *k̓ʷa* behave as epistemic modals with respect to these same tests: they can be semantically embedded, they have an effect on the entailments of the prejacent, and they contribute a modal claim that is challengeable. The results of these tests are summarized in Table 1.

We therefore analyze *ti* and *ta* as nonmodal evidentials, but *č̌a* and *k̓ʷa* as epistemic modals. Following Huijsmans & Reisinger (in press), we propose that *ti* and *ta* contribute not-at-issue felicity conditions concerning the evidence for the proposition. We encode these felicity conditions through relations between situations (following Speas 2010; Kalsang, Garfield, Speas & de Villiers 2013), namely: the information situation s_I, the salient situation that serves as evidence; the evaluation situation s_E, the exemplification situation for the prejacent; the discourse situation s_D, the minimal situation of the speaker uttering the proposition. The denotation for *ti* in (21) requires that the s_I includes the s_E – the minimal situation of which the proposition is true – ensuring that the evidence is direct. It must also include the s_D, ensuring that the evidence is current. The denotation for *ta* would be the same except with respect to temporal deixis which we do not represent here.

(21) $[\![\, ti \,]\!]^{s_D,c} = \lambda p_{\langle st \rangle}.\lambda s_E.\lambda s_I.p(s_E);$
defined iff $s_E \in MIN(\lambda s.p(s))$ & $(s_E < s_I)$ & $(s_D < s_I)$

The indirect evidentials *č̌a* and *k̓ʷa* contribute an at-issue modal claim. We model this as quantification over possible situations accessible from the contextually determined s_I (following Kratzer 2019). The denotation for the inferential in (22) requires that p is true in all possible situations accessible from the information situation. The inferential is defined only if the s_I does not contain an exemplification situation for the prejacent s_E (ruling out use with direct evidence).

(22) $[\![\check{c}a]\!]^c = \lambda p_{\langle st \rangle}.\lambda s_I.\forall s[Acc_c(s)(s_I) \rightarrow p(s)]$;
defined iff $\neg\exists s_E.(s_E \leq s_I)\&(s_E \in MIN(\lambda s.p(s)))$

The denotation for $\acute{k}^w a$ is parallel but additionally requires that s_I is a situation of someone uttering p.

(23) $[\![\acute{k}^w a]\!]^c = \lambda p_{\langle st \rangle}.\lambda s_I.\forall s[Acc_c(s)(s_I) \rightarrow p(s)]$; defined iff
$\neg\exists s_E.(s_E \leq s_I)$ & $(s_E \in MIN(\lambda s.p(s)))$ & $s_I \in \{s : \exists x.say(x)(p)(s)\}$

These denotations capture the contrast in at-issueness between the two types of evidential. More needs to be said about how the indirect evidentials become oriented towards the matrix subject in embedded clauses. We do not have space to fully explore this here, but believe this can be handled under an account where embedded modal evidentials quantify over an information state provided by the embedding verb, following Yalcin (2007) and Anand & Hacquard (2013). An attitude verb like *nupəx*^{w} 'to realize' would roughly have the representation as in (24), where the embedded proposition is true in all situations accessible from the matrix subject's epistemic state.

(24) $[\![nupəx^w]\!] = \lambda p_{\langle s,t \rangle}.\lambda x.\forall s'[s' \in Acc(s,x) \rightarrow p(s')]$

Any evidential modal in the embedded proposition will then quantify over this set of situations. This is illustrated for *čʼa* in (25).

(25) $[\![nupəx^w]\!]([\![\check{c}a\ \phi]\!]) = \lambda x.\forall s'[s' \in Acc(s,x) \rightarrow [\forall s'' \in Acc(s'')(s') \rightarrow p(s'')]]$

The information situation for the direct evidentials must include the discourse situation s_D which cannot be shifted, preventing them from reflecting the matrix subject's source of information in embedded contexts.

8 Conclusion

The direct evidentials *ti* and *ta* encode both evidentiality and temporal deixis and are related in form and function to the nominal demonstratives in the language. They are nonmodal: they cannot semantically embed, they do not have an effect on the entailments of the prejacent, and they do not contribute a modal claim involving quantification over possible worlds. The inferential *čʼa* and reportative $\acute{k}^w a$ both contribute an at-issue modal claim as well as not-at-issue information about the source of evidence for the prejacent. They can be semantically embedded, they have an effect on the entailments of the prejacent, and they contribute an at-issue

claim involving quantification over possible situations. Based on these findings, we propose that the typology of evidentials must include both modal and nonmodal evidentials. We speculate that direct evidentials may be more likely to be nonmodal than indirect evidentials, especially where direct evidence is tied to speaker-oriented notions like deixis.

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