

Evidentials in the nominal domain: a Speasian analysis of ʔayʔajuθəm determiners¹

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Abstract. Based on novel fieldwork data, we propose a re-analysis of the determiner system of ʔayʔajuθəm (a.k.a. Comox-Sliammon; Central Salish; ISO 639-3: *coo*). Contrary to previous descriptions by Davis (1973), Harris (1981), Watanabe (2003), and Huijismans et al. (2018), we argue that determiners in ʔayʔajuθəm encode evidentiality (‘current direct evidence’ vs. ‘previous direct evidence’ vs. ‘evidence-neutral’). To account for this pattern, we argue that the determiners encode relations between situations, following work by Speas (2010) and Kalsang et al. (2013). This paper adds to the small but growing body of evidence that evidential notions can be expressed in the nominal domain (Hanks 2009; Gutiérrez & Matthewson 2012; Gutiérrez 2015; Rose 2017; Gambarage & Matthewson 2019). This in turn provides support for the existence of semantic atoms or ‘building blocks’ which recur in different parts of the syntactic structure (Hale 1986; von Fintel & Matthewson 2008).

Keywords: ʔayʔajuθəm, evidentiality, determiners, situation semantics, nominal domain

1. Introduction

In this paper, we examine the determiner system of ʔayʔajuθəm (a.k.a. Comox-Sliammon; ISO 639-3: *coo*), the northernmost of the Central Salish languages. Based on novel fieldwork data, we argue that the determiners in this language encode evidentiality. More specifically, the determiner paradigm distinguishes whether the speaker has current direct evidence for the existence of the referent or previous direct evidence for its existence; an evidence-neutral determiner completes the inventory.

We analyze the evidentiality encoded by these determiners as expressing relations between situations (following Speas 2010 and Kalsang et al. 2013). More specifically, we argue that the determiners encode relations between the utterance situation and the situation in which the speaker obtains evidence for the existence of a referent. The speaker has current direct evidence for the referent when the referent is present in the same situation in which the speaker is making the utterance. The speaker has previous direct evidence when the referent was present in a previous situation that the speaker witnessed but is no longer present at the time of utterance. The evidence-neutral determiner is used when the speaker has either indirect or no evidence for the existence of the referent.

¹ Our deep gratitude goes to our generous and patient consultants, especially Elsie Paul, Freddie Louie, Phyllis Dominic, Betty Wilson, and the late Marion Harry, who all contributed directly to this project. *čéčéhatanapešt!* We would also like to thank two anonymous SuB reviewers, the audience at SuB 25 (including in particular Margit Bowler, Vera Hohaus, Angelika Kratzer, Anne Mucha, Yasutada Sudo, Jenneke van der Wal), audiences at SULA 11, and ICSNL 55, as well as the Salish Working Group and the ʔayʔajuθəm Lab at UBC, for their helpful feedback and support. Research for this project was supported through a SSHRC Insight grant (435-2016-1694) awarded to Henry Davis, a Jacobs Research Funds individual grant held by Marianne Huijismans, and a Jacobs Research Funds group grant held by members of the ʔayʔajuθəm Lab. Contact info: daniel.reisinger@ubc.ca, marianne.huijismans@ubc.ca, lisa.matthewson@ubc.ca.

The paper is organized as follows. Section 2 provides background on the language and the determiner system. Section 3 argues that previous analyses of ʔayʔajuθəm determiners are not adequate to capture all uses of the determiners. Section 4 discusses the contribution of each of the determiners, while Section 5 provides our analysis. Section 6 outlines some further predictions of the analysis. Finally, Section 7 discusses the implications of the analysis and questions for future research.

2. Background on the language and the determiner system

ʔayʔajuθəm is traditionally spoken in the Tla’amin, Homalco, Klahoose, and K’ómoks First Nations, along the northern part of the Georgia Strait in British Columbia, Canada. According to the First Peoples’ Cultural Council (2018), there are circa 47 first language speakers. Community efforts are underway to document and transmit the language to future generations. Data come from primary fieldwork by the first two authors.

The determiner system of the language consists of five forms — *tə*, *šə*, *lə*, *l*, and *k^w* — which are syntactically present on all arguments, and absent on predicative nominals.² Initial examples are given in (1–3).³

- (1) *Context: Standing, looking at the blackberries.*

ti	č̣εχ	tə	č̣itux ^{wən} .		
ti	č̣əχ	tə=č̣ətəx ^{wən}			
CLD	get.ripe	CDE.DET =blackberry			
	‘The blackberries have gotten ripe.’				[CURRENT DIRECT EVIDENCE]

- (2) *Context: The cat is hiding because it doesn’t want a bath.*

hε	č̣ε	č̣ε	ʔəx ^w nεʔs	k ^w a:yét	ṣ̌ε memaw?
hił=č̣a	č̣a	ʔə=x ^w =niʔ=s		k ^w ay-ít	ṣ̌ə=mimaw
COP=INFER	where	OBL=OBL.NMLZ=be.there=3POSS	hide-STAT	PDE.DET =cat	
	‘Where do you think the cat is hiding?’				[PREVIOUS DIRECT EVIDENCE]

- (3) x^wuk^wt k^woms ʔax^wjumen.

x ^w uk ^w t	k ^w =əms=ʔax ^w jumin				
not.exist	DET =1PL.POSS=leftovers				
	‘We don’t have any leftovers.’				[EVIDENCE-NEUTRAL]

² While determiners are always syntactically present on arguments, they may be phonetically elided, as observed in previous literature (e.g., Kroeber 1991:91–92, 171–172; Watanabe 2003:379; Huijsmans et al. 2018:330). Determiners can always be re-inserted where phonetically elided and we therefore take a determiner to be always underlyingly present on arguments even when unpronounced.

³ The first line of each example is given in the orthography, the second line is a roughly phonemic representation showing morpheme breaks, the third line provides glosses, and the fourth line gives the translation. Infelicitous examples are marked with a hashtag (#), and marginal uses are marked with a superscripted question mark (?). Abbreviations follow the Leipzig Glossing Rules, with the following additions: ACT ‘active intransitivizer’, CDE ‘current direct evidence’, CLD ‘clausal demonstrative’, CTR ‘control transitivizer’, DEIC ‘deictic’, DIM ‘diminutive’, DPRT ‘discourse particle’, EXIS ‘assertion of existence’, INFER ‘inferential’, INT ‘intensifier’, NCTR ‘non-control transitive’, NTS ‘non-topical subject’, PDE ‘previous direct evidence’, RPT ‘reportative’, SENS.NON.VIS ‘sensory non-visual’ (sensory evidence which cannot include direct visual evidence), STAT ‘stative’. Affixes are marked by a hyphen ‘-’, clitics by an equal sign ‘=’, infixes by angle brackets ‘<>’, and fused morphemes that cannot be segmented by a ‘+’.

3. Previous discussions of ʔayʔajuθəm determiners

Not much has been written about determiners in ʔayʔajuθəm, apart from brief descriptions by Davis (1973), Harris (1981), Watanabe (2003), Huijsmans et al. (2018), and Davis (2020). Davis (1973:10) presents a paradigm in which the determiners distinguish ‘visibility’, ‘nonvisibility’, and ‘remoteness’, as well as minor vs. major ‘importance’.⁴

Table 1: The ʔayʔajuθəm determiner paradigm in Davis (1973)

	Visible	Nonvisible	Remote
Minor Importance	<i>l̥</i>	<i>l̥</i>	—
Major Importance	<i>tə</i>	<i>kʷ</i>	<i>ʃə</i>

For the Island dialect of the language, Harris (1981:92) describes *tə* as ‘present’, *kʷə* as ‘non-present’, and *ʃə* as ‘former’; he does not find the *l̥* determiner, though he reports it in material from Boas. Watanabe (2003:79) describes the ʔayʔajuθəm determiners as encoding distinctions of referentiality, with *tə* and *l̥* being referential, *kʷə* being ‘nonreferential’, and *ʃə* ‘remote’. However, he says the details of the system “still need to be worked out” (fn. 77).

Our consultants often characterize use of the determiners in terms of visibility, and Huijsmans et al. (2018), like Davis (1973), analyze the system along these lines, as in Table 2. Huijsmans et al. also note an additional distinction between *l̥* and *l̥*, which is not found in previous work.

Table 2: The ʔayʔajuθəm determiner paradigm in Huijsmans et al. (2018)

		Deictic		Nondeictic
		Visible	Nonvisible	
Feminine	SG	<i>l̥ə</i>	<i>l̥</i>	<i>kʷə</i>
	PL	<i>tə</i>	<i>ʃə</i>	<i>kʷə</i>
Non-Feminine	SG	<i>tə</i>	<i>ʃə</i>	<i>kʷə</i>
	PL	<i>tə</i>	<i>ʃə</i>	<i>kʷə</i>

However, none of these previous analyses are able to explain all the data. For instance, a visibility-based account runs into problems because the ‘visible’ determiner *tə* is sometimes used for referents that cannot be seen, as in (4a). Characterizing *ʃə* as ‘former’ or ‘remote’ does not capture uses of *ʃə* for referents that are present but non-visible (4b). Referentiality also does not adequately predict the distribution of the determiners, since referential DPs do not always allow *tə* and *l̥*; this is illustrated in (4c), where the DP refers to an individual in the actual world, but the *tə* determiner is infelicitous.

- (4) a. *Context: It’s a hot summer day.*
l̥ax-sxʷčən {*tə* / #*ʃə* / #*kʷ*} *kʷas*.
l̥əx-sxʷ=čən {*tə* / #*ʃə* / #*kʷ*}=*kʷas*
bad-CAUS=1SG.SBJ {*CDE.DET* / *PDE.DET* / *DET*}=*heat*
 ‘I don’t like this heat.’

⁴ These terms are not explicitly defined; this is generally the case for terms used in the descriptive literature.

While most studies discuss sentence-level elements that encode the speaker's evidence for a proposition, here we focus on evidential determiners that encode the speaker's evidence for the existence of a nominal referent. The ʔayʔajuθəm determiners also encode information about the time at which the speaker has evidence for the existence of the referent.

4.1 Direct evidence determiners

We define direct evidence for the existence of a referent as evidence that entails the existence of the referent without further inference (cf. Speas 2010). For instance, if I see bear footprints, I have direct evidence for the footprints; I do not need to infer that the footprints exist. I have indirect evidence for the existence of the bear itself, however, because I must infer that a bear made the footprints, from their size and shape.

We argue that both *tə* and *lə* mark that the speaker has direct evidence for the existence of the referent at the time of utterance (i.e., current direct evidence, CDE). This is shown in (7) and (8). In (7), the speaker is witnessing (seeing) the bear at the utterance time, and the only appropriate determiner is *tə*. In (8), the speaker again has visual direct evidence of the woman at the utterance time, and the preferred determiner is the feminine CDE determiner *lə*; the general CDE determiner *tə* is also marginally possible in this context.

(7) *Context: You look out the window and there's a bear in your yard.*

nε	{ tə / #šɛ / #k ^w }	mɛxal.	
niʔ	{ tə / #šə / #k ^w }	=mixel	
be.there	{ CDE.DET / PDE.DET / DET}	=black.bear	
	'There's a bear.'		[CURRENT DIRECT EVIDENCE]

(8) *Context: There's a woman on the beach and you see her now.*⁵

nε	{ lə / #l / [?] tə / #k ^w }	saltx ^w	ʔə tə ɔ̣ ^w et.
niʔ	{ lə / #l / [?] tə / #k ^w }	=saltx ^w	ʔə=tə=ɔ̣ ^w it
be.there	{ F.SG.CDE.DET / F.SG.PDE.DET / CDE.DET / DET}	=woman OBL=CDE.DET=beach	
	'There's a woman on the beach.'		[CURRENT DIRECT EVIDENCE]

The determiners *šə* and *l*, in contrast, indicate that the speaker had direct evidence for the existence of the referent in a previous situation, but no longer does at the time of utterance (i.e., previous direct evidence, PDE). This is shown in (9) and (10). Example (9), repeated from (4c), contrasts minimally with (7): this time, the speaker's visual evidence for the existence of the bear was prior to the utterance time, and *tə* is no longer acceptable. Instead, the PDE determiner *šə* is used. Example (10) involves a feminine referent who was witnessed prior to the utterance time, triggering the use of the feminine PDE determiner *l*; the general PDE determiner *šə* is also marginally possible.

⁵ There is some variability in whether *l* (the feminine PDE determiner) is judged infelicitous in examples like (8). We believe this is because the CDE determiner *lə* can reduce to *l* in connected speech, neutralizing the surface contrast between the two. Judgements are more consistent in the opposite direction: *lə* is always judged infelicitous when the speaker has PDE (cf. (10) below), since the surface contrast is never neutralized in this direction.

- (9) *Context: I'm at your house, telling you about a bear I encountered this morning.*
 neʔoɫ {#tə / šɛ / ?kʷ} mɛχaɫ ʔə šet^θ ʔasqič
 niʔ-uɫ {#tə / šə / ?kʷ}=mɪχaɫ ʔə=šə=ət^θ=ʔasqiyč
 be.there-PST {CDE.DET / PDE.DET / DET}=black.bear OBL=PDE.DET=1SG.POSS=outside
 skʷijɔɫ.
 skʷijɯɫ
 morning
 ‘There was a bear in my yard this morning.’ [PREVIOUS DIRECT EVIDENCE]

- (10) *Context: You saw a woman on the beach earlier (but not now).*
 neʔoɫ {#lə / ɫ / ?šɛ / #kʷ} saltxʷ
 niʔ-uɫ {#lə / ɫ / ?šə / #kʷ}=saltxʷ
 be.there-PST {F.SG.CDE.DET / F.SG.PDE.DET / PDE.DET / DET}=woman
 ʔə tə qʷɛt skʷijɔɫ.
 ʔə=tə=qʷit skʷijɯɫ
 OBL=CDE.DET=beach morning
 ‘There was a woman on the beach this morning.’ [PREVIOUS DIRECT EVIDENCE]

While speakers usually rely on visual evidence to confirm the existence of a referent, as in (7) and (10), some referents cannot be accessed visually and consequently are directly perceived through other senses. For example, internal organs or heat can only be perceived somatically (11–12), taste necessarily relies on gustatory evidence (13), smell relies on olfactory evidence (14), and sound relies on auditory evidence (15). In all these examples, the evidence is perceived at the time of speech, and so the CDE determiner *tə* is the acceptable choice.

- (11) *Context: Calling attention to a medical condition.*
 χəčθot {tət^θ / #šet^θ / kʷot^θ} λukʷenəs.⁶
 χəč-θut {tə=ət^θ / #šə=ət^θ / kʷ=ət^θ}=λəkʷinas
 get.sharp.pain-REFL {CDE.DET=1SG.POSS / PDE.DET=1SG.POSS / DET=1SG.POSS}=heart
 ‘I have a stabbing pain in my heart.’ [CURRENT DIRECT EVIDENCE: SOMATIC]

- (12) *Context: It's a hot summer day.*
 ɫəχsxʷčɛn {tə / #šɛ / #kʷ} kʷas.
 ɫəχ-sxʷ=čɛn {tə / #šə / #kʷ}=kʷas
 bad-CAUS=1SG.SBJ {CDE.DET / PDE.DET / DET}=heat
 ‘I don't like this heat.’ [CURRENT DIRECT EVIDENCE: SOMATIC]

- (13) *Context: I taste the cake and I don't like it.*
 ɫəχsxʷčɛn {tə / #šɛ / ?kʷ} taʔanəns.
 ɫəχ-sxʷ=čɛn {tə / #šə / ?kʷ}=taʔ-anən-s
 bad-CAUS=1SG.SBJ {CDE.DET / PDE.DET / DET}=taste-NMLZ-3POSS
 ‘I don't like the taste of it.’ [CURRENT DIRECT EVIDENCE: GUSTATORY]

⁶ As noted in Watanabe (2003:79), it is not clear whether the determiners should be posited to have an underlying vowel. We have found that *tə* and *šə* are usually (but not always) pronounced with a vowel, whereas *kʷ* is generally vowelless except when accompanied by a possessive proclitic; our underlying forms reflect this. For a more detailed explanation, see Huijsmans et al. (2020:171, fn. 7).

(14) *Context: Daniel brought in some cedar.*

həhew	ʔajəqəp	tə hoq ^w anəns	təxəmay.
hihiw	ʔaj-aqap	tə=həq ^w -anən-s	təxəmay
very	good-smell	CDE.DET =smell-NMLZ-3POSS	cedar

‘The smell of cedar is very good.’ [CURRENT DIRECT EVIDENCE: OLFACTORY]

(15) *Context: I like the sound my new phone makes. As I hear it ring, I remark to you:*

oh,	ʔisx ^w čən	{tə / k ^w } čiyənəns.
oh	ʔəy-sx ^w =čan	{tə / k ^w }=čiy-anən-s
oh	good-CAUS=1SG.SBJ	{ CDE.DET / DET}=hear-NMLZ-3POSS

‘Oh, I like the sound of it.’ [CURRENT DIRECT EVIDENCE: AUDITORY]

As already mentioned above, both *lə* and *l* are specialized in terms of gender, occurring with female referents (see Watanabe 2003, Huijsmans & Reisinger to appear) — primarily with humans as in (8), (10), and (24b) below, but occasionally with animals as in (16). The only exception to this gender restriction occurs in contexts where the referenced entity is considered small (an observation first made by Davis 1974; see Huijsmans & Reisinger to appear for further discussion and analysis).

(16) papʔegən **lə** qegaθ.
 papʔigan **lə**=qigaθ
 pregnant **F.SG.CDE.DET**=deer
 ‘The deer is pregnant.’

While the non-feminine determiners are number-neutral, both *lə* and *l* can only be used with singular, never with plural referents (17a–b).

(17) a. *Context: You see a group of women on the beach now.*

nəʔew	{#lə / tə} nəgəpti	ʔə tə q ^w ət.
niʔ-iw	{#lə / tə}=nəgəpti	ʔə=tə=q ^w it
be.there-PL	{ F.SG.CDE.DET / CDE.DET }=women	OBL=CDE.DET=beach

‘There are women on the beach.’

b. *Context: You saw a group of women standing on the beach yesterday.*

nəʔ	k ^w ak ^w ʔəšitoł	{#l / šə} nəgəpti	sʃəsəl
niʔ	k ^w a<k ^w >ʔiš-it-ʔuł	{#l / šə}=nəgəpti	sʃasul
be.there	stand<PL>-STAT-PST	{ F.SG.PDE.DET / PDE.DET }=women	yesterday

ʔə tə q^wət.
 ʔə=tə=q^wit
 OBL=CDE.DET=beach

‘There were women standing on the beach yesterday.’

4.2 The non-evidential determiner *k^w*

In contrast to the determiners that encode direct evidence, *k^w* is evidence-neutral. It is marginally acceptable when the speaker has direct evidence, but usually appears in contexts

where the speaker only has indirect evidence or no evidence at all. Among other things, speakers use *k^w* to refer to entities for which they only have inferential or reportative evidence (18–19), future entities (20), entities whose existence is in question (21), and entities asserted not to exist (22). In all these cases, direct evidence determiners are judged as inappropriate.

(18) *Context: You go outside and you see fresh bear footprints in your driveway.*

nišol čε	{#tə / #šɛ / k ^w }	mɛχal.	nɛ	tə jʃɪnmɛns.
niš-ʔul=ča	{#tə / #šə / k ^w }	=miχal.	niʔ	tə=ʃiʃinmin-s
be.here-PST=INFER	{CDE.DET / PDE.DET / DET}	=bear	be.there	CDE.DET=footprint-3POSS

‘A bear must have been here. There are its footprints.’ [INFERENTIAL EVIDENCE]

(19) nɛ k ^w a	k ^w a:náč	{#l / k ^w }	sałtx ^w	ʔə tə ɟ ^w et
niʔ=k ^w a	k ^w anáč	{#l / k ^w }	=sałtx ^w	ʔə=tə=ɟ ^w it
be.there=RPT	sit<STAT>	{F.SG.PDE.DET / DET}	=woman	OBL=CDE.DET=beach
x ^w a k ^w a	ɟog-ut=əs.			
x ^w aʔ=k ^w a	ɟug-ut=as			
NEG=RPT	recognize-CTR=3SBJV			

‘He said there was a woman sitting on the beach. He didn’t recognize her.’

[REPORTATIVE EVIDENCE]

(20) hiyʔəmtt ⁰ əm	tə čuy
hiy-ʔəm-t=t ⁰ əm	tə=čuy
make-IND-CTR=1SG.SBJ+FUT	CDE.DET=child
(ʔə) {#tə / #šɛ / k ^w }	ɟɛɟsnay.
(ʔə)={#tə / #šə / k ^w }	=ɟi<ɟ>snay
OBL={CDE.DET / PDE.DET / DET}	=shirt<DIM>

‘I will make a little shirt for the child.’

[FUTURE ENTITIES]

(21) nɛʔa	{#təθ / #šɛθ / k ^w oθ}	ʔayšɛʔəm?
niʔ=a	{#tə=əθ / #šə=əθ / k ^w =əθ}	=ʔayšaʔəm
be.there=Q	{CDE.DET=2SG.POSS / PDE.DET=2SG.POSS / DET=2SG.POSS}	=change

‘Do you have any change?’ [ENTITIES UNDER QUESTION]

(22) *Context: Marianne is about to start weaving a basket with Betty, but she doesn’t have an awl. She tells Betty:*⁷

x ^w uk ^w t	{#tət ⁰ / #šɛt ⁰ / k ^w o ⁰ t ⁰ }	χ ^w oχ ^w ɟ̣.
x ^w uk ^w t	{#tə=ət ⁰ / #šə=ət ⁰ / k ^w =ət ⁰ }	=x ^w ux ^w ɟ̣
not.exist	{CDE.DET=1SG.POSS / PDE.DET=1SG.POSS / DET=1SG.POSS}	=awl

‘I don’t have an awl.’

[ENTITIES ASSERTED NOT TO EXIST]

⁷ It is possible to use direct evidence determiners in a negated proposition, so long as the speaker has PDE or CDE for the referent. This is illustrated for *šə* in (i).

(i) *Context: You know I was considering a specific boat that our mutual friend was selling. When I get home from seeing it, I tell you:*

x ^w aʔt ⁰ əm	yəqtan	{šɛ / *k ^w }	nux ^w ɛl.
x ^w aʔ=t ⁰ əm	yəq-t=an	{šə / *k ^w }	=nəx ^w il
NEG=1SG.SBJ+FUT	buy-CTR=1SG.SBJV	{PDE.DET / DET}	=canoe

‘I’m not going to buy the boat.’

Cases where k^w is used when the speaker has direct evidence often involve generalizations over groups where the speaker is not referring to any specific member (23).

(23) *Context: At a ring shop, I walk up to a display case with the type of thing I want and tell the salesperson:*

ʔət^{θ} $\chi\text{a}\lambda$	t^{θ} $\text{y}\text{əq}\text{ʔ}\text{ə}\text{m}$	$\text{ʔ}\text{ə}$ $\{\#\text{t}\text{ə} / \mathbf{k}^w\}$ $\text{t}^{\theta}\text{a}\text{g}\text{a}\text{t}\text{e}\text{q}^w\text{o}\text{j}\text{e}\text{t}\text{ə}\text{n}$.
$\text{ʔət}^{\theta}=\chi\text{a}\lambda$	$\text{t}^{\theta}=\text{y}\text{əq}\text{-}\text{ʔ}\text{ə}\text{m}$	$\text{ʔ}\text{ə}=\{\#\text{t}\text{ə} / \mathbf{k}^w\}=\text{t}^{\theta}\text{a}\text{g}\text{a}\text{t}\text{i}\text{q}^w\text{u}\text{j}\text{a}\text{t}\text{ə}\text{n}$
1SG.POSS=desire	1SG.POSS=buy-ACT.INTR	OBL={CDE.DET / DET }=ring

‘I want to buy one of these rings.’

It is important to note that the choice between k^w and the other determiners is not based on how certain the speaker is that the referent exists, but on their access to direct evidence. For instance, if a speaker is talking of her great-grandmother whom she never met, she can use k^w , but neither of the direct evidence feminine determiners, even though she knows for sure that her great-grandmother existed (24a). If she has met her, l is used (24b).⁸

- (24) a. $\text{x}^w\text{a}\check{\text{c}}$ $\mathbf{k}^w\text{onox}^w\text{anof}$
 $\text{x}^w\text{a}\text{ʔ}=\check{\text{c}}$ $\mathbf{k}^w\text{ən-əx}^w\text{-an-}\text{ʔ}\text{u}\check{\text{l}}$
 NEG=1SG.SBJ see-NCTR=1SG.SBJV-PST
 $\{\#\text{l}\text{ət}^{\theta} / \#\text{l}\text{ət}^{\theta} / \mathbf{k}^w\text{ot}^{\theta} /$
 $\{\#\text{l}\text{ə}=\text{ət}^{\theta} / \#\text{l}=\text{ət}^{\theta} / \mathbf{k}^w=\text{ət}^{\theta} /$
 $\{\text{F.SG.CDE.DET}=1\text{SG.POSS} / \text{F.SG.PDE.DET}=1\text{SG.POSS} / \mathbf{DET}=1\text{SG.POSS} /$
 $\#\check{\text{s}}\text{et}^{\theta}\}$ $\check{\text{c}}\text{e}\check{\text{c}}\text{e}\text{m}\text{e}\text{q}^w\text{of}$.
 $\#\check{\text{s}}\text{ə}=\text{ət}^{\theta}\}$ $=\check{\text{c}}\text{a}\check{\text{c}}\text{a}\text{m}\text{i}\text{q}^w\text{-}\text{ʔ}\text{u}\check{\text{l}}$
 $\text{PDE.DET}=1\text{SG.POSS}\}$ $=\text{great.grandmother-PST}$
 ‘I never saw my late great-grandmother.’
- b. $\mathbf{k}^w\text{onox}^w\text{of}\check{\text{c}}$ $\text{l}\text{ət}^{\theta}$ $\check{\text{c}}\text{e}\check{\text{c}}\text{e}\text{m}\text{e}\text{q}^w\text{of}$.
 $\mathbf{k}^w\text{ən-əx}^w\text{-u}\check{\text{l}}=\check{\text{c}}$ $\text{l}=\text{ət}^{\theta}=\check{\text{c}}\text{a}\check{\text{c}}\text{a}\text{m}\text{i}\text{q}^w\text{-}\text{ʔ}\text{u}\check{\text{l}}$
 see-NCTR-PST=1SG.SBJ **F.SG.PDE.DET**=1SG.POSS=great.grandmother-PST
 ‘I saw my late great-grandmother.’

Similarly, when speaking of a (trustworthy) friend’s family whom I have not met, I can use the non-evidential determiner k^w , but not the PDE determiner $\check{\text{s}}\text{ə}$, even though I have reliable evidence of their existence from my friend’s prior reports (25).

(25) *Context: I’m telling you that Daniel has gone home for the holidays to see his family. I’ve never met his family.*

k^wa	θo Daniel $\text{g}\check{\text{u}}\text{j}\text{e}\text{s}$.	θo k^wa $\mathbf{k}^w\text{ot}\text{əs}$	$\{\#\check{\text{s}}\text{e} / \mathbf{k}^w\}$ $\text{ʔ}\text{a}\text{y}\text{i}\check{\text{s}}\text{t}\text{ə}\text{n}\text{s}$.
k^wa	θu Daniel $\text{g}\text{ə}\text{j}\text{a-s}$	$\theta\text{u}=\mathbf{k}^w\text{a}$ $\mathbf{k}^w\text{ə-t-as}$	$\{\#\check{\text{s}}\text{ə} / \mathbf{k}^w\}$ $=\text{ʔ}\text{a}\text{y}\text{i}\check{\text{s}}\text{t}\text{ə}\text{n-s}$

CLD.DIST go Daniel land-3POSS go=RPT see-CTR-3ERG {PDE.DET/**DET**}=cousin-3POSS
 ‘Daniel has gone home to his country. He’s gone to see his cousins.’

⁸ The vowel between the determiner and the possessive proclitic in $\text{l}\text{ət}^{\theta}$ in (24b) is not from the determiner (otherwise the determiner would be $\text{l}\text{ə}$, which encodes CDE). It seems likely that the vowel is contributed by the possessive proclitic; see footnote 6.

5. Discussion

Based on the data above, we propose a re-analysis of the $\text{ʔayʔaju}\theta\text{əm}$ determiner system that organizes the paradigm primarily around evidentiality. The main distinction divides the direct evidence determiners from the evidence-neutral determiner. Direct evidence determiners are further divided by the timing of the speaker’s access of direct evidence for the referent, creating a distinction between previous direct evidence and current direct evidence. Finally, there is a gender and number split among the direct evidence determiners. Hence, the determiner system of $\text{ʔayʔaju}\theta\text{əm}$ can be organized as in Table 3.

Table 3: New analysis of $\text{ʔayʔaju}\theta\text{əm}$ determiners

	Direct Evidence		Evidence-Neutral
	Current	Previous	
Gender/Number-Neutral	<i>tə</i>	<i>ʃə</i>	<i>k^w</i>
Feminine SG	<i>lə</i>	<i>l</i>	—

Formally, we propose a Speasian analysis of evidentiality (Speas 2010; Kalsang et al. 2013) in which $\text{ʔayʔaju}\theta\text{əm}$ determiners encode relationships between two situations: an **information situation** (IS / s_I) and a **discourse situation** (DS / s_D).⁹ The former is the minimal, contextually salient situation in which the speaker accesses evidence for the referent’s existence, while the latter refers to the minimal situation in which the speaker utters p .

To derive the direct evidence reading associated with *tə*, *ʃə*, *lə*, and *l*, the referent (x) must be included in the IS ($x \subset s_I$). This means that the referent is present in the same situation as the speaker at the point where the speaker has or had evidence of its existence.¹⁰ The differences between CDE and PDE result from different configurations between the IS and the DS. The CDE determiners *tə* and *lə* are used when the DS is included in the IS ($s_D \subset s_I$), meaning that the speaker has evidence for the existence of the referent at the time of utterance. The PDE determiners *ʃə* and *l*, in contrast, are used when the DS is excluded from the IS ($s_D \not\subset s_I$); the speaker does not have evidence for the existence of the referent x at the time of utterance.

For the CDE determiners, we thus have the relations in (26a): the referent is included in the IS, meaning that the speaker has direct evidence for the referent, and the DS is included in the IS, meaning that the speaker has this evidence at the time of speaking. For the PDE determiners, we have (26b): the IS includes the referent, meaning that the speaker has direct evidence for the referent’s existence, but the DS is not included in the IS, meaning that the speaker does not have this evidence at the time of speaking.¹¹

⁹ We assume that situations are parts of worlds with particular temporal-spatial locations. Speas’s analysis is for evidentiality at the propositional level and involves relations between three situations.

¹⁰ Indirect evidence would be encoded ($x \not\subset s_I$) if the referent were not included in the IS (see, e.g., Speas 2010). This is the case for example if the speaker perceives some clues to the referent’s existence, or hears a report of their existence, in the IS. However, we do not argue for any determiners in $\text{ʔayʔaju}\theta\text{əm}$ which specifically require indirect evidence.

¹¹ A reviewer asks whether this definition of PDE successfully excludes the PDE determiner *ʃə* in cases of future reference, as in (20), where the shirt does not yet exist in the DS, and *ʃə* is infelicitous. We assume that in these cases there is no IS, because at the UT, the speaker has not yet acquired evidence for the referent’s existence.

- (26) a. $[[\text{CDE}]]^{\text{sb}}(x)(s_I) = 1$ iff $[(x \subset s_I) \wedge (s_D \subset s_I)]$
 b. $[[\text{PDE}]]^{\text{sb}}(x)(s_I) = 1$ iff $[(x \subset s_I) \wedge (s_D \not\subset s_I)]$

To take a concrete example, in (27) (repeated from (7)) the bear (the referent) is part of the IS, the salient situation in which the speaker has evidence of the bear's existence (the speaker seeing the bear). The DS is contained in the IS, since the speaker utters (27) while seeing the bear. Therefore, the speaker has CDE. The relations between situations are shown in Figure 1.

(27) *Context: You look out the window and there's a bear in your yard.*

ne {tə / #šɛ / #kʷ} mɛχaɫ.

niʔ {tə / #šə / #kʷ} = miχaɫ

be.there {CDE.DET / PDE.DET / DET} = black.bear

'There's a bear.'

[CURRENT DIRECT EVIDENCE]

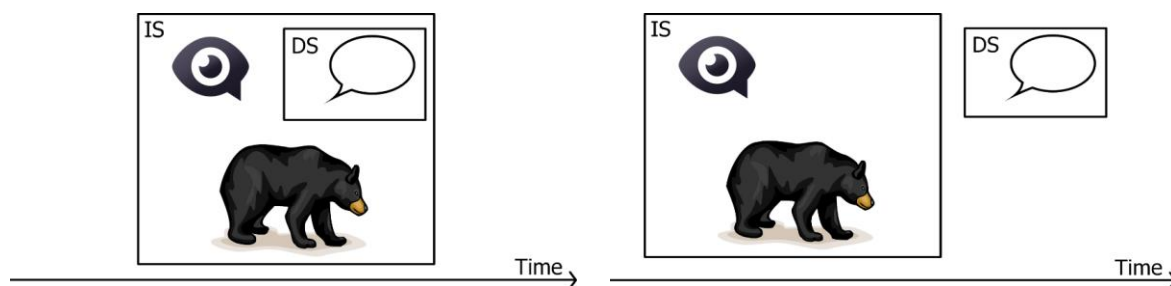


Figure 1: Relations between situations for (27)

Figure 2: Relations between situations for (28)

For PDE, consider (28), repeated from (9). Here, the bear is within the IS, which again is a situation where the speaker sees the bear. In this case, however, the DS is not included in the IS. The speaker's utterance does not occur in the situation where the speaker sees the bear, but later, after the bear is no longer present. Figure 2 shows the situational relations for this case.

(28) *Context: I'm at your house, telling you about the bear encounter I had this morning.*

neʔoɫ {#tə / #šɛ / #kʷ} mɛχaɫ

ʔə šɛt^θ ʔasq̃iç

niʔ-uɫ {#tə / #šə / #kʷ} = miχaɫ

ʔə = šə = ət^θ = ʔasq̃iç

be.there-PST {CDE.DET / PDE.DET / DET} = black.bear OBL = PDE.DET = 1SG.POSS = outside

sk^wiʃoɫ.

sk^wiʃuɫ

morning

'There was a bear in my yard this morning.'

[PREVIOUS DIRECT EVIDENCE]

To capture the relations between situations encoded by the different determiners, we propose the lexical entries in (29) and (30). Each of the evidential determiners in (29a–d) take the IS as an argument; we assume this argument is syntactically provided as a silent situation pronoun (following, e.g., Elbourne 2013, Renans 2016). The formula in (29a) presupposes the existence of a unique entity that satisfies the description of the noun (*P*) and for which the speaker has CDE.¹² The output of the function is the unique individual with these qualities. The formula in

¹² While we use the terms 'presuppose' and 'unique', ʔayʔajuθəm determiners, like those of St'át'imcets (Matthewson 1998) and Sḵw̱w̱ú7mesh (Gillon 2006/2013), do not require a unique referent in the common ground (see (35) and (36) below, also Huijsmans et al. 2018). The referent is unique only in the sense of having

(29b) is minimally different, requiring that the speaker has PDE for the referent. The entries in (29c) and (29d) are parallel to (29a–b), but place additional restrictions such that the referent must be feminine and singular.

- (29) a. $\llbracket t\partial \rrbracket^{s_D} = \lambda P_{\langle e, st \rangle} \lambda_{s_I} : \exists !x [P(x)(s_I) \wedge CDE(x)(s_I)] . \iota y [P(y)(s_I) \wedge CDE(y)(s_I)]$
 b. $\llbracket \check{s}\partial \rrbracket^{s_D} = \lambda P_{\langle e, st \rangle} \lambda_{s_I} : \exists !x [P(x)(s_I) \wedge PDE(x)(s_I)] . \iota y [P(y)(s_I) \wedge PDE(y)(s_I)]$
 c. $\llbracket l\partial \rrbracket^{s_D} = \lambda P_{\langle e, st \rangle} \lambda_{s_I} : \exists !x [P(x)(s_I) \wedge CDE(x)(s_I) \wedge SING(x) \wedge FEM(x)] .$
 $\iota y [P(y)(s_I) \wedge CDE(y)(s_I) \wedge SING(y) \wedge FEM(y)]$
 d. $\llbracket l \rrbracket^{s_D} = \lambda P_{\langle e, st \rangle} \lambda_{s_I} : \exists !x [P(x)(s_I) \wedge PDE(x)(s_I) \wedge SING(x) \wedge FEM(x)] .$
 $\iota y [P(y)(s_I) \wedge PDE(y)(s_I) \wedge SING(y) \wedge FEM(y)]$
 where $\llbracket SING \rrbracket(x) = 1$ iff $\#x = 1$ and $\llbracket FEM \rrbracket(x) = 1$ iff x is female

The entry in (30) is different from the rest, simply introducing existential quantification over individuals, but not requiring any type of evidence for the individual’s existence. This allows the k^w determiner to be used in cases where the speaker has only indirect evidence, as in (18) and (19). Furthermore, since the existential quantification is part of the at-issue contribution, it can be embedded under negation, future marking, or question operators, deriving readings where the referent is not asserted to exist, as in (20) and (21), or asserted not to exist (22). Note that the situation argument in (30) is not an information situation, but rather the ‘topic situation’ — the situation for which the whole proposition is true or false (e.g., Kratzer 2019).

- (30) $\llbracket k^w \rrbracket^{s_D} = \lambda P_{\langle e, st \rangle} \lambda Q_{\langle e, st \rangle} \lambda s . \exists x [P(x)(s) = 1 \wedge Q(x)(s) = 1]$

The $\gamma a y \gamma a j u \theta \partial m$ determiners in (29) and (30) vary in terms of their ‘presuppositional’ loads (see footnote 12 for explanation of the scare quotes). While k^w does not carry any presuppositions (it is neutral with regard to evidentiality, gender, and number), $t\partial$, $\check{s}\partial$, $l\partial$, and l presuppose direct evidence, and $l\partial$ and l further require the referent to be singular and female. From this, we might expect the less specified determiners to have a wider distribution, being felicitous also where more highly specified determiners can be used. This is not the case, however. The direct evidence determiners are preferred over k^w whenever the speaker has direct evidence for the existence of the referent, as we saw in (7), (9), and (10). Similarly, the feminine determiners are preferred over the gender-neutral determiners where the referent is singular and female, as for instance in (8) and (10).

To account for this distribution, we propose that more highly specified determiners are chosen over less specified determiners, wherever they can be appropriately used. This follows from general conversational principles privileging more informative items in a paradigm over less informative ones (e.g., Grice 1975, Heim 1991, Bochnak 2016). The result is that the speaker will choose a direct evidence determiner over the evidence-neutral determiner whenever direct evidence is accessed, and a feminine singular determiner over a gender-neutral determiner when the referent is singular and female (or diminutive).

been singled out by the speaker in the salient IS. More generally, while we use the term ‘presuppose’ for this not-at-issue contribution, the addressee need not know in advance that the speaker has direct evidence for the referent. The $t\partial$ determiner is frequently used at the beginning of narratives, for instance. See Matthewson (2008) on the absence of restrictions on the common ground in Salish. Thanks to Vera Hohaus (p.c.) for asking about this point.

q^wεq^waysx^wolč {šɛ / *k^w} čεčɛmeq^ws Freddie
 q^wi~q^way-sx^w-ul=č {šə / *k^w}=čaçamiq^w-s Freddie
 PROG-speak-CAUS-PST-1SG.SBJ {PDE.DET / DET}=great.grandson-3POSS Freddie
 ʔək^w gym.
 ʔə=k^w=gym
 OBL=DET=gym
 ‘I was talking to Freddie’s great-grandson at the gym.’ [LATE LEARNING]

- (33) *Context: When I’m at the grocery store with Gloria, I run into Daniel with a girl and they’re holding hands. They have to be somewhere, so they don’t chat with us long. I suspect the girl is Daniel’s girlfriend and once they’re gone, I ask Gloria if this is the case. Gloria informs me that the girl is actually Daniel’s wife! I go home and ask my partner, ‘Did you know Daniel was married?...’*

k^wonux^wolč {ɪ / *k^w} saɫus neʔ še x^wuʃumaye.
 k^wən-əx^w-ul=č {ɪ / *k^w}=saɫu-s niʔ šə=x^wuʃumaya.
 see-NCTR-PST=1SG.SBJ {F.SG.PDE.DET / DET}=wife-3POSS be.there PDE.DET=store
 ‘I saw his wife at the store.’ [MISTAKEN IDENTITY]

- (34) *Context: I’ve met the teacher for my child’s class a few times. Recently, someone told me that he is also the head of the local fire department, but I’ve never seen him in that role. One day, you ask me: Do you know anyone in the fire department?*

ʔe, to:gútč {šɛ / *k^w} fire chief heɫ tičes
 ʔiʔ tuɡ-út=č {šɛ / *k^w}=fire chief hiɫ tiča-s
 yes recognize-CTR\STAT=1SG.SBJ {PDE.DET / DET}=fire chief COP teacher-3POSS
 t^θ maʔna.
 t^θ=maʔna
 1SG.POSS=child
 ‘Yes, I know the fire chief. He’s my child’s teacher.’ [DUAL IDENTITY]

Interestingly, this differs from what was found by Koev (2011, 2017) in his investigation of similar ‘delayed learning’ cases in the propositional domain. Koev finds for Bulgarian that in cases where the speaker had direct evidence of the event, but only found out what was really happening later, indirect evidentials are used (a crucial example involves someone seeing Nixon erasing tapes, but only learning later that he was covering up the Watergate scandal). This effect is reflected in Koev’s analysis which involves a separate ‘learning event’ in which the speaker learns the prejacent proposition; when this learning event is spatio-temporally removed from the event described by the proposition, the evidence is indirect. We do not predict parallel cases in the nominal domain to involve indirect evidence, since our analysis does not include a separate learning event for the content of the DP; the evidential component of the determiners only encodes whether the referent is present in the IS.

Lastly, our analysis predicts that the evidential determiners are maximal only relative to the IS, not the topic situation (i.e., the situation of which the proposition as a whole is true). There is nothing forcing the IS for the evidential determiners to be maximal relative to the topic situation, so we predict the maximality encoded by these determiners to be quite weak. This is borne out. In (35), the speaker is able to use the *tə* determiner, even though she is describing just two of the 12 visible eggs. Likewise, in (36), the *tə* determiner is used even though *tə*

qaqsem ‘the toys’ refers to only a subset of the toys that are visible in the context.

(35) *Context: I open the carton of eggs from the fridge and am annoyed to see two of them are broken. I check the rest of them, and they are intact. Showing you the carton, I tell you:*

kʷot gi! yeɸét tə saʔa ɣʷaxʷit.
kʷə-t=gi yaɸ-ít tə=saʔa xʷaxʷit
look-CTR=DPRT break-STAT CDE.DET=two egg
‘Look! Two of the eggs are broken.’

(36) *Context: My niece comes over to play. She asks where the toys are. Most are in a box, and a few are on the shelf. Pointing to the toys in the room, I tell her:*

nɛʔ nəpét tə kʷaxʷa tə qaqsem ʔi nɛʔ
niʔ nəp-ít tə=kʷaxʷa tə=qaqsim ʔiy niʔ
be.there put.in-STAT CDE.DET=box CDE.DET=toys CONJ be.there
toʔlét ʔə taʔa tə sqʷaq.
tu<t>l-ít ʔə=taʔa tə=sqʷaq
put.on<PL>-STAT OBL=DEM CDE.DET=some/rest
‘The toys are in the box and the rest are there.’

There is a context in which the maximality contribution of the evidential determiners can be detected, however. Where the speaker has direct evidence for a group of referents, but wants to refer to a nonspecific member of that group, the evidential determiners cannot be used, as in (23) above. In this case, unlike in (35) and (36), the IS cannot be narrowed to include only a specific ring or subset of rings. Instead, the speaker obligatorily switches to the non-evidential determiner, even though the rings are visible.

7. Summary and implications

We have argued that ʔayʔajuθəm determiners encode evidentiality. We proposed that the determiners encode CDE and PDE through relations between situations. When the referent is present in the same situation as the speaker making the utterance, a CDE determiner is used. When the referent was present in a previous situation the speaker experienced, but is not present in the situation in which the speaker makes the utterance, a PDE determiner is used. If the speaker has not been in the same situation as the referent, the neutral determiner is used.

The question naturally arises why our study provides evidence particularly for a situation-based approach to evidentials in ʔayʔajuθəm. We prefer a Speasian situation-based analysis of evidentiality over an epistemic modal approach for the determiners for several reasons. First, epistemic modality approaches have a particular affinity for indirect evidentials (e.g., von Stechow & Gillies 2010), but the ʔayʔajuθəm evidential determiners do not encode indirect evidence. Second, a modal approach to determiners would complicate the analysis of the nominal domain in a manner that seems unwarranted.

Though the situation-based approach adopted here was originally proposed for proposition-level evidentiality (Speas 2010, Kalsang et al. 2013), it is readily adapted to evidentiality in the nominal domain; situations have temporal and spatial coordinates, so situational relations can capture the speaker’s deictic relation to the referent. Our analysis resembles other approaches

that make use of spatio-temporal coordinates, such as Faller (2004) and Koev (2017), but these approaches require additional components we have not found to be necessary for these nominal-domain evidentials (e.g. perceptual traces, learning events). The evidential relations encoded by the determiners also cannot be purely temporal, as in Lee (2013), Koev (2011), Smirnova (2013), because individuals (unlike events) cannot be temporally located before or after a learning event or evidence acquisition time.

Our proposal that ʔayʔajuθəm determiners encode evidentiality adds to a small but growing body of support for evidentiality in the nominal domain in other languages (Hanks 2009; Gutiérrez & Matthewson 2012; Gutiérrez 2015; Rose 2017; Gambarage & Matthewson 2019). The phenomenon in general provides evidence for the existence of semantic atoms or ‘building blocks’ (von Stechow & Matthewson 2008). Following Hale (1986), these smaller atoms are detectable across different parts of the grammar (i.e., are not tied to particular syntactic projections). Given that relations between situations involve both temporal and spatial information, and that both events and entities can be parts of situations, it is unsurprising that similar relations can be found in different grammatical domains.

Before closing, we will briefly consider the implications of our analysis for a cross-linguistically valid approach to evidentials, in the context of two recent diverging analyses of the relationship between evidentiality and spatio-temporal relations. Bowler (2018) argues on the basis of data from Tatar against ‘trace’ theories of evidentials (those relying on (non-)overlap between situations) as well as against accounts that derive evidentiality from temporal relations involving a learning event (e.g., Koev 2011). Tatar makes evidential distinctions in the future as well as in the past, and Bowler argues that these future evidentials cannot be differentiated by a temporal or situation-based approach, since the described future event always fails to overlap with the speaker’s spatio-temporal location or with the time of acquiring the evidence. More generally, Bowler argues that the Tatar portmanteau tense/aspect/evidentiality morphemes semantically only encode temporal information; the evidential contribution is only implicated. On the other hand, Pancheva and Zubizarreta (2019) advance an opposite idea for Paraguayan Guaraní: evidentiality is grammatically encoded, while the temporal interpretation is derived from the interaction of the person and deictic features of these evidentials.

Unlike what has been claimed for these languages, the ʔayʔajuθəm determiners cannot be reduced to tense or aspect in either direction. They also make no evidential distinctions in the future, as all entities which do not yet exist at UT take the evidence-neutral determiner k^w . Nevertheless, while the Speasian approach to evidentiality adopted here encodes evidential relations directly, it does not treat evidence as a primitive but as a relation between situations. These types of relations thus bear resemblance to both the temporal relations proposed for the morphemes that convey evidentiality in Tatar and the deictic relations proposed for the evidential morphemes in Paraguayan Guaraní. This suggests that evidential relations as basic building blocks may be a unifying component of diverse evidentials cross-linguistically.

In closing, we make note of an interesting way in which the evidential determiners differ from propositional-level evidentials.¹⁴ While clause-level evidentials in ʔayʔajuθəm undergo interrogative flip in questions (see Huijsmans to appear for examples), the evidential

¹⁴ Thanks to Dmitry Gerasimov and Margit Bowler for asking us about this issue.

determiners do not, as shown in (38). Even though the addressee, Daniel, has had PDE for the existence of his brother, the speaker must use the non-evidential determiner *k^w*.

- (38) *Context: I ask Daniel if he's going to see his brother when he goes to Germany. I've never met his brother.*
- | | |
|---|---|
| k ^w onox ^w ačx ^w om | {k ^w oθ / #š ^w εθ} nuł? |
| k ^w ən-əx ^w =a=čx ^w əm | {k ^w =əθ / #š ^w ə=əθ}=nuł |
| see-NCTR=Q=2SG.SBJ+FUT | {DET=2SG.POSS / PDE.DET=2SG.POSS}=older.sibling |
- 'Are you going to see your older brother?'

Future research may address whether this is a general difference between propositional and nominal evidentials, and if so, what the difference derives from.

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