

The Cuzco Quechua Conjectural

Epistemic modal or evidential? Or both?

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1 Introduction

1.1 Theoretical background assumptions

- **Evidentiality** (narrow view): the grammatical marking of the speaker’s source of information in assertions (and, in some languages, including CQ, the grounds for asking a question).

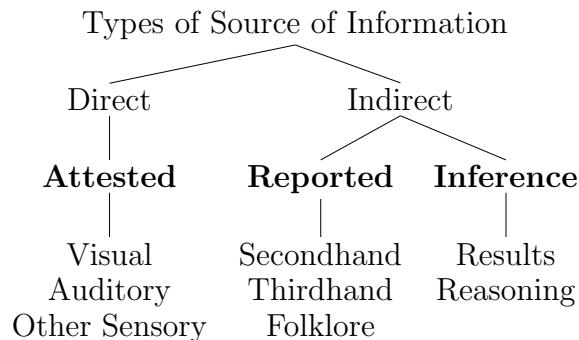


Figure 1: Willett’s (1988) taxonomy of types of Source of Information

- **Epistemic modality**: the marking of the speaker’s *degree of certainty* and/or the *necessity/possibility* of the truth of the propositional content.
- **Levels of meaning**:
 - *descriptive* level of meaning (often called *propositional* or *truth-conditional*): carries the main information conveyed, contributes to the topic under discussion. ϕ will be used to represent this level.
 - *illocutionary* level of meaning: carries (backgrounded) information about the speaker’s attitudes towards the descriptive meaning and the speaker’s intentions with regard to the descriptive meaning. (*It is raining* and *Is it raining*)

have the same descriptive meaning, but the speaker's intention in uttering them will be different, asserting *versus* questioning ϕ .) F will be used to represent this level. (F is normally instantiated to a particular speech act type such as ASSERT).

- The two levels stand in a hierarchical relationship: $F(\phi)$. Prediction: Illocutionary operators always have scope over descriptive-level operators.

1.2 The Cuzco Quechua evidentials

- Evidentiality is in CQ primarily marked with a set of enclitics¹ which are a subset of the focus enclitics (Muysken 1995).

- (1) a. Direct/Best possible grounds, *-mi/-n*:

Para-sha-n-**mi**.

rain-PROG-3-BPG

p ='It is raining.'

EV: s sees that it is raining.

- b. Reportative, *-si/-s*:

Para-sha-n-**si**.

rain-PROG-3-REP

p ='It is raining.'

EV: s was told that it is raining.

- c. Conjectural, *-chá*:

Para-sha-n-**chá**.

rain-PROG-3-CONJ

p ='It is raining.'

EV: s conjectures that it is / might be raining.

- d. Partial evidence/inference from results, *-chus hina/-chu sina*:²

Para-sha-n-**chus hina**.

rain-PROG-3-RES

p ='It is raining.'

EV: s thinks / has partial evidence that it is raining.

- e. No evidential:

Para-sha-n.

rain-PROG-3

p ='It is raining.'

implicated EV: s sees that it is raining.

¹There is also a past tense marker which indirectly conveys that the speaker did not witness the event described. See Faller (2004) for an analysis of this tense.

²The label assigned to this enclitic, RES 'inference from results', is too narrow and does not capture the entire range of its meanings. In this talk, only examples involving inference from results will be discussed.

1.3 Cuzco Quechua modals

- The CQ modals do not form a paradigm. There are two clear candidates for epistemic modals: the conditional mood *-man* and the certainty enclitic *-puni*. Both have other uses.

- (2) a. Para-sha-n-**puni**.
rain-PROG-3-CERT
'It is definitely/certainly raining.'
- b. Para-sha-n-**man**.
rain-PROG-3-COND
'It might be raining.'

1.4 Overview

Research questions

- Is the Conjectural *-chá* really an evidential? Or would it be better analyzed as an epistemic modal?
- Is *-chá* empirically different from the epistemic modals *-puni* and *-man*? If so, how can this difference be captured formally?
- Can we assign evidentiality and epistemic modality to either the descriptive or the illocutionary level of meaning?

Argument

- In the case of the Conjectural, it'd be futile to classify it either as an evidential or an epistemic modal, it is both.
- It differs from other well-studied (evidential) modals in that it does not contribute to the descriptive level of meaning but to the illocutionary level.
- In some languages, or even within the same language, evidentials belong to the illocutionary level, in others to the descriptive level. Likewise for epistemic modals.

Organization

- The meaning of the Conjectural and pure epistemic modals
- Previous analyses of Inferenceals
- Empirical differences between the Conjectural and the pure modals *-puni* and *-man*
- Illocutionary analysis of *-chá* that captures these differences as well as its evidential/modal flavor.

2 The meaning of the Conjectural *-chá*

2.1 *-chá* as an evidential

- The enclitic *-chá* is called the conjectural or prognostic (Cerrón Palomino 1994, Cusihuaman 2001, Floyd 1999). Floyd (1999:100) (Wanka Quechua): *-chá* is used for “hypotheses that are advanced about some unexperienced or uncorroborated state of affairs.” ⇒ Willett’s *Inference from Reasoning*.

- (3) a. Wakin runa masi-y-**cha** hucha-pi-pas ka-sa-n-ku.
 some person mate-1-CONJ fault/sin-LOC-ADD be-PROG-3-PL
 ‘Some of my fellow humans may have faults.’ (‘Algunos de mis semejantes
 estarán en faltas.’) (Espinoza 1997:208)
- b. Mana-**mi** para kan-chu. Kunan wata-qa mana-**chá** allin-chu kuhichu
 not-BPG rain be-POL now year-TOP not-CONJ good-POL harvest
 ka-nqa!
 be-3FUT
 ‘There is no rain. I guess/suppose/Surely, the harvest this year will be
 bad!’ (Cusihuaman 2001:245)
- c. Suqta chunka wata-yuq ka-sha-n-**chá**.
 six ten year-POSS be-PROG-3-CONJ
 ‘He must be sixty years (old).’ (spontaneous)

- *-chá* contrasts with *-chus hina*: *-chá* is preferred when the inference is based on pure reasoning, and *-chus hina* when there is some kind of observable, partial evidence:

- (4) Context: We want to know where Juan is. I have called his house and was told that he was going to go to the library and afterwards to visit his grandmother. I am just coming from the library and Juan wasn’t there.
- a. Chhaynaqa hatun mama-n-pa wasi-n-pi-**chá** ka-sha-n
 so great mother-3-GEN house-3-LOC-CONJ be-PROG-3
 ‘So he must be at his grandmother’s house.’
- b. # Chhaynaqa hatun mamanpa wasin-pi-**chus hina** kashan.
- (5) Context: Marya looks very pale.
- a. ?Unqu-sqa-**chá** ka-sha-n-man
 sick-PRT-CONJ be-PROG-3-COND
 ‘She may be sick.’
- b. Unqu-sqa-**chus hina** ka-sha-n-man
 sick-PRT-RES be-PROG-3-COND.
 ‘She appears to be sick.’

- (6) a. Context: It's been raining the last few days. So, probably:
 Para-sha-n-**chá**.
 rain-PROG-3-CONJ
 'It is probably raining.'
- b. Context: I hear something that sounds like rainfall on the roof, but I am not entirely sure that it is rain:
 Para-sha-n-**chus hina**.
 rain-PROG-3-RES
 'It appears to be raining.'

2.2 The Conjectural *-chá* as a modal

- *-chá* cannot be used when the speaker knows that *p* is true.

(7) Yacha-ni pi mikhu-rqa-n quwi-ta. #Juan-**chá** (✓ Juan-mi/-si).
 know-1 who eat-PST-3 guinea.pig-ACC Juan-CONJ
 'I know who at the guinea pigs. #It may have been Juan.'
- *-chá* can also not be used when the speaker knows that *p* is false.

(8) a. Mana-n pi-pas huñunakuy-man ri-rqa-n-chu. #Juan-**chá**
 not-BPG who-INDEF meeting-ILLA go-PST-3-POL Juan-CONJ
 (ka-n-man) ri-rqa-n.
 be-3-COND go-PST-3
 'Noone went to the meeting. #Juan might have gone.'
- *-chá* is not possible when the speaker arrives at a conclusion via reasoning but is 100% sure that it is true.

(9) Context: Last year, a can of milk in Cusco cost 2 soles. A reliable person tells me that this year, the price of milk has doubled.

a. Kunan-qa lichi-qa tawa soles-ña-**n**.
 now-TOP milk-TOP four soles-DISC-BPG
 'Now the milk is four *soles*.'

b. #Kunanqa lichiqa tawa soles-ña-**chá**.
 now-TOP milk-TOP four soles-DISC-CONJ
 'Now the milk must be four *soles*.'

2.3 Pure modals

There are two elements which fairly clearly can mark epistemic modality: the conditional mood suffix *-man* and the certainty enclitic *-puni*.³

2.3.1 The conditional mood *-man*

- *-man* as an epistemic modal

- (10) a. corazon-ni-yku-pas phata-ru-n-**man**-mi.
heart-EUPH-1EXCL-ADD explode-HORT-3-COND-BPG
'And our heart might even explode.' ('Y tu [mistranslation? MTF] corazón hasta que puede reventar.') (Espinoza 1997:156)
- b. Chaqay-**puni-m** chay hacienda rima-sqa-n-ku-qa ka-chka-n-**man**.
that-CERT-BPG that hacienda speak-PRT-3-PL-TOP be-PROG-3-COND
'That must be that hacienda about which they talked.'
(Vengoa Zúñiga 1998:15)

- *-man* also occurs in the antecedent and consequent of conditionals, including hypothetical and counterfactual ones, (11) and (12) respectively.

- (11) chay-ta hasp'i-ru-n-ku-**man** chayqa tari-ru-n-ku-**man-mi** unu-ta
this-ACC dig-HORT-3-PL-COND then find-HORT-3-PL-COND-BPG water-ACC
'If they were to dig there, they would find water.' (Vengoa Zúñiga 1998:15)

- (12) Mana yunka hatari-mu-qti-n-qa kunan-kama-qa hacienda
not jungle rise-CIS-NMLZ-3-TOP now-TERM-TOP hacienda
segi-sa-lla-n-**man-pas-cha**
continue-PROG-LIM-3-COND-ADD-CONJ (Espinoza 1997:118)
'If the jungle hadn't risen [= started a revolution, MTF] the hacienda (system) would probably have continued until now.'

- *-man* may convey circumstantial modality (in the second person singular, the conditional takes the form *-waq*, (13b)):

- (13) a. Mana-n kay-pi-qa habas-pas antes-qa ka-ra-n-chu ...pero chay
not-BPG here-LOC-TOP habas-ADD before-TOP be-PST-3-POL ...but this
tiempo-pi-pas wiña-lla-n-**man**-ya ka-ra-n.
time-LOC-ADD grow-LIM-3-COND-EMO be-PST-3
'Before, there were no *habas* here ...but in those times as well, they could have grown.'
(Espinoza 1997:76)

³In addition, the so-called additive/indefinite enclitic *-pas* (allomorph *-pis*), participates in the marking of epistemic modality, especially in combination with Conjectural *-chá* as shown in (3).

- (i) Para-sha-n-**pas-chá**.
rain-PROG-3-ADD-CONJ
'Perhaps it is raining.'

Since this enclitic cannot mark epistemic modality on its own, I will not discuss it further.

b. apa-ra-mu-**waq**-chu waka-ta?
 take-HORT-CISL-COND-POL cow-ACC
 ‘Could you bring cattle?’ (‘Podrías traer ganados?’)
 (Espinoza 1997:145)

c. Mana-n tarpa-sun-**man**-chu riki.
 not-BPG catch.up-1INCL.FUT-COND-POL right
 ‘We couldn’t have caught up (with them).’ (‘Ya no podríamos alcanzar.’)
 (Espinoza 1997:145)

- *-man* may convey deontic modality :

(14) Ni imarayku-pi-pas tiya-**waq**-chu-qa
 not because-LOC-INDEF live-2COND-POL-TOP
 ‘Not for anything could you not live (with the woman that your parents selected)’ (‘Y no podrías estar en la deriva’)
 (Espinoza 1997:172)

2.3.2 Certainty enclitic *-puni*

- *-puni* as epistemic modal

(15) a. Taripay P’uchukay Pacha siempre taripa-wa-sun-**puni**.
Taripay P’uchkay Pacha always catch.up-1O-1FUT-CERT
 ‘*Taripay P’uchkay Pacha* will certainly catch up with us.’ (‘Siempre nos llegará el momento de *Taripay P’uchkay Pacha*’)
 (Espinoza 1997:154)
 b. Qhali-ya-ru-saq-**puni**-cha
 healthy-VBLZ-HORT-1.FUT-CERT-CONJ
 ‘I will certainly get well.’ (‘Sanaré de todos modos pues’)
 (Espinoza 1997:328)

- *-puni* also has a temporal use, meaning ‘always’, and when attached to certain types of nouns, including those referring to persons or places, it is used for emphasis:

(16) Mayu killa-pi-qa qasa-mu-n-**puni**-n. (Cusihuaman 2001:244)
 May month-LOC-TOP freeze-CIS-3-CERT-BPG
 ‘In May, it always gets freezing cold.’

(17) Qan-**puni**-yá riki chura-chi-ku-ra-nki (Cusihuaman 2001:244)
 you-CERT-EMO right put-CAUS-REFL-PST-2
 ‘Surely, you yourself have designated yourself.’

(18) Puri-chi-sha-ra-n riki kay Plaza de Armas ankay-pi-**puni**-n
 walk-CAUS-PROG-PST-3 right this Plaza de Armas, there-LOC-CERT-BPG
 ‘He was walking, right, on the Plaza de Armas, right there. (Radio)

- Both *-man* and *-puni* can cooccur with all three evidential enclitics. They do not encode an evidential value of their own.

3 Previous analyses of Inferenceals

There are two approaches to inferenceals in the formal literature: (i) as illocutionary modifiers, (ii) as epistemic modals with evidential presuppositions (or as special types of modals), contributing to the descriptive level of meaning.

3.1 Illocutionary modifier analysis

Faller (2002):

- *-chá* is an illocutionary modifier *and* a descriptive-level epistemic modal.

The CQ evidential enclitics contribute their evidential meaning to the sincerity conditions of the speech act they occur in.

As an evidential, *-chá* adds the evidential sincerity condition that the speaker *s* has arrived at $\Diamond\psi$ as a result of her reasoning (representation slightly modified).

In addition, as an epistemic modal, *-chá* adds the possibility operator to the main proposition expressed, $\Diamond\psi$.

- (19) Para-sha-n-**chá**.
rain-PROG-3-**chá**
 ψ = 'It is raining.'
 $\phi = \Diamond\psi$
ILL = ASSERT_s(ϕ)
SINC = {Bel_s(ϕ), Rea_s(ϕ)}
STRENGTH = -1

- Potential problem: can an operator really operate simultaneously on both levels?

3.2 Epistemic modals with evidential presuppositions

Izvorski (1997):

- (20) a. Turkish:

Ahmet gel- miş.
Ahmet come mIş

'Ahmet came / must have come.'

(i) inference: The speaker sees Ahmet's coat hanging in the front hall, but has not yet seen Ahmet.

(ii) hearsay: The speaker has been told that Ahmet has arrived, but has not yet seen Ahmet. (Aksu-Koç and Slobin 1986:159)

- b. Bulgarian:

Ivan izpil vsičkoto vino včera.
Ivan drunk-PE all-the wine yesterday

'Ivan apparently drank all the wine yesterday.'

(i) inference, (ii) reportative

(Izvorski 1997:7)

- (21) a. Assertion: $\Box p$ *in view of the speaker's knowledge state*
 b. Presupposition: *Speaker has indirect evidence for p* (Izvorski 1997:5)
 (i.) Modal base/indirect evidence: *There are empty wine bottles in Ivan's office.*
 Ordering source: *If there are empty wine bottles in someone's office, that person drank the wine.*
 (ii.) Modal base/indirect evidence: *Mary says that Ivan drank all the wine.*
 Ordering source: *Normally, Mary is reliable as a source of information*

Work that builds on or is very similar to Izvorski's analysis includes: Ehrich (2001) on German reportative *sollen*, Garrett (2000) on Tibetan, McCready and Asher (2006) on Japanese, Matthewson et al. (2006) on St'át'imcets. For a non-presuppositional analysis in a probabilistic dynamic framework of evidential modals, see McCready and Ogata (2006)

4 Empirical differences between *-chá* and the pure epistemic modals

The following are tests that have been used in the literature to decide whether a given element contributes to the descriptive level of meaning.

4.1 Embedding in conditional antecedents

There are two conditional constructions in CQ. The first involves a fully finite clause as antecedent framed by (*sichus*) ... *chayqa*, the second involves a non-finite clause using one of the nominalizers *-qti* or *-spa*.⁴ As shown in (22), embedding the Conjectural in the antecedent of either conditional construction is ungrammatical.

- (22) a. *chayta*-(***-chá**) *hasp'i-ru-n-ku-man chayqa tari-ru-n-ku-man-mi*
 this-(CONJ) dig-HORT-3-PL-COND then find-HORT-3-PL-COND-BPG
unu-ta
 water-ACC
 'If they were to dig (there), they would find water.'
 (Vengoa Zúñiga (1998:15), without evidential enclitics)
- b. *Allin-ta*-(***-chá**) *yacha-qti-yki-qa astawan yacha-chi-sqayki*
 good-ACC-(CONJ) learn-NMLZ-2-TOP more learn-CAUS-1S2O.FUT
 'If you learn well, I will teach you more.'
 (Cusihuaman (2001:211)), without Conjectural)

In contrast, both *-man* and *-puni* can be embedded (*-puni* is somewhat less acceptable, and I have no naturally occurring examples of embedded *-puni*):

- (23) *Para-sha-n-man*-(**puni**) *chayqa mana-n ri-sunchis-chu.*
 rain-3-COND then not-BPG go-1INC.FUT-POL
 'If (it is certain that) it might rain, we won't go.'

⁴They have distinct switch reference requirements: *-qti* requires distinct, *-spa* coreferential subjects.

4.2 Scope under negation

- The Conjectural *-chá* cannot scope under negation

- (24) Mana-**chá** para-sha-n-chu.
 not-CONJ rain-PROG-3-POL
p=It isn't raining.
 EV: *s* has conjectures that it isn't raining
 NOT: *s* does not conjecture that it is raining

- The conditional mood *-man* can easily occur in the scope of *mana*.

- (25) Context: The wife of a sick man is told that if she takes immediate action to cure him, he will get better. Otherwise:
 Mana-ña-yá qhali-ya-n-**man**-ña-chu (Itier 1999:172)
 not-DISC-EMO healthy-VBLZ-3-COND-DISC-POL
 'He can not get healthy anymore/It is not possible that he'll get healthy.'
 ($=\neg\Diamond$)

- The situation for *-puni* is less clear. In all naturally occurring examples of *-puni* with negation I have found so far, *-puni* has wide scope, as in (26).

- (26) Context: a farmer is asked to give meat to visiting authorities, but he refuses because he's too poor:
 Mana-**puni-raq-mi** ati-y-man-chu (Itier 1995:386)
 not-CERT-CONT-BPG can-1-COND-POL
 'I certainly couldn't (do that) yet.'

However, in elicitation it also appears to be possible to have negation scope over *-puni*, as in the following example (based on an example in Matthewson et al. (2006)).

- (27) Context: Someone has eaten all the guinea pigs prepared for a *fiesta* tonight. In Juan's room we find a pile of guinea pig bones.
 a. Me: Juan-cha-**puni-n** mikhun-man ka-rqa-n
 Juan-DIM-CERT-3 eat-COND be-PST-3
 'Juan must have eaten them.'
 Context: You know that his sister is a bit sneaky and that she might have put the bones there after eating the guinea pigs herself:
 b. You: Mana Juan-**puni**-chu ka-n-man ka-rqa-n.
 not Juan-CERT-POL be-3-COND be-PST-3
 'It is not certain that it was Juan./It wasn't necessarily Juan.'

4.3 Behavior in questions

4.3.1 Illocutionary operators are not part of what is questioned.

- Zimmermann (2004) argues for the German particle *wohl* that it does not contribute to the questioned content in *yes/no*-questions, and therefore, that it is not a descriptive-level element.

- (28) A semantics for polar questions:
- a. Regnet es?
‘Is it raining?’
 - b. $\text{?}\{\text{it is raining, it is not raining}\}$
 \approx Tell me which is true: it is raining or it is not raining.

According to Zimmermann, *wohl* means that the speaker is making an informed guess (German: *Vermutung*): $\text{GUESS}(s, \phi)$. In questions, this particle is anchored to the hearer (“interrogative flip” (Tenny and Speas to appear)).

- (29) a. Ist Hein **wohl** auf See?
‘Is Hein perhaps at sea?’
- b. **NOT**: $\text{?}\{\text{GUESS}(h, \text{Hein is at sea}), \text{GUESS}(h, \text{Hein is not at sea})\}$
 \approx Tell me which is true: you guess that Hein is at sea or you do not guess that Hein is at sea.
- c. $\text{?GUESS}(h, \{\text{Hein is at sea, Hein is not at sea}\})$
 \approx Tell me what you guess which is true: Hein is at sea or Hein is not at sea.

- The CQ Conjectural cannot occur in polar questions, but we can try to reconstruct the argument with *wh*-questions.

A (simplified) semantics for *wh*-questions q : q denotes the set of propositions that are the true answers to q .

- (30) a. Context: John and Mary came to the party.
- b. Who came to the party?
- c. $\text{?}\{\text{John came to the party, Mary came to the party, John and Mary came to the party}\}^5$
 \approx Tell me which is true: John came to the party, Mary came to the party, or John and Mary came to the party.

The illocutionary adverb *honestly*, $\text{HONEST}(s, \phi)$ (also gives rise to interrogative flip).

- (31) a. Honestly, who came to the party?
- b. **NOT**: $\text{?}\{\text{HONEST}(h, \text{John came to the party}), \text{HONEST}(h, \text{Mary came to the party}), \text{HONEST}(h, \text{John and Mary came to the party})\}$
 \approx Tell me which is true: You’re honest in saying that John came to the party, You’re honest in saying that Mary came to the party, or You’re honest in saying that John and Mary came to the party.
- c. $\text{?HONEST}(h, \{\text{John came to the party, Mary came to the party, John and Mary came to the party}\})$
 \approx Tell me honestly which is true: John came to the party, Mary came to the party, or John and Mary came to the party.

⁵Semanticists disagree as to whether this set should only include the exhaustive answers, or also the partial answers. This debate is irrelevant to the argument here, and I follow Asher and Lascarides (2003) and others in assuming partial answers are included as well.

The CQ Conjectural, too, participates in the interrogative flip. And like *wohl* and *honestly* it is not part of the content being questioned.

- (32) a. Context: Juan and Mary came (to the party).
 b. Pi-chá hamu-rqa-n?
 who-CONJ come-PST-3
 ‘Who came?’
 c. **NOT:** ?{REA(h, *John came to the party*), REA(h, *Mary came to the party*),
 REA(h, *John and Mary came to the party*)}
 \approx Tell me which is true: You’re conjecturing that John came to the party,
 You’re conjecturing that Mary came to the party, or You’re conjecturing
 that John and Mary came to the party.
 d. ?REA(h, {*John came to the party*, *Mary came to the party*, *John and Mary*
came to the party})
 \approx Tell me what you conjecture which is true: John came to the party, Mary
 came to the party, or John and Mary came to the party.

- Epistemic modals are part of what is being questioned:

- (33) a. Context: Juan or Marya might have eaten the guinea pigs.
 b. Who might have eaten the guinea pigs?
 c. ?{Juan might have eaten the guinea pigs, Marya might have eaten the
 guinea pigs.}
 \approx Tell me which is true: John might have eaten the guinea pigs or Marya
 might have eaten the guinea pigs.

- (34) a. Pi-n quwi-ta mikhu-n-**man** ka-rqa-n?
 who-BPG guinea.pig-ACC eat-3-COND be-PST-3
 ‘Who might have eaten the guinea pigs.’
 b. ?{Juan might have eaten the guinea pigs, Marya might have eaten the
 guinea pigs.}
 \approx Tell me which is true: John might have eaten the guinea pigs or Marya
 might have eaten the guinea pigs.

- (35) a. Cheqaq-pi-**puni-chu** presidente-man hayku-nki?
 true-LOC-CERT-POL president-ILLA enter-2
 ‘Is it certainly true that you will enter as president?’
 (Valderrama Fernandez and Escalante Gutierrez 1982:34)
 b. ?{it is certain that you will enter as president, it is not certain that you
 will enter as president}
 \approx Tell me whether it is certain that you will enter as president or whether
 it is not certain that you will enter as president.

4.4 Scope interactions with other illocutionary operators

- We expect that illocutionary modifiers interact scopally with other illocutionary operators. Unfortunately, this can only be shown empirically for the CQ Reportative. In addition to the flip reading, in which the hearer is expected to give an answer based on reportative evidence, this evidential also has a use in which it is still anchored to the speaker:

(36) a. MF to consultant's mother-in-law (who is hard of hearing):

Imayna-**n** ka-sha-nki.

how-BPG be-PROG-2

'How are you?'

b. Consultant to mother-in-law:

Imayna-**s** ka-sha-nki.

how-REP be-PROG-2

'(She says) How are you?'

This use requires *-si* to have scope over the question operator.

4.5 Modal Subordination

- Roberts (1989):

(37) a. If John bought a book, he'll be home reading it by now. # It's a murder mystery.

b. If John bought a book, he'll be home reading it by now. It'll a murder mystery.

c. A thief might break into the house. #He will take the silver.

d. A thief might break into the house. He would/might take the silver.

(38) a. Juan puklla-na-ta ranti-ku-n chayqa kunan-qa wasi-n-pi-**chá**
 Juan play-NMLZ-ACC buy-REFL-3 then now-TOP house-3-LOC-CONJ
 puklla-sha-n-man. ??Bola-**chá**.

play-PROG-3-COND ball-CONJ

'If Juan bought himself a toy, then he's probably playing at home now.

#It's probably a ball.'

b. Juan puklla-na-ta ranti-ku-n chayqa kunan-qa wasi-n-pi-**chá**
 Juan play-NMLZ-ACC buy-REFL-3 then now-TOP house-3-LOC-CONJ
 puklla-sha-n-man. Bola-**chá** ka-sha-n-**man**.

play-PROG-3-COND ball-CONJ be-PROG-3-COND

'If Juan bought himself a toy, then he's probably playing at home now. It might be a ball.'

- (39) a. Suwa wasi-yki-man hayku-mu-n-man-**mi**. ??Tukuy qulqi-yki-ta-**chá**
 thief house-2-ILLA enter-CISL-3-COND-BPG. All money-2-ACC-CONJ
 apa-pu-nqa.
 take-DEF-3FUT
 ‘A thief might come into your house. ??(S)he will probably take all your money.’
- b. Suwa wasi-yki-man hayku-mu-n-man-**mi**. ??Tukuy qulqi-yki-ta-**chá**
 thief house-2-ILLA enter-CISL-3-COND-BPG. All money-2-ACC-CONJ
 apa-pu-n-man.
 take-DEF-3-COND
 ‘A thief might come into your house. (S)he might take all your money.’

4.6 Summary

- We have good evidence that both the conditional mood *-man* and the certainty enclitic *-puni* contribute to the descriptive level of meaning.
- The Conjectural *-chá* fails all the tests for a descriptive-level operator.
- Unfortunately, this does not in and of itself mean that *-chá* is an illocutionary operator, because for most of the tests, we can find descriptive-level epistemic modals that fail them, too:
 - Epistemic modals of necessity can only be embedded with difficulty in *if*-clauses

(40) ? If the gardener must be the thief, the butler can’t be.
 - Epistemic modals of necessity cannot scope under negation

(41) The butler must not be the thief.
 \approx It is necessarily the case that the butler is not the thief.
 NOT: It is not necessarily the case that the butler is the thief.
 - Not all epistemic modals give rise to modal subordination effects.

(42) a. A thief will certainly break into the house. He will take the silver.
 b. A thief might break into the house. # He will certainly take the silver.
- Positive evidence for the illocutionary status of the Conjectural *-chá* includes its participation in the illocutionary flip, and the fact that it forms a morphological paradigm with the Direct and Reportative evidential. For the latter, the fact that it can still be anchored to the speaker in questions strongly argues for its illocutionary analysis.

5 Analysis: illocutionary downtoners

5.1 Starting point: Krifka (2004)

- “Apparent semantic similarity: To assert an epistemically weakened proposition is conversationally equivalent to performing a downtoned assertion.” (Krifka 2004).
- Downtoned assertion: An assertion in which the “speaker commits to the truth of ϕ , but to a lesser than usual degree” (captured by the STRENGTH component in Searle and Vanderveken’s (1985) system).
- German examples:

(43) *wahrscheinlich* and *wohl* appear to be semantically equivalent:

- a. Es wird **wahrscheinlich** regnen.
‘It will probably rain.’
- b. Es wird **wohl** regnen.
‘It will probably rain.’

(44) Differences in embedability:

- a. Wenn es **wahrscheinlich** regnen wird, sollten wir Schirme mitnehmen.
‘If it will probably rain, we should take umbrellas with us.’
- b. ??Wenn es **wohl** regnen wird, sollten wir Schirme mitnehmen.

→ *wahrscheinlich* is an epistemic modal at the descriptive level, *wohl* is an epistemic modal/downtoner at the illocutionary level.

- In traditional speech act theory, the speech act of assertion is taken to consist of the following components: **illocutionary point**, mode of achievement, propositional content conditions, preparatory conditions, **sincerity conditions**, and a **degree of strength** (Vanderveken 1990). (Only the boldfaced ones are relevant for current purposes.)

(45) The relevant illocutionary components of ASSERT(ϕ) (Vanderveken 1990):

ILL-POINT=to represent as actual a state of affairs
SINC= $\{Bel_s(\phi)\}$
STRENGTH= 0

- Downtoned assertion and assertion of an epistemically weakened proposition can be represented as follows.

(46) Downtoned assertion:

ILL-POINT=to represent as potentially/likely actual a state of affairs
SINC= $\{WBel_s(\phi)\}$
STRENGTH= -1

- (47) Assertion of epistemically weakened proposition:
 ILL=to represent as actual a state of affairs (where this soa is a possibility)
 SINC= $\{Bel_s(\Diamond\phi)\}$
 STRENGTH= -1

- Truth conditions for strong and weak belief (A = the person whose beliefs are considered):

(48) $[Bel_A(\phi)](w) = 1$ iff for all worlds w' such that $wR_{B_A}w'$ and $[\phi](w') = 1$

where $wR_{B_A}w' = \{w' \parallel w' \text{ is compatible with A's beliefs in } w\}$

(49) $[WBel_A(\phi)](w) = 1$ iff for some world w' such that $wR_{B_A}w'$ and $[\phi](w') = 1$

5.2 The CQ Conjectural as an illocutionary evidential and downtoner

- The CQ Conjectural adds an evidential sincerity condition which entails that the speaker is committed to ϕ to a lesser degree than with a full assertion. That, is, the Conjectural acts as an illocutionary downtowner.

- (50) Para-sha-n-**chá**.
 rain-PROG-3-**chá**
 p ='It is raining.'
 ILL-POINT= to represent as potentially/likely actual a state of affairs
 SINC= $\{Rea_s(p)\}$
 STRENGTH= -1

- Truth conditions for reasoning:⁶

(51) $[Reas_A(\phi)](w) = 1$ iff for some world w' such that $wR_{Inf_A}w'$ and $[\phi](w') = 1$

where $wR_{Inf_A}w' = \{w' \parallel w' \text{ is inferentially accessible for A in } w \text{ (i.e., compatible with A's inferential evidence in } w)\}$

- From reasoning to weak belief:

(52) a. $wR_{Inf_A}w' \subseteq wR_{B_A}w'$
 b. whenever $[Rea_A(\phi)] = 1$, $[WBel_A(\phi)] = 1$

⁶These are modelled on Matthewson et al. (2006), for whom, however, the requirement that the accessible worlds be ones in which the inferential evidence holds is a presupposition

5.3 Consequences for the classification of speech acts

- The declarative mood is usually taken to be associated with the speech act of assertion (by default). However, the declarative sentences with German *wohl* and CQ *-chá* are not used for assertions but for downtoned assertions.
- Illocutionary modifiers are functions from speech acts to speech acts (Vanderveken 1990).

- (53) a. ?? *wohl*:
- $$\begin{array}{ccc} \text{ASSERT}(\phi) & \rightarrow & \text{DOWN-ASSERT}(\phi) \\ \{Bel_s(\phi)\} & & \{WBel_s(\phi)\} \end{array}$$
- b. ?? *-chá*:
- $$\begin{array}{ccc} \text{ASSERT}(\phi) & \rightarrow & \text{DOWN-ASSERT}(\phi) \\ \{Bel_s(\phi)\} & & \{Rea_s(\phi)\} \end{array}$$

Such an analysis would require that we allow non-monotonic modification.

- **Revision:** the declarative mood is associated with the speech act PUT ('putting forward a proposition' (von Fintel 2003, talk at UMASS)), which is a fairly 'empty' speech act, and not normally used in conversation.

- (54) The illocutionary components of PUT(ϕ):
- ILL-POINT=to put forward a proposition into the discourse
- SINC={ }
- STRENGTH= 0

- Sincerity default:

- (55) Unless otherwise indicated, the sincerity conditions of PUT will be filled with $Bel_s(\phi)$, that is PUT will be strengthened to ASSERT (cf. Zeevat (2003)).

- (56) Default:
- $$\begin{array}{ccc} \text{PUT}(\phi) & \rightarrow & \text{ASSERT}(\phi) \\ \{ \} & & \{Bel_s(\phi)\} \end{array}$$

- Illocutionary downtoners:

- (57) a. *wohl*:
- $$\begin{array}{ccc} \text{PUT}(\phi) & \rightarrow & \text{DOWN-ASSERT}(\phi) \\ \{ \} & & \{WBel_s(\phi)\} \end{array}$$
- b. *-chá*:
- $$\begin{array}{ccc} \text{PUT}(\phi) & \rightarrow & \text{DOWN-ASSERT}(\phi) \\ \{ \} & & \{Rea_s(\phi)\} \end{array}$$

6 Conclusion

6.1 Summary

- In CQ, pure evidentials operate on the illocutionary level, the two pure modals discussed on the descriptive level. Some languages have modals on the descriptive as well as on the illocutionary level (e.g., German). In some languages, evidential epistemic modals operate on the descriptive level (e.g., Turkish, Bulgarian, St’át’imcets, Japanese. I’ve argued that the evidential epistemic modal *-chá* in CQ operates on the illocutionary level. It is therefore not possible to assign the notion of epistemic modality or that of evidentiality to either level of meaning. (Matthewson et al. (2006) arrive at a similar conclusion).
- The CQ Conjectural can be analyzed as an illocutionary modifier that introduces the evidential sincerity condition that the speaker has arrived at ϕ by reasoning, which in turn entails that they only weakly believe ϕ . That is, it gives rise to the weaker speech act of a downtoned assertion.
- Allowing weak epistemic modals on the illocutionary level (downtoners) requires a modification of the traditional idea that declarative sentences have as their primary illocutionary force ASSERTION. I have suggested that declarative sentences are associated with the much weaker speech act of PUT, and that this is strengthened to ASSERT by default in the absence of illocutionary modifiers marking a different kind of speech act. Illocutionary modifiers modify PUT.
- Matthewson et al. (2006) conclude: “It is in fact our contention that evidentiality per se is a ‘parasitic’ category. Evidential meanings may be associated with any of the principal functional heads in the IP domain: mood, tense, or aspect.” To account for CQ evidentials, we should add to this heads higher than IP, namely those relating to information structure, such as Focus.

6.2 Future Work

- An analysis of the CQ Conjectural and other evidentials in questions.
- Recasting the analysis in a more current and dynamic framework of speech acts

Abbreviations: 1,2,3: first, second, third person, 1O: first person object, 1s2O: first person subject second person object, ACC: accusative, ADD: additive, BPG: best possible grounds, CAUS: causative, CERT: certainty, CISL: cislocative, COND: conditional, CONJ: conjectural, DEF: definite, DIM: diminutive, DISC: discontinuous, EMO: emotive, EUPH: euphonic, EXCL: exclusive, FUT: future, GEN: genitive, HORT: hortative, ILLA: illative, INCA: inclusive, INDEF: indefinite, LOC: locative, LIM: limitative, NMLZ: nominalizer, PST: past, PL: plural, POL: polarity, POSS: possessive, PROG: progressive, PRT: participle, REFL: reflexive, REP: reportative, RES: result, TERM: terminative, TOP: topic, VBLZ: verbalizer

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[MF-COMMENT:] It can be used when the speaker is merely guessing or speculating, as well as when (s)he is making an inference from well-established premises.

[MF comment:] Conceptually, the two categories are clearly distinct, though related: the kind of evidence a speaker has will often determine the degree of certainty with which she believes a proposition. The view of evidentiality as a conceptual category distinct from epistemic modality does however not preclude the possibility (which is well attested in the world's languages, see for example Willett Chafe and Nichols, Aikhenvald and Dixon, Aikhenvald, that specific linguistic markers may combine both.)

[MF-COMMENT:] If the speaker of (3b) has experienced in the past that lack of rain caused a bad harvest, then (3b) constitutes a plausible inference. If the speaker on the other hand has no such experiences, (3b) just constitutes a reasonable speculation.]

[MF-COMMENT] According to this analysis, the PE is essentially an epistemic necessity modal in that it asserts that the embedded proposition p is necessarily true with respect to the speaker's knowledge state. It differs from epistemic modals in that it presupposes that this claim is based on indirect evidence. This presupposition thus restricts the kind of modal bases the PE can refer to.

[MF-COMMENT] Thus, the inferential meaning of (20b) is computed as follows: the epistemically accessible worlds are those in which there are empty wine bottles in Ivan's office. This indirect evidence is compatible with worlds in which anyone might have emptied these bottles. However, we only consider worlds in which the ordering source is true. It then follows that Ivan drank the wine. In order to derive the reportative interpretation, we consider those worlds in which it is true that Mary told the speaker that Ivan drank all the wine, and where what Mary says is usually true. It then also follows that Ivan drank the wine.]