

Evidentials and Questions

Regine Eckardt • Andrea Beltrama

Abstract The paper investigates inferential evidentials in questions, specifically, German evidential *wohl* and the Italian evidential future. German questions with *wohl* show the interrogative flip. In verb-final syntax, they are interpreted as conjectural questions. We propose an analysis of evidentials in questions based on von Stechow & Gillies's (2011) anchoring of epistemic *might*. The account predicts the interrogative flip and the conjectural reading of verb-final questions with *wohl*. It is extended to Italian questions with evidential future, which convey conjectural questions without the interrogative flip. In the final part, we hypothesize how the range of interpretations of evidentials in questions – as found in a wide range of languages – emerges.

Keywords evidential · conjectural question · interrogative flip · future as evidential · German · Italian

R. Eckardt, University of Konstanz, regine.eckardt@uni-konstanz.de

A. Beltrama, LLF/University of Paris 7-Diderot, abeltram@linguist.univ-paris-diderot.fr

In Christopher Pinon (Ed.), *Empirical Issues in Syntax and Semantics 12*, 00–00. Paris: CSSP.

<http://www.cssp.cnrs.fr/eiss12/>

© 2019 Regine Eckardt & Andrea Beltrama

1 Introduction

Evidential markers have been extensively studied in recent literature (e.g., Faller 2002, Aikhenvald 2004, Davis, Potts, & Speas 2007, Speas 2008). They convey the speaker's type of evidence in support of an assertion *p*. The speaker could claim that Annie sang based on direct perceptual evidence (they heard it), on reportative evidence (others have told him) or on inferential evidence (that Annie sang follows from the speaker's privileged knowledge).

This article investigates evidentials in questions and aims to deepen our understanding of evidentiality at the interface of semantics, pragmatics and syntax. Evidentials in interrogative clauses can trigger two effects, each of which has been claimed to be independent

from the other: *interrogative flip*, where the evidential is re-anchored from the speaker to the addressee; and *conjectural questions* (CQs), which express the speaker's curiosity about a certain issue rather than requesting the addressee to answer.

We focus on two case studies: the German inferential evidential particle *wohl* in declaratives, questions and CQs (1a-b); and the use of the evidential future in Italian to mark a question as CQ (2).

- (1) a. Der Schlüssel ist wohl in der Küche.
the key is *wohl* in the kitchen
'The key is in the kitchen I assume.'
- b. Wo ist wohl der Schlüssel?
where is *wohl* the key
'Where, do you assume, is the key?'
- c. Wo wohl der Schlüssel ist?
where *wohl* the key is
'Where is the key, I wonder.'
- (2) a. La chiave sarà in cucina.
the key be.FUT in the.kitchen
a. 'The key will be in the kitchen.'
b. 'The key is in the kitchen I guess.'
- b. Dove sarà (mai) la chiave?
where be.FUT (ever) the key?
'Where (on earth) is the key? (I have no clue.)'

The paper is organized as follows. Section 2 surveys examples of evidentials in questions in different languages, reviewing the accounts that have been put forward to capture their effects. Section 3 reports the readings and contexts of use of *wohl* in German declaratives and questions. Section 4 proposes a two-step analysis for German that covers the flip reading as well as the further CQ reading triggered by verb-final syntax in root questions. Section 5 discusses the Italian *evidential future* in questions and surveys different ways for the speaker to express their pragmatic ulterior motive when asking questions. These motives can be conventionalized as flip ques-

tions or conjectural questions. Aligning these options can help us to understand how different languages make use of similar means in different ways. Section 6 summarizes.

2 Background: Two Interpretations of Evidentials in Questions

It has been observed that evidentials in questions give rise to two possible interpretations. One interpretation is the interrogative flip (Aikhenvald 2004, Speas & Tenny 2003, Garrett 2001, Faller 2002) in which the anchor of the evidential shifts from the speaker to the addressee. The Cheyenne hearsay evidential *sěstse* ‘I heard that’ illustrates this reading (Murray 2009, 2016). An assertion *p* is hedged by *sěstse* to convey ‘*p*, as I heard’. If *sěstse* occurs in a question *Q* it can be paraphrased as ‘given what you heard, what is the answer to *Q*?’. Example (3) shows this for a polar question and (4) for a *wh*-question (Murray 2016).¹

- (3) Mó= ’ -é -némene -**sěstse** Annie?
 Q= EP -3 -sing -RPT.3SG Annie
 ‘Given what you heard, did Annie sing?’
- (4) Tóne’she é-ho’eohtse -**sěstse**?
 when 3-arrive -RPT.3SG
 ‘Given what you heard, when did he arrive?’

Another example is the direct evidence marker *te* in Korean as described in Lim 2011. The assertion in (5), marked by *te*, conveys that the speaker has direct evidence for the preajcent.

- (5) John-i na-lul po-**te**-la.
 John-NOM I-ACC see-te-DECL
 ‘John saw me.’
 Implication: The speaker has direct evidence that John saw the speaker. (Lim 2011)

¹RPT = reportative marker, EP = epenthetic segment.

If evidential *te* is used in a question, the speaker requests the addressee to convey eye-witness information in response to the answer.

- (6) John-i na-lul po-te-nya?
 John-NOM I-ACC see-te-Q
 ‘Did John see me?’

Implication: The addressee is expected to answer based on their direct evidence relative to whether John saw the speaker or not.

Interrogative flip is crucially not limited to languages with a grammaticized evidential system. English, for example, features this phenomenon with epistemic *might*. Assertions of the form *might S* convey that *S* is possible according to what the speaker knows. When used in a question, *might* instead refers to the epistemic background of the addressee.²

- (7) Where might the key be?
 ‘What are possible locations of the key, according to what *you* believe?’

Whether a given evidential supports the interrogative flip or not is ultimately encoded as a lexical property of the evidential marker itself. In their survey of evidentials in questions, San Roque et al. (2017) report flip readings for Quiang (Tibeto-Burman), Tsafiki (Barbacoan, South America), Nganasan (Uralic) and Macedonian (Slavic). The present paper argues that German *wohl* poses another example.

The second way to interpret questions with an evidential marker is as CQs (conjectural questions). Other terms used in the literature are deliberative questions, self-addressed questions or questions where no addressee is present. We use this label to refer to questions *Q* with the following pragmatic profile:³

²We do not intend to claim that *might* is an evidential.

³We avoid the popular criterium “question asked in absence of an addressee” (Jang & Kim 1998, Jang 1999) as this is neither necessary nor sufficient for CQs.

(8) **Conjectural Questions Q:**

- a. Q conveys the speaker's curiosity about a certain issue
- b. the addressee is not requested to answer
- c. remaining silent is an unmarked reaction for the addressee
- d. the addressee is invited to join the speaker in speculating on the topic at issue
- e. Q roughly means 'I wonder whether Q' where Q' is the truth conditional core of Q'.

The term 'conjectural question' was proposed by Littell, Matthewson, & Peterson (2010), who investigate evidential markers in questions in Stáƒimcets (Lillooet Salish), Nl̓eʔkepmxcín (Thompson Salish) and Gitksan (Tsimshianic). They observe that evidentials in questions lead to an interpretation that fits the profile in (8) (Littell et al. 2010:89). Their following examples from Gitksan illustrate the case.

(9) Gitksan

- a. $\text{sdin}=\mathbf{ima}=\text{hl}$ xbiist .
be.heavy=**infer**=CND box
'The box might be heavy.'
- b. $\text{nee}=\text{hl}$ $\text{sdin}=\text{hl}$ $\text{xbiist}=\text{a}$?
YNQ=CND be.heavy=CND box=INTERROG
'Is the box heavy?'
- c. $\text{nee}=\mathbf{ima}=\text{hl}$ $\text{sdin}=\text{hl}$ $\text{xbiist}=\text{a}$.
YNQ=**infer**=CND be.heavy=CND box=INTERROG
'I wonder if the box is heavy.'

(10) naa 'an-t $\text{gi}'\text{nam}-(\text{t})=\text{hl}$ $\text{xhla}\acute{\omega}\text{sxw}$ 'as John?
who S.REL-3 give-3=CND shirt PREP John
'Who gave this shirt to John?'

(11) $\text{naa}=\mathbf{ima}$ 'an-t $\text{gi}'\text{nam}-(\text{t})=\text{hl}$ $\text{xhla}\acute{\omega}\text{sxw}$ 'as John.
who=**infer** S.REL-3 give-3=CND shirt PREP John
'I wonder who gave this shirt to John.'

The same reading is also reported in Murray 2016 for Cheyenne evidential *séstse* in *wh*-questions. The example in (4) has a second reading as a conjectural question, as in (12), in addition to the flip reading reported above.

- (12) Tóne'še é-ho'eohtse-séstse.
 when 3-arrive-RPT.3SG
 'He arrived sometime, I wonder when.'
 (Murray 2016:(53i-ii))

More examples of evidentials giving rise to conjectural questions are listed in San Roque et al. 2017 and the present paper discusses two more cases, German and Italian.

In the extant literature, both the flip reading and the conjectural-question reading have been claimed to follow systematically from the interaction between the semantics of evidentials and the semantics of questions.

Lim (2011) derives the interrogative flip as a systematic result of evidential and question semantics. He suggests that the evidential marker *-te* in Korean is combined with the Hamblin denotation of a question, that is, a set of propositions. The evidential combines pointwise with these propositions to yield (proto-)speech acts. All possible answers to the question are thus predicted to mark the respective proposition as direct-witness information of the addressee.

Littell et al. (2010) derive the CQ meaning as a systematic result of evidential and question semantics. They assume that inferential evidentials with prejacent *p* presuppose 'the speaker has evidence that *p*'. A question presupposes the conjunction of the presuppositions of all possible answers. Question (11) thus presupposes 'the addressee has inferential evidence that *x* gave the shirt to John' for all persons *x*. The authors argue that this presupposition is so strong that the addressee cannot possibly maintain it. Therefore the question is reinterpreted as not requesting an answer, that is, conjectural.

While either analysis captures the relevant data in the respective languages, both proposals seem to suggest that the pattern that they

unveil applies crosslinguistically – that is, *all* evidentials in *all* questions in *all* languages should behave in this way. In the remainder of the paper, we argue that this prediction is too strong; however, we remain committed to explaining the emergence of these readings in a principled fashion, and in particular to the idea of linking both the interrogative flip and conjectural readings to the broader semantic properties of questions. Our main case of study is German evidential *wohl* in questions, which shows an intriguing two-fold pattern: it gives rise to the flip reading in questions (Zimmermann 2004, 2008, 2011); it can yield a CQ interpretation when used in root-clause questions with verb-final syntax. Our point of comparison is Italian where the future can be used in an evidential sense and questions in the evidential future are CQ.

3 German Evidential *wohl*: Data

Let us begin by considering *wohl* in assertions: here, the particle indicates that the speaker has inferential evidence for *p*.

- (13) Der Schlüssel ist wohl in der Küche.
 the key is *wohl* in the kitchen
 ‘The key is in the kitchen I guess.’

For example, the speaker in (13) does not know for a fact that the key is in the kitchen, but they have plausible reasons to believe so: for instance, they might remember that, after returning home, they went in the kitchen to get rid of bags and therefore assume the key is there as well. We’ll return to this reading in section 4.1.

In questions *wohl* shows the interrogative flip (Zimmermann 2004, 2011). The question in (14) asks for an answer but at the same time grants permission to the addressee to rely on their inferences and conjectures in addition to knowledge.

- (14) Wo ist wohl der Schlüssel?
 where is *wohl* the key
 ‘Where, do you guess, is the key?’

(14) is a true question in that the addressee is requested to provide an answer. Some descriptive grammars diagnose a tendency for (14) to be “self-addressed” (Thurmair 1989), but we assume that their examples are cases of standard questions being contextually coerced into a “self-addressed” stance.

Finally, *wohl* can occur in root questions with verb-final syntax like in (15). V-final questions in German with *wohl* do not request an answer (Lohnstein 2000, 2007, Truckenbrodt 2006, 2013, Altmann 1987). They are CQs in the sense of definition (8) above.

- (15) Wo wohl der Schlüssel ist?
 where *wohl* the key is?
 ‘Where is the key I wonder.’

Earlier authors assume that verb-final syntax alone is the triggering factor for the CQ interpretation (Doherty 1985, Oppenrieder 1989, Altmann 1993, Lohnstein 2000, 2007, Truckenbrodt 2006, 2013, Zimmermann 2013), but this does not seem to apply to *wh*-questions, at the very least. The examples in (16) show that *wh*-questions in verb-final syntax without evidential *wohl* do not have a CQ reading. We use # to indicate this.⁴

- (16) a. #Wo der Schlüssel ist?
 where the key is
 b. #Wann der Zug kommt?
 when the train arrives

⁴Interestingly, evidential *wohl* in verb-final questions can be replaced with evidential *mag* ‘might’. The examples in (16) become grammatical as soon as the verb is embedded under *mag* ‘might’, hence ... *sein mag*, ... *kommen mag*, ... *gesehen haben mag* are acceptable CQs. An example is spelled out in (i).

- (i) Wo der Schlüssel sein mag?
 where the key be may
 ‘Where may the key be I wonder?’

German *mag* in this sense is archaic; speakers lack intuitions for declarative sentences. We therefore restrict our attention to *wohl*.

- c. #Wen der gesehen hat?
 who.ACC he seen has

This supports the assumption that evidential *wohl* is a relevant building block for conjectural questions.

Next consider possible reactions to verb-final *wohl*-questions. They fit the profile in (8) above: they do not request an answer, they express an interest of the speaker (Thurmair (1989):144) and are often interpreted as a starter of joint speculations over a given topic, as in (17).

- (17) (In a café: A and B observe a deserted mattress leaning against the house. A to B:)
 Wer die wohl da hingestellt hat?
 Who that-one *wohl* there put has
 ‘Who may have left that one there I wonder?’

What A means to do is engage B in a conversation on the recent history of the mattress. Clearly, B won’t be able to provide a straightforward answer to (17) but could have opinions or experience as to what kind of events lead to situations such as the one observed.

Earlier authors propose that verb-final syntax in German is the triggering factor for CQs. They argue that verb-final syntax is typical for subordinate clauses whereas speech acts proper are typically conveyed by main clauses in V2 syntax. They conclude that verb-final questions cannot convey proper questioning acts and thus convey CQs instead, proposing different formal analyses to derive this prediction.

We argue against this view on basis of two observations. First, verb-final syntax is necessary but not sufficient to build CQs. Constituent questions with verb-final syntax but without *wohl/mag* or further particles are not conjectural, as illustrated in (16). Hence an analysis that derives CQs from verb-final syntax fails to explain why further factors are mandatory. Second, contrary to the standard view, verb-final questions can convey proper question acts when they are

used in repeat questions as in the dialogue in (18a-b).

- (18) a. A: Wo ist der Schlüssel? ('Where is the key?')
 B: [Does not answer]
- b. A: Hey, wo der Schlüssel ist!? (hey where the key is)
 'Hey, do tell me where the key is!?'

Verb-final repeat questions can also be used by the hearer to make sure that they understood the question correctly.⁵

- (19) A: Wo ist der Schlüssel? 'Where is the key?'
 B: Wo der Schlüssel ist? (where the key is)
 (In the kitchen, of course ... / I have no idea ... / Let me think ...)

We therefore conclude that the proposed alignment of verb-final syntax = defective questions (including CQs) as opposed to V-initial/V-second syntax = true questions is oversimplified and does not hold.

Before proposing a different analysis of German conjectural *wohl*-questions, let us introduce two further data points. First, CQs in German can also be coded by verb-final syntax and *bloß/nur* 'only' which leads to a *wh-on-earth* question.

- (20) Wo bloß/nur der Schlüssel ist?
 where only the key is
 'Where in heaven is the key I wonder.'

The particles *bloß/nur* add the exasperated 'can't find the value' (Obenauer 2004, den Dikken & Giannakidou 2002) to standard questions and CQs. They provide a second way to license verb-final syntax and

⁵Questions like (18) frequently occur in newspaper texts to suggest that the author is taking up a question of the reader. Given that they are not elliptical in these uses, we propose that verb-final syntax in (18) triggers the back-question interpretation independently of an (elided) antecedent in discourse. Disselkamp (2017) argues on the basis of prosodic evidence that neither conjectural nor back-asking verb-final questions are elliptical.

trigger CQ readings.

Finally, bare polar verb-final questions like (21) are acceptable CQs.

- (21) Ob der Schlüssel in der Küche ist?
 if the key in the kitchen is
 'I wonder whether the key is in the kitchen.'

(21) is, however, sensitive to context. Speaker A cannot use (21) as a discourse starter, addressing a bystander B. An introductory *Was meinen Sie?* = 'what's your opinion?' is necessary to clarify the speaker's intention and improves (21) as a discourse starter. CQs with *wohl*, in contrast, can be used discourse-initially. We thus conclude that bare polar verb-final questions like (21) refer to a given topic and are in fact anaphoric (Gutzmann 2011).⁶ While earlier authors take the subtype in (21) as their starting point and consequently ignore the impact of evidentials in CQs, we propose that polar verb-final questions like (21) constitute a case in their own right and disregard them in the following.⁷

We now propose an account of German conjectural *wohl*-questions that rests on two factors: the interrogative flip plus a second pragmatic factor X – coded in German by verb-final syntax – which triggers the conjectural reading. On this view, the analysis of conjectural questions in German conceptually aligns with the accounts proposed for other languages. In addition, in view of the fact that evidential markers figure prominently in conjectural questions of many languages whereas non-standard syntax does not, we think that there is much to gain from extending our focus beyond German to capture the pragmatic factors behind the phenomenon.

⁶This confirms the function of CQs to initiate joined speculations. Alternative phrases like *Ich frage mich ...* 'I wonder' are not suited to improve discourse coherence, which suggests that CQs are not primarily an expression of interest but an invitation. It would be interesting to test this difference in corpora.

⁷Zimmermann (2013) briefly speculates on a concord analysis for *wohl* and verb-final syntax.

4 German *wohl* in Assertions and Questions

Section 4.1 revisits *wohl* in assertions and proposes a refinement of Zimmermann's earlier analysis. Section 4.2 takes up the challenge of predicting the flip of *wohl* in standard questions and proposes that it rests on general mechanisms of epistemic anchoring in natural language utterances. Finally, we investigate the extra factors that lead to CQs in sections 4.3 and 4.4.

4.1 *Wohl* in Assertions

Zimmermann (2004, 2011) proposes that *wohl* marks an assertion p as an *assumed belief* of the speaker, which is less reliable than *knowledge*. He uses the predicate $\text{ASSUME}(A, p)$ to code that A thinks that p is true but has no certain knowledge.⁸

- (22) A: Der Schlüssel ist wohl im Auto. (the key is *wohl* in.the car)
 Asserted content: $p =$ 'The key is in the car'
 Non-at-issue: $\text{ASSUME}(A, p)$
 $\text{ASSUME}(A, p)$ is less certain than $\text{KNOW}(A, p)$

Due to the maxim of quantity, *wohl* is restricted to contexts where the speaker assumes but lacks knowledge. Likewise the use of *wohl* in questions is limited to contexts where the speaker believes that the addressee cannot provide a certain answer (Zimmermann 2008).

This analysis, however, faces two challenges. First, Göbel (2018) observes that the following dialogue is felicitous even though the speaker knows the prejacent proposition. Consider the following exchange between A and B : A claims that Rome is in France. B responds: No, it is in Italy, look at this map!

- (23) A: Da hab ich mich wohl geirrt. (there have I me *wohl* erred)
 'Then I obviously was wrong.'

⁸We deviate from the original analysis according to which $\text{ASSUME}(A, p)$ is the one and only asserted content of (22). Zimmermann offers evidence in favor of this claim, yet open issues remain and Murray's (2009) arguments in favor of two-dimensional meaning extend to German *wohl*.

Göbel argues that an analysis in terms of evidentiality can better explain that (23) does not violate the maxim of quantity.

Second, *wohl* cannot be used to mark the prejacent p as highly likely on mere statistical grounds. Imagine a box with 9 white balls and 1 black ball. A knows the distribution, draws a ball out of the box but cannot see the colour. At this point A can assert (24) but (25) would be odd in this situation.

- (24) Ich habe wahrscheinlich eine weiße Kugel gezogen.
I have probably a white ball drawn
- (25) #Ich habe wohl eine weiße Kugel gezogen.
I have *wohl* a white ball drawn

The use of *wohl* cannot mark a proposition as statistically likely but not certain. For the particle to be felicitous, there need to be specific episodic facts suggesting that A drew a white ball, and which do not reduce to mere probabilistic knowledge. (25) improves, for instance, when A observes that B – who can already see the ball's colour – makes an unsurprised face, which suggests an unsurprising outcome of the experiment.⁹ Such reference to particularly reliable knowledge such as observed episodic facts is reminiscent of von Stechow & Gillies's (2010) notion "privileged knowledge" in their analysis of *must* as marker of logical inferences. Like these we have to leave this notion vague for the moment.

To capture these observations, we propose that a speaker asserting *wohl p* indicates that p is a defeasible inference from their knowledge. The idea can be illustrated by typical uses of *wohl*. Consider a situation where A knows the following:

- i. Hein is nowhere to be seen.

⁹We thank Sven Lauer for suggesting this variant of example (25). It is somewhat tricky to delineate "episodic facts" and "general knowledge" here. What counts as "episodic fact" may vary between speakers, even though the contrast (24)/(25) was confirmed robustly by native speakers.

- ii. It is Friday afternoon and Hein usually goes shopping on Fridays.
- iii. His slippers are in the hall.
- iv. The shopping bag is missing.

A can now say:

- (26) Hein ist wohl einkaufen gegangen.
 Hein is *wohl* shopping gone
 'Hein has gone shopping I guess.'

Speaker A explicitly grants that new evidence may cause A to retract the inference. If A finds out that Hein's hiking boots are missing as well, A may decide that Hein rather went hunting for mushrooms.

There is more evidence in favour of analysing *wohl* as an inferential evidential. Native speakers of German report the intuition that *wohl p* invites questions in return like *Why do you think so?* or *What makes you believe this?*¹⁰

- (27) A: Hein ist wohl einkaufen gegangen.
 'Hein has *wohl* gone shopping.'
 B: Warum glaubst Du das?
 'What makes you think that?'
 This reaction suggests interest in A's reasons.
- (28) A: Hein ist einkaufen gegangen.
 B: Warum glaubst Du das?
 This reaction challenges A's credibility.

While B's question in (27) seems to naturally target the use of *wohl*, the question in (28) somewhat undermines the speaker's authority for the claim, and thus runs the risk of being perceived as offensive.¹¹

¹⁰We thank Ramona Wallner for drawing our attention to this fact.

¹¹The contrast arises most clearly in cooperative question-answer contexts (i.e., outside school exams or lawsuits) and for assertions of non-sensational content. If *wohl* signals that the speaker infers the prejacent *p* from knowledge, then B's question in (27) is justified as asking for the premisses of the inference.

We spell out the defeasible inference of p in (29), anchoring it to the speaker's epistemic background Epi . It is based on defeasible entailment as a logic relation between sets of propositions and propositions (Lewis 1973).¹²

- (29) For individual A , let $Epi_{A,w}$ be the set of propositions known by A at index w . $Epi_{A,w}$ defeasibly entails p iff
- a. there is a finite set of propositions q, q', \dots in $Epi_{A,w}$ such that $\{q, q', \dots\}$ defeasibly entails p
 - b. there is no additional proposition r in $Epi_{A,w}$ such that $\{q, q', \dots, r\}$ defeasibly entails $\neg p$

We use entails* as shorthand for “defeasibly entails.”

For instance, the speaker's inference in (27) is defeasible: the present knowledge entails* that Hein went shopping but additional information could invalidate the entailment*. (30) defines the meaning of *wohl*.

- (30) For individual A , let $Epi_{A,w}$ be the beliefs of A at index w .
 A utters: *wohl* p
 $\leftrightarrow A$ conveys
 At issue content: p
 Non-at-issue content: $Epi_{A,w}$ entails* p
 “My current knowledge entails* that p . Further evidence may force me to retract the inference.”¹³

¹²There are several ways to implement such a logical relation, all of which are equally suitable for our purposes (Gabbay et al. 1998, Strasser & Antonelli 2016, Reiter 1980).

¹³Defeasible entailment has been extensively studied in artificial intelligence. Formalisms are designed to capture inference patterns that distinguish normal and non-normal cases. For instance, the proposition ‘Tweety is a bird’ normally allows to infer ‘Tweety can fly’. Yet further information can defeat the inference, for instance, the information ‘Tweety is a penguin’. Defeasible logic is thus non-monotonic (more information may mean less inferences) whereas classical logic is monotonic (deductions remain valid even if new information is added).

We write $\langle p \cdot Epi_{A,w} \text{ entails}^* p \rangle$ to distinguish at-issue and non-at-issue content, sometimes suppressing the index w .

4.2 *Wohl* in Questions

We can now build on this analysis to account for the interrogative flip of *wohl* in questions. We take von Fintel & Gillies's (2011) analysis of English epistemic *might* as our starting point. In their proposal, von Fintel & Gillies (henceforth, FG) treat *might* as existential quantifier over the epistemic background of an agent A. We will also say that *might* (like *wohl*) is anchored to an individual A. FG propose that sentences with *might* give rise not just to one denotation – as the semantic composition would have it – but to a set of possible denotations (called a “cloud” by FG). The possible denotations are computed by anchoring *might* to all possible individuals or groups that could play a role in the given utterance situation. To give an example, the sentence in (31), uttered in a context where A talks to B, is assigned the cloud of denotations in (32).

(31) The key might be in the kitchen.

(32) $\llbracket \text{might (the key is in the kitchen)} \rrbracket^C$
 $= \{ \text{might}(Epi_A)(\text{'the key is in the kitchen'}),$
 $\text{might}(Epi_B)(\text{'the key is in the kitchen'}),$
 $\text{might}(Epi_{A+B})(\text{'the key is in the kitchen'}) \}$

$\text{might}(Epi_A)(\text{'the key is in the kitchen'})$ is true iff there are worlds compatible with what A knows where the key is in the kitchen. Similarly for *might* anchored to B. Anchored to A+B, *might* quantifies over worlds that are compatible with what A knows and what B knows.

FG propose that the actual denotation under debate is one in the cloud, chosen on basis of general pragmatic principles: a speaker who makes a claim must be authorized to make this claim. In particular, no speaker can make claims about what follows from other speakers' knowledge *unless* the relevant knowledge is known to her. At the beginning of discourse, speakers don't share knowledge be-

yond world knowledge in the common ground (CG). Thus speaker A is only authorized to use *might* anchored to A. FG illustrate this principle in various types of dialogue such as questions, exam situations, mastermind games, representative assertions and more. If (31) is uttered by A under normal circumstances, the chosen denotation is $might(Epi_A)$ ('the key is in the kitchen').

We propose to generalize the account to *wohl*. (33) recapitulates our denotation for (26) so far.

- (33) A: Hein ist wohl einkaufen gegangen.
 Asserted: 'Hein went shopping' (= p)
 Non-at-issue: Epi_A entails* 'Hein went shopping'
 \langle 'Hein went shopping' · Epi_A entails* p \rangle

Assuming FG's analysis of anchored assertions, the content in (33) comes about indirectly. In a first step, the utterance "Hein ist wohl einkaufen gegangen" gives rise to the cloud of possible denotations in (34).

- (34) $\{ \langle$ 'Hein went shopping' (= p) · Epi_A entails* p $\rangle,$
 \langle 'Hein went shopping' (= p) · Epi_B entails* p $\rangle,$
 \langle 'Hein went shopping' (= p) · Epi_{A+B} entails* p $\rangle \}$

A is authorized to convey that A's knowledge entails* p . A is not authorized to convey that B's knowledge entails* p unless A knows everything that B knows pertaining to the issue whether Hein went shopping or not. Thus A is only authorized to convey $\langle p \cdot Epi_A$ entails* $p \rangle$, as assumed in (30). The cloud-of-denotations analysis and our earlier, simpler analysis predict the same denotation for declarative sentences, which is empirically adequate.

The indirect account in addition predicts the interrogative flip. We adopt a Hamblin semantics for questions. Following Zimmermann (2008), *wohl* takes scope over the question operator and adds its content to each answer. We thus derive answers with the non-at-issue

element that labels p as a defeasible entailment.¹⁴ The question in (35) gives rise to the cloud of question meanings in (36).

(35) Wo ist wohl der Schlüssel?
where is *wohl* the key

(36) $\{\{ \langle \text{'key is at } z' (= p) \cdot Epi_A \text{ entails* } p \rangle ; z \text{ location} \},$
 $\{ \langle \text{'key is at } z' (= p) \cdot Epi_B \text{ entails* } p \rangle ; z \text{ location} \},$
 $\{ \langle \text{'key is at } z' (= p) \cdot Epi_{A+B} \text{ entails* } p \rangle ; z \text{ location} \} \}$

(36) comprises three sets of answers: 'I have evidence that the key is at z' ', 'You have evidence that the key is at z' ', and 'Our pooled knowledge offers evidence that the key is at z' '. These represent three question meanings that are abbreviated as Q_A , Q_B , Q_{A+B} in what follows. At the beginning of a discourse the addressee B is not authorized to give answers to Q_A because B cannot know what A can infer about the key's location. B is authorized to answer Q_B .¹⁵ B is not authorized to answer Q_{A+B} because facts known to A might delete B's defeasible inferences. We thus predict that the actual question at issue is Q_B , that is, the interrogative flip for *wohl* in (37).

(37) Wo ist wohl der Schlüssel?
'What do you guess where the key might be?'

What remains to be explored are situations in which B happens to know the answer to Q . Defeasible entailment includes classical entailment. The analysis therefore predicts that B can assert known propositions p in response to Q . Due to scalar implicature, answers that B knows for certain should not be labelled with *wohl*. Likewise,

¹⁴We follow Korotkova (2015, 2017) and Matthewson et al. (2007) and assume that evidentials and modals are not necessarily categorically distinct types of expressions.

¹⁵A reviewer suggests that B could attribute defeasible inferences to A, making plausible assumptions about A's knowledge – we could call this "delegated inferencing." Delegated inferencing is possible for *might* (as demonstrated in von Stechow & Gillies (2011)) but not for *wohl*. For reasons of space we can not review the evidence here.

A cannot ask B a *wohl*-question if A believes that B knows the answer for certain. The question in (38) is marked (see Zimmermann 2004, 2008).

- (38) #Wie ist wohl Ihr Name?
 what is *wohl* your name
 ‘What’s your name, you guess?’

Zimmermann derives (38) on the basis of Gricean maxims: A can expect B to know the answer to this question for certain. The question in (38) adds extra complexity (*wohl*), while B will use the simpler sentences without *wohl* to answer (scalar implicature). Thus the question is more complex and thus dispreferred in comparison to the question without *wohl* (maxim of manner).

We have analyzed *wohl* as a marker of defeasible entailment, anchored to agent A’s knowledge. It is a lexical property of *wohl* that it can trigger clouds of denotations. Our account of the interrogative flip is purely pragmatic which is, we believe, adequate for the phenomenon. The analysis offers an alternative to syntax-based analyses such as Speas & Tenny (2003), where the speaker and addressee are represented as part of the syntactic structure (SpeakerP, HearerP). We maintain that the grammatical status of these phrases as well as their interface to semantics, pragmatics and, finally, the real world, is poorly understood so far. Gärtner & Steinbach (2006) raise further objections against the syntax-based analysis and the present theory offers a viable alternative. We now turn to the second step, which is the derivation of conjectural questions.

4.3 German Verb-Final Questions: *wohl* and CQs

This section derives German conjectural questions with *wohl* from the cloud $\{Q_A, Q_B, Q_{A+B}\}$. We propose that verb-final syntax has the effect of forcing the denotation Q_{A+B} . In order to see the consequences, we have to spell out in more detail what Q_{A+B} amounts to.

The crucial point is this: If A asserts *wohl* p it refers to A’s knowl-

edge. B might know facts that defeat A's inferences. The same holds for B. Therefore, if A and B pool knowledge that pertains to a given issue, they can draw more reliable inferences, inferences that are less in danger of being defeated. Given the nature of defeasible inference, A may have to retract *entailed** beliefs when updated with B's knowledge and vice versa. With $Epi_{A,w}$ = the set of propositions A knows in w , we have $Epi_{A+B,w} = Epi_{A,w} \cup Epi_{B,w}$.

- (39) $Epi_{A+B,w}$ defeasibly entails p iff
- a. there is a finite set of propositions $q, q' \dots$ in $Epi_{A,w} \cup Epi_{B,w}$ such that $\{q, q', \dots\}$ defeasibly entails p
 - b. there is no additional proposition r in $Epi_{A,w} \cup Epi_{B,w}$ such that $\{q, q' \dots r\}$ defeasibly entails $\neg p$

It follows from (39) that defeasible entailment from A and B's pooled knowledge is not the same as defeasible entailment from A and B's CG at the point when Q is uttered. The definition in (39) assumes that A and B first share their knowledge (we assume, realistically, that only propositions that pertain to the issue at hand are relevant) and afterwards draw defeasible inferences. Q_{A+B} therefore asks for better answers than what the knowledge of A or B alone, or their CG before pooling would entail*.

Another consequence of (39) is that the question Q_{A+B} is unanswerable for B.¹⁶ B can infer p in answer to Q on basis of her own knowledge but she cannot normally anticipate whether A knows facts that challenge the inference. Thus, A cannot rationally request B to answer Q_{A+B} . If B tries to find an answer to Q_{A+B} , she must start by finding out what A knows about the issue and only then guess an answer that their pooled knowledge will support. Another conventionalized reaction for B can be to remain silent: there is no proposition in Q_{A+B} that B is authorized to assert in response to Q , and B even does not have to say it because it follows from the logic of the question. In summary, the possible reactions of B to Q_{A+B} are

¹⁶Unless B happens to know the answer for certain. We discuss this case below.

exactly those that we profiled for CQ in (8) above.

We can now introduce the last ingredient to derive the conjunctural reading of German constituent verb-final questions: the silent operator *CONJEC*, which has three distinctive properties. First, it makes sure that the sentence shows verb-final syntax, second, it is restricted to questions with an evidential; third, it forces the reading that is anchored to a maximum set of speakers. This is captured by the following definition:

- (40) *CONJEC*
- a. **Syntax:** The *CONJEC* operator is a tacit operator in C^0 of questions. It blocks V-to-C movement and thus ensures V-final syntax.
 - b. **Logical and sortal restrictions:** *CONJEC* is semantically licensed only if the sister node **Q** has a denotation of type $\langle\langle\langle s, t \rangle, t \rangle, t \rangle$. More specifically, the sister node must be a cloud of questions that arise from different possible anchorings.
 - c. **Semantics:** *CONJEC(Q)* maps **Q** to $Q_G \in Q$ that is anchored to the maximal set of interlocutors *G*. If there are only two salient speakers *A* and *B*, $\text{CONJEC}(\mathbf{Q}) = Q_{A+B}$.

Let us illustrate the effect of *CONJEC* with an example.

- (41) Wo wohl der Schlüssel ist?
 where *wohl* the key is
 'Where is the key I wonder?'

In syntax, V-final questions carry the operator *CONJEC* in C^0 . This prevents the finite verb from moving to C^0 . The *wh*-constituent is moved to SpecC. *CONJEC* is a root clause operator that can not occur in an embedded CP.¹⁷ We will briefly consider the case of polar *wohl*-questions at the end of the subsection.

¹⁷We thank the anonymous reviewer for making this clarification.

(42) [Wo_i CONJEC [der Schlüssel wohl t_i ist]_{IP}]_{CP}

We assume that operators take their logical scope before interpretation. The structure to be interpreted is the one in (43). CONJEC has to take highest scope or else the sister denotation will not be of the correct logical type and content.

(43) [CONJEC (wohl (wo der Schlüssel t_i ist?))]

The combination of *wohl* and the question denotation yields a cloud of denotations as in the previous example.

(44) $\{ \{ \langle \text{'key is at } z' (= p) \cdot Epi_A \text{ entails* } p \rangle ; z \text{ location} \},$
 $\{ \langle \text{'key is at } z' (= p) \cdot Epi_B \text{ entails* } p \rangle ; z \text{ location} \},$
 $\{ \langle \text{'key is at } z' (= p) \cdot Epi_{A+B} \text{ entails* } p \rangle ; z \text{ location} \} \}$

CONJEC forces the interpretation that is anchored to A+B.

(45) CONJEC($\llbracket wo \text{ der Schlüssel wohl ist} \rrbracket$)
 $= \{ \langle \text{'key is at } z' (= p) \cdot Epi_{A+B} \text{ entails* } p \rangle ; z \text{ location} \}$

Following (39), the question at issue must be answered by a proposition p of the form ‘The key is at location z' such that

- there is a finite set of propositions q, q', \dots
in $Epi_{A,w} \cup Epi_{B,w}$ such that $\{q, q', \dots\}$ defeasibly entails p
- there is no additional proposition r in either $Epi_{A,w}$ or $Epi_{B,w}$
such that $\{q, q', \dots, r\}$ defeasibly entails $\neg p$

The question can be paraphrased as follows:

- Which proposition $p =$ ‘the key is at location z' is such that
 - there are propositions q, q', \dots that **we both know if we pool knowledge** and $\{q, q', \dots\}$ entails* p
 - and there is no further proposition r that **one or the other of us knows** such that $\{q, q', \dots, \wedge r\}$ entails* $\neg p$?

The addressee B has limited ways to react to (45). Unless B hap-

pens to know the answer for certain, B is not authorized to infer an answer because the question requires A and B to pool knowledge. B can either start pooling relevant knowledge with A (i.e., engage in joint speculation) or remain silent, thus confirming A's expectation that she cannot answer the question. The only kind of situation where B can answer questions like (45) is when B knows the answer for certain. If this is the case, B can and will indeed provide an answer.¹⁸

The analysis can be extended to polar verb-final questions with *wohl* if we assume a second lexical entry for the question complementizer *ob* that denotes CONJEC. Like its tacit counterpart CONJEC in constituent questions, conjunctural *ob* is restricted to root-clause CPs. The resulting polar CQ invites speculation about the polar question *Q*.¹⁹

4.4 Finishing Touches

One final observation remains to be captured: the use of conjunctural verb-final questions *wohl Q* is restricted to contexts where A believes that B does not know the answer for certain (Zimmermann 2013). We argue that this restriction follows from our analysis. We proceed in two steps. First, we list the possible epistemic situations of addressee B after the verb-final CQ *wohl Q* has been posed. Second, we argue that verb-final *wohl Q* is the optimal choice for speaker A to ask only in situations of the following kind: if A believes that B does not know the answer and neither what A knows about *Q*.

Our analysis predicts that verb-final *wohl Q* contains the CONJEC-operator that forces interpretation as Q_{A+B} . B can be confronted with the request to answer Q_{A+B} in three types of situation:

¹⁸We leave aside uncooperative discourse in lawsuits, games, exams etc.

¹⁹A reviewer raises the issue whether CONJEC should be modelled as a feature or as an operator. A feature-based analysis could unify constituent and polar CQs, but we observe that – unlike predicted by a feature analysis – the complementizer *dass* in verb-final questions is ungrammatical. We have therefore adopted the operator analysis for the time being.

- i. B knows the answer to Q . In this case, B does not need to draw defeasible inferences to find an answer, and likewise does not have to wait for A's knowledge to defeasibly infer an answer. B will provide the answer to Q , which also answers Q_{A+B} .
- ii. B does not know the answer to Q nor what A knows about Q . B is hence not authorized to draw defeasible inferences that rest on pooled knowledge. B can start a conjectural discourse with A or (as another conventionally accepted move) can remain silent or signal consent (e.g., by using the reply *tja*; see Gärtner & Gyuris 2012:417, fn. 45)
- iii. B has gathered A's knowledge about issue Q before verb-final *wohl Q?* is asked. B can therefore answer Q_{A+B} . In this situation answers to Q_{A+B} are the same as to Q_B .

When phrasing the question, speaker A has expectations about what B knows. A must choose the optimal version of question Q , depending on expectations. The plain question Q is shorter and therefore less marked than *wohl Q* in canonical V-second syntax, due to the maxim of manner (Zimmermann 2008). The question *wohl Q* in canonical Verb-second syntax is less marked than the verb-final version in non-canonical syntax, as argued by Thurmair (1989). The speaker should use the least marked version of Q that will suit her purposes.

If A believes that B knows the answer to Q , that is, expects situation (i), she will choose the plain Q question as the least marked version that suffices to achieve A's goal (Zimmermann 2008).

If A expects situation (iii), she must take into account that *wohl Q?* in verb-final syntax is marked in comparison to *wohl Q?* in canonical V-second syntax (Thurmair 1989). A can ask *wohl Q?* in canonical V-second syntax, which puts out the cloud $\{Q_A, Q_B, Q_{A+B}\}$ as the general account of anchored utterance meanings predicts in section 4.2. B will use her knowledge to defeasibly derive an answer (marked with *wohl*). This answer is helpful for A: B knows what A knows and possibly more. The comparatively less marked V-second-question

with *wohl* affords A the same answers as the comparatively more marked verb-final question. A will therefore choose the V-second-question. Crucially, only in situations of type (ii) can A gain a real benefit from using marked verb-final *wohl* *Q?*. The operator CONJEC forces the demanding interpretation Q_{A+B} which, under the given circumstances, is not available for the less marked utterances. A's choice of the marked form is justified by the pragmatic benefit provided.

We thus correctly predict that verb-final *wohl* *Q?* are restricted to contexts in which A believes that B does not know the answer to *Q* and neither knows what A knows about *Q*.²⁰

In summary, we have proposed a two-step analysis of German questions with evidential *wohl*. Questions *wohl* *Q?* in main-clause syntax give rise to a cloud of question meanings of which the one is chosen that B is authorised to answer and that offers the best answers (i.e., those based on maximal knowledge). This predicts the interrogative flip: if the question is posed at the beginning of discourse where B does not know what A believes, B cannot speak on behalf of A.²¹ The interlocutors thus understand that Q_B is at stake. If the question is posed in verb-final syntax, verb-final syntax is triggered by the presence of a CONJEC operator. It forces the reading where *Q* is anchored to $A+B$. These questions are doubly marked in comparison to the simple question: they contain an additional particle and show non-canonical syntax. We argued that this restricts their use to situations where markedness is justified by extra pragmatic benefit. This is the case when speaker A believes that addressee B cannot

²⁰For instance, we predict that German CQs with *wohl* are not used after a lengthy discourse where A and B list evidence about *Q* as we could imagine in detective novels where inspectors share information and then try to conjecture the culprit. They could not use *Wer wohl der Täter ist?* 'Who is the culprit I wonder?', and we predict that this is the case.

²¹It should be noted that *wohl*-questions are rarely uttered in the sense 'Tell me what I can guess about *Q*' that was observed for *might* questions in mastermind game situations. The lack of uses as if from the perspective of another is interesting and should be investigated further.

answer *Q* or shares *A*'s knowledge about *Q*.

Finally, the link between conjectural questions and joint speculation is an integral part of our analysis. This link has also been reported for other languages. For Shipibo-Konibo, a Panoan language spoken in Peru and Brazil, Valenzuela (2003) says that evidential *mein* in assertions indicates that the speaker is guessing. To illustrate the use of *mein* in questions, she lists questions that are “self-addressed questions” but also serve to be “engaging in joint discussion” (Valenzuela 2003:(34)). Similar functions were reported about Salish languages (Peterson, pers. comm.) and Italian (Zucchi, pers. comm.) and this function deserves more attention in future research.

The case of German cannot yet explain how evidentials in questions can trigger CQ readings giving rise to the reading triggered by interrogative flip. Therefore our final section takes a closer look at our second example, the Italian evidential future in assertions and questions.

5 Italian Evidential Future in Questions

We discussed how evidential *wohl* in German questions triggers the interrogative flip and conjectural questions. A more frequent pattern, however, is CQs triggered by evidentials without intermediate steps. This raises two important related questions. First, what is the empirical inventory of the possible effects of inserting evidentials in questions? Second, what do such effects share at a semantic or pragmatic level? Exploring these questions in full depth would go far beyond the scope of the current paper; however, we would like to devote the final part of the article to introduce a relevant case study of the phenomenon: the use of future tense and temporal markers in conjectural questions in Italian. After presenting the data, we discuss possible analyses and speculate that CQ readings result from conventionalized ways to react to a question that is marked as “difficult to answer.”

5.1 Italian Future as Evidential Marker

Italian possesses a regular way to mark verbs for the future tense. The example in (46) contains the verb ‘be’ in the future. In its literal meaning, the sentence conveys the statement in (46a) about the future. However, the sentence can also be interpreted in a second sense as in (46b) where the speaker’s assertion is marked as uncertain or inferred information.

- (46) La chiave sarà in cucina.
 the key be.FUT in the.kitchen
 a. ‘The key will be in the kitchen.’
 b. ‘The key is in the kitchen I guess.’

Mari (2010) argues that the reading in (46b) is available for all Aktionsarten and thus not a last-resort reinterpretation, contrary to what had been claimed in previous literature. She demonstrates that the speaker in (46b) has indirect evidence for his claim, which could be general knowledge or directly observed facts.

Example (47) illustrates the case for general knowledge. A and B are talking about their son’s day at school where activities are planned in advance. The dialogue takes place at 11:40, and meals are scheduled for 11:30–12:00.

- (47) A: Che cosa farà? (which thing he.do.FUT)
 ‘What might he be doing?’
 B: Mangerà. (he.eat.FUT)
 ‘He is eating I assume.’

Another example given in Mari 2010 is in a scenario when A and B hear a noise outside. In answer to A’s question, B replies as in (48).

- (48) A: Che cosa succede? (what thing happens)
 B: Arriverà Giovanni. (arrive.FUT Giovanni)
 ‘Giovanni might arrive.’

Mari proposes that the “future (in Italian) marks that the speaker has

indirect access to the event” (Mari (2010):(10)). She points out that unlike English *must*, the Italian future is prohibited in cases where the speaker infers a fact by classical logic and world knowledge. English allows the following reasoning: *The ball is in A, B or C. It is neither in A nor B. Hence it must be in C.* In contrast, the Italian evidential future cannot be used in the analogous statement: *La palla è in A o in B o in C. Non è nè in A, nè in B. #Sarà in C.* Mari characterizes this as the “guessing effect” which parallels our observations about German *wohl* as marker of defeasible inferences.

Finally, the Italian future in the evidential reading always takes wide scope with respect to negation, in analogy to *wohl* (Zimmermann 2004, 2008). This is in line with Matthewson’s (2015) characteristics for evidentials.

- (49) La chiave non sarà in cucina.
 the key not be.FUT in the.kitchen
 ‘I guess that the key isn’t in the kitchen.’
 #‘I do not guess that the key is in the kitchen.’ (Unavailable)

We take Mari’s observations and our own as a starting point in discussing the Italian evidential future (IEF) in questions.

The IEF in questions forces a conjectural “I wonder” reading that does not request an answer. Speakers from northern Italy report the reading for both constituent questions and polar questions.²²

- (50) Dove sarà la chiave?
 ‘Where is the key I wonder?’
- (51) Gianni sarà di Amburgo?
 ‘Is Gianni from Hamburg I wonder?’

The Italian evidential future in questions patterns with the Salish languages in section 2 in that the examples in (50)/(51) do not show the interrogative flip reading. The next section sketches how eviden-

²²Other varieties might differ slightly. Speakers of Veneto report that polar questions are unacceptable for them while they agree with the judgment for (50).

tials in questions can directly trigger the CQ interpretation.

5.2 A Tentative Analysis

We assume an analysis for IEF in declaratives along the lines of *wohl*, giving rise to a non-at-issue component that the assertion is defeasibly inferred from A's knowledge. As before, A could be the speaker, the addressee or more, depending on the utterance situation (see section 4.1).²³ We, moreover, suggest that the pragmatic profile of CQs in Italian arises in the same manner as we saw in German: speaker A poses the question, assuming that addressee B does not know the answer for certain. The question requests answers based on defeasible inference based on $Epi_{sp(C)+ad(C)}$. If A's assumptions are correct then B cannot answer the question. Again, B can either engage in joint speculation or acknowledge that Q is an interesting but difficult question. We propose that the IEF used in context C composes with the question denotation as follows.

$$(52) \quad \begin{aligned} & \llbracket IEF \rrbracket^C \oplus \llbracket Q \rrbracket^C \\ & = \{ \langle p_i \cdot Epi_{sp(C)+ad(C)} \text{ entails}^* p_i \rangle ; p_i \in \llbracket Q \rrbracket^C \} \end{aligned}$$

The parameters $sp(C)$ and $ad(C)$ are directly computed from C without detour via a cloud interpretation. This predicts the unavailability of the interrogative flip, as reported by native speakers. The definition in (52) allows the following reactions of B:

- i. If B does not know the answer to Q and has not pooled knowledge with A, B cannot answer the question posed. B can engage in speculative discourse or acknowledge the question without answering.
- ii. If B knows the answer for certain, she can and should answer.
- iii. If B does not know the answer but has pooled knowledge about Q with A beforehand, B is authorized to answer. B must use the

²³The proposal is tentative in that it competes with the analyses discussed in Mari 2010. We use it to illustrate the principle, leaving it open which version accounts optimally for the Italian data.

IEF or another marker of indirect evidence/uncertainty in her answer.

If speaker A expects situations of type (i), A also expects that B cannot directly answer. With respect to (ii), we observe that the question with the IEF is more complex and therefore marked in comparison to the simple question. This predicts that A will not use the IEF when she believes that B knows the answer for certain (i.e., in type-(ii) situations). Finally, consider situations of type (iii). If A expects that B knows everything that A herself knows about Q , we predict that A requests B to produce a defeasible answer. And indeed, Mari's example in (47) suggests that IEF-questions might be possible in situations where the interlocutors want to reconfirm expectations that rest on their shared knowledge. If this is true, then (52) correctly predicts the pragmatics of the IEF in questions.²⁴

From a broader cross-linguistic perspective, the observed behavior of the IEF in questions raise two issues. First, why don't speakers make use of the flip interpretation of questions like (50)/(51) which seems a very logical and undemanding way to make sense of evidentials in questions? And second, is it an accident that questions with inferential evidentials are interpreted as conjectural instead? It seems useful to frame the case in the larger picture of grammaticalization and language change to better understand the dichotomy. A promising first step, in particular, could be to hypothesize that the grammar of an inferential evidential X in language L goes through three stages. In stage 1, the use of X in questions is not licensed.²⁵ In stage 2, speakers become aware of the possible use of X in ques-

²⁴If, however, (47) assumes asymmetric knowledge of A and B, we should add a lexical restriction that prohibits the use of IEF-questions in situations where A and B have maximized their shared knowledge Epi_{A+B} in propositions that pertain to the question. Based on the judgment of one author, there seems to be no indication that this is the case. We defer a more thorough empirical investigation to future research.

²⁵San Roque et al. (2017) report that the use of evidentials in questions is secondary.

tions $Q(X)$ in the flip interpretation. The use is not yet part of the grammar of the evidential. In stage 3 speakers put this option to use for specific communicative purposes. They could recruit the form $Q(X)$ in order to facilitate answering for the addressee (McCready & Ogata 2007). This reanalysis establishes the flip interpretation for $Q(X)$. Alternatively, they could reinterpret the facilitated question with the implicature “ Q is (too) difficult to answer.” In this case, the restriction to contexts where A does not expect an answer comes about by pragmatic enrichment, as we often find in grammaticalization. $Q(X)$ thus is interpreted as conjectural question.

If this is on the right track, one could argue that languages like Cheyenne and German verb-second questions exhibit the first developmental path. Languages like Italian, Salish or Shipibo-Konibo provide evidence for the second option. The proposal predicts that languages of the second type should show the interrogative flip in an earlier historical stage. This prediction must be left for future investigation.

6 Conclusion

The paper discussed the connection between evidential markers and questions by considering two frequent interpretations of evidentials in questions: the interrogative flip and CQ. Our two case studies – German *wohl* and the evidential future in Italian – suggest a rather varied picture, in which (seemingly) similar markers give rise to considerably different pragmatic effects. Looking at a broader picture, this variation suggests that analyses for any specific language have to find the right balance between universals and language-specific properties of evidentials. We hope that the current article can represent a profitable starting point for further research in an area that affords intriguing directions for further research.

Acknowledgments We thank Gisela Disselkamp, Donka Farkas, Andreas Haida, Sven Lauer, Floris Roelofson, Aynat Rubinstein and Ramona Wallner, as well as an anonymous reviewer for their valuable feedback. All remaining errors are our own responsibility. Work on this paper was funded

by the DFG Forschergruppe 2111 “Questions at the Interfaces” at Konstanz, which we gratefully acknowledge.

References

- Aikhenvald, A. Y. (2004). *Evidentiality*. Oxford University Press.
- Altmann, H. (1987). Zur Problematik der Konstitution von Satzmodi als Formtypen. In J. Meibauer (Ed.) *Satzmodus zwischen Grammatik und Pragmatik*, (pp. 22–56). Tübingen: Niemeyer.
- Altmann, H. (1993). Satzmodus. In J. Jacobs, A. von Stechow, W. Sternefeld, & T. Vennemann (Eds.) *Syntax: Ein internationales Handbuch*, (pp. 1006–1029). Berlin: de Gruyter.
- Davis, C., Potts, C., & Speas, M. (2007). The pragmatic values of evidential sentences. In T. Friedman, & M. Gibson (Eds.) *Semantics and Linguistic Theory*, vol. 17, (pp. 71–88). New York: Cornell University.
- den Dikken, M., & Giannakidou, A. (2002). From *hell* to polarity: “aggressively non-D-linked” *wh*-phrases as polarity items. *Linguistic Inquiry*, 33(1), 31–61.
- Disselkamp, G. (2017). The pragmatics of speaker repeat questions. Flash talk and poster at *ESSLLI 2017 – Student session*. Toulouse, August 17–28, 2017.
- Doherty, M. (1985). *Epistemische Bedeutung*. Berlin: Akademie-Verlag.
- Faller, M. (2002). *Evidentiality in Cuzco Quechua*. Ph.D. thesis, Stanford University, Stanford, CA.
- Gabbay, D. M., Hogger, C. J., & Robinson, J. A. (1998). *Handbook of Logic in Artificial Intelligence and Logic Programming*, vol. 3: Nonmonotonic Reasoning and Uncertain Reasoning. Oxford University Press.
- Garrett, E. J. (2001). *Evidentiality and Assertion in Tibetan*. Ph.D. thesis, University of California, Los Angeles.
- Gutzmann, D. (2011). Ob einer wohl Recht hat? zwei Satzmodustheorien für das Deutsche im vergleich. *Deutsche Sprache*, 39, 65–84.
- Gärtner, H.-M., & Gyuris, B. (2012). Pragmatic markers in Hungarian: Some introductory remarks. *Acta Linguistica Hungarica*, 59, 387–426.
- Gärtner, H.-M., & Steinbach, M. (2006). A sceptical note on the syntax of speech acts and point of view. In P. Brandt, & E. Fuß (Eds.) *Form, Structure, Grammar*, (pp. 213–222). Berlin: Akademie-Verlag.
- Göbel, A. (2018). On evidentiality and undirected questions: A new account

- of the German particle *wohl*. *University of Pennsylvania Working Papers in Linguistics*, 24(1), 77–86.
- Jang, Y. (1999). Two types of question and existential quantification. *Linguistics*, 37(5), 847–869.
- Jang, Y., & Kim, I. K. (1998). Self-addressed questions and quantifier interpretation. *Korean Linguistics*, 9(1), 191–209.
- Korotkova, N. (2015). Evidentials in attitudes: do's and don'ts. In E. Csipak, & H. Zeijstra (Eds.) *Proceedings of Sinn und Bedeutung*, vol. 19, (pp. 340–357).
- Korotkova, N. (2017). Diagnosing the semantic status of evidentials. Talk at the workshop *Questioning speech acts*, September 15, 2017, University of Konstanz.
- Lewis, D. (1973). *Counterfactuals*. Oxford: Blackwell.
- Lim, D. (2011). Evidentials in interrogatives. In I. Reich (Ed.) *Proceedings of Sinn und Bedeutung*, vol. 15, (p. 419–433). Universität des Saarlandes.
- Littell, P., Matthewson, L., & Peterson, T. (2010). On the semantics of conjectural questions. In T. Peterson, & U. Sauerland (Eds.) *Evidence from Evidentials*, vol. 28 of *University of British Columbia Working Papers in Linguistics*, (pp. 89–104).
- Lohnstein, H. (2000). *Satzmodus-kompositionell: Zur Parametrisierung der Modusphrase im Deutschen*. Berlin: Akademie-Verlag.
- Lohnstein, H. (2007). On clause types and sentential force. *Linguistische Berichte*, 209, 63–86.
- Mari, A. (2010). On the evidential nature of the Italian future. *HAL archives-ouvertes.fr*.
- Matthewson, L., Davis, H., & Rullmann, H. (2007). Evidentials as epistemic modals: Evidence from St'át'imcets. *Linguistic Variation Yearbook*, 7(1), 201–254.
- McCready, E., & Ogata, N. (2007). Evidentiality, modality and probability. *Linguistics and Philosophy*, 30(2), 147–206.
- Murray, S. E. (2009). Evidentials and questions in Cheyenne. In S. Lima (Ed.) *Proceedings of Semantics of Under-Represented Languages in the Americas*, vol. 5.
- Murray, S. E. (2016). Evidentiality and illocutionary mood in Cheyenne. *International Journal of American Linguistics*, 82(4), 487–517.
- Obenauer, H.-G. (2004). Nonstandard *wh*-questions and alternative check-

- ers in Pagotto. In H. Lohnstein, & S. Trissler (Eds.) *The Syntax and Semantics of the Left Periphery*, (pp. 343–384). Amsterdam: John Benjamins.
- Oppenrieder, W. (1989). Selbständige Verb-Letzt-Sätze. In H. Altmann, A. Batliner, & W. Oppenrieder (Eds.) *Zur Intonation von Modus und Fokus im Deutschen*, (pp. 163–244). Tübingen: Niemeyer.
- Reiter, R. (1980). A logic for default reasoning. *Artificial Intelligence*, 13(1-2), 81–132.
- San Roque, L., Floyd, S., & Norcliffe, E. (2017). Evidentiality and interrogativity. *Lingua*, 186-187, 120–143.
- Speas, P. (2008). On the syntax and semantics of evidentials. *Language and Linguistics Compass*, 2(5), 940–965.
- Speas, P., & Tenny, C. (2003). Configurational properties of point of view roles. In A. Di Sciullo (Ed.) *Asymmetry in Grammar*, (pp. 315–345). Amsterdam: John Benjamins.
- Strasser, C., & Antonelli, G. A. (2016). Non-monotonic logic. In E. N. Zalta (Ed.) *The Stanford Encyclopedia of Philosophy*. Metaphysics Research Lab, Stanford University. URL = <https://plato.stanford.edu/archives/win2016/entries/logic-nonmonotonic/>.
- Thurmair, M. (1989). *Modalpartikeln und ihre Kombinationen*. Tübingen: Niemeyer.
- Truckenbrodt, H. (2006). On the semantic motivation of syntactic verb movement to C in German. *Theoretical Linguistics*, 32(3), 257–306.
- Truckenbrodt, H. (2013). Selbständige Verb-Letzt-Sätze. In J. Meibauer, M. Steinbach, & H. Altmann (Eds.) *Satztypen des Deutschen*, (pp. 232–246). Berlin: de Gruyter Mouton.
- Valenzuela, P. M. (2003). Evidentiality in Shipibo-Konibo, with a comparative overview of the category in Panoan. In A. Aikhenvald, & R. Dixon (Eds.) *Studies in Evidentiality*, (pp. 33–61). Amsterdam: John Benjamins.
- von Stechow, K., & Gillies, A. S. (2011). *Might made right*. In A. Egan, & B. Weatherston (Eds.) *Epistemic Modality*, (pp. 108–130). Oxford University Press.
- Zimmermann, M. (2004). Zum *wohl*: Diskurspartikeln als Satztypmodifikatoren. *Linguistische Berichte*, 199, 253–286.
- Zimmermann, M. (2008). Discourse particles in the left periphery. In B. Shaer, P. Cook, W. Frey, & C. Maienborn (Eds.) *Dislocated Elements in Discourse: Syntactic, Semantic and Pragmatic Perspectives*, (pp. 200–231).

New York: Routledge.

Zimmermann, M. (2011). Discourse particles. In K. von Heusinger, C. Maienborn, & P. Portner (Eds.) *Semantics*, Handbücher Sprache und Kommunikation 33.2, (pp. 2012–2038). Berlin: de Gruyter.

Zimmermann, M. (2013). *Ob-VL-Interrogativsatz*. In J. Meibauer, M. Steinbach, & H. Altmann (Eds.) *Satztypen des Deutschen*, (pp. 84–104). Berlin: de Gruyter Mouton.