# Evidentials and deliberative questions

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## 1. Introduction

(1) To be or not to be — that is the question.

Deliberative questions (preliminary)

- no request to addressee
- no answer expected
- express speaker's interest
- ... as clear from context or grammar or lexicon

Evidentials = natural candidate to indicate deliberation?

Littell, Matthewson & Peterson (2010): Gitksan (Tsimshianic) evidentials in questions lead to "conjectural" (i.e. deliberative) questions.

- (2) Gitksan a. sdin=**ima**=hl xbiist be.heavy=INFER=CND box 'The box might be heavy.' sdin=hl b. nee=hl xbiist=a YNQ=CND be.heavy=CND box=INTERROG 'Is the box heavy?' c. nee=ima=hl sdin=hl xbiist=a YNQ=INFER=CND be.heavy=CND box=INTERROG ' I wonder if the box is heavy.'
- (3) a. naa 'an-t gi'nam-(t)=hl xhlaw'sxw 'as John who S.REL-3 give-3=CND shirt PREP John 'Who gave this shirt to John?'
- (4) b. naa=ima 'an-t gi'nam-(t)=hl xhlaw'sxw 'as John who=INFER S.REL-3 give-3=CND shirt PREP John 'I wonder who gave this shirt to John.'

Likewise St'át'imcets (Lillooet Salish), Nle?kepmxcín (Thompson Salish).

Aikhenvald 2004, AnderBois 2016, Hintz et al. 2017, SanRoque et al. 2017; von Fintel+Gillies 2011: Evidentials *can* but do not *have to* mark deliberation in questions:

(5) Where *might* the car key be?

Evidential flip, but not necessarily deliberation.

## 2. German deliberative questions

- non-standard syntax
- evidential markers (mag, wohl)
- 2.1 verb-end syntax and deliberative questions
- (6) Wo **ist** der Schlüssel? where is the key 'where is the key?'

main clause syntax

(7) Wo wohl der Schlüssel ist? where wohl the key is 'where is the key I wonder'

wh-question: subordinate clause syntax, evidential wohl

(8) Ob es hier (wohl) Kaffee gibt? if it here (wohl) coffee gives 'whether there's coffee I wonder'

polar question: subordinate clause syntax, wohl optional

- 2.2 evidential markers mandatory (exc. polar questions)
- (9) Wo <u>wohl</u> der Schlüssel ist? where wohl the key is 'where the key may be I wonder'
- (10) Wo der Schlüssel sein <u>mag</u>? where the key be may 'where the key may be I wonder'
- (11) *\*Wo der Schlüssel ist?* where the key is
- 2.3 wohl
- (12) Der Schlüssel ist wohl noch im Auto.
   The key is wohl still in-the car
   'The key is still in the car, for which A has uncertain evidence'
- (13) Wo ist wohl der Schlüssel? where is wohl the key? B is requested to assert propositions of the form 'the key is at z' B may assert p on basis of uncertain evidence

- 2.4 Earlier accounts
- (14) Deliberative questions  $\Leftrightarrow$  questions that do not request an answer

(Truckenbrodt 2006, 2013, Lohnstein 2000, Zimmermann 2013, Gutzmann 2011 a.o.)

question = speech act subordinate clause ≠ speech act => verb-end-question = looks like a question but is not a speech act.

1. (14) is a false biconditional

Who the hell needs that? (rhetorical) What is the secret behind Trump's success? (headline) Why are you always such an idiot? (un-answerable insult)

- 2. Some V-end questions do request answers: Repeat questions.
- (15) (Wo ist der Autoschlüssel? (Silence) ...) where is the car key Hee, wo der Schlüssel ist? hey where the key is (Disselkamp, 2017)
- 3. Some V-end clauses are speech acts proper: *Exclamatives*.
- (16) (Hearing that her brother has been seen in a night club.)
   Wo der sich wiederrumtreibt!
   where he refl. again lingers
   'The places he is lingering around!' (lit. 'where he always lingers')

4. Deliberative constituent verb-end questions need evidential marker *wohl* or *mag* ('may'). Current analyses do not explain (17).

(17) *\*Wo der Schlüssel ist?* where the key is

Remark: delib. polar questions ok with or without wohl/mag.

(18) Ob der Schlüssel (wohl) im Auto ist? / sein mag?
 if the key (wohl) in-the car is / be may
 'Whether the key is in the car I wonder'

Zimmermann (2013): pragmatic contribution of *wohl* "adds to" and "is in harmony with" the character of V-end-questions.<sup>1</sup>

<sup>&</sup>lt;sup>1</sup> *nur* /*bloß* (,only') also licenses V-end questions: *Wo er nur bleibt?* ,Where he is staying I wonder' (about someone who fails to keep an appointment).See below.

- 5. Deliberative questions invite reactions: conjectural conversation.
- (19) (I haven't had any news about Karl in a long time. Me neither. ) Ob er (wohl) immer noch diese schwarzen Zigarren raucht? whether he (wohl) still these black cigars smokes
   'I wonder whether he still smokes these black cigars' (Truckenbrodt 2013)
- (20) (Maarten and Nicolien have just watched a cow giving birth to a calf. Maarten is an academic expert in "rural culture" and regularly visits farmers.) Sie fuhren weiter, ein Stück hinter dem Ehepaar. <u>"Was wohl jetzt aus</u> <u>dem Kalb wird?", fragte Nicolien. "Das wird geschlachtet", sagte er.</u> "Es ist ein Bullenkalb." "Sofort?", fragte sie erschrocken. ... (Koning, Het Bureau 7. Transl. by Gerd Busse) lit. What wohl now to the calf happens? — It will be slaughtered.
- (In a café: A and B observe a lonely stranded matress leaning at 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'
  - Deliberation: constituent questions and polar questions.
  - Evidentials: contribution of wohl or modal mag?
  - Plus: effect of V-end syntax?
  - Discourse: why do deliberative questions invite conversation?

## 3. Evidentials

(von Fintel+Gillies, 2011)

(22) might  $(Bel_A)(\phi)$  is true iff in some belief-worlds of *A*,  $\phi$  holds true. might is anchored to *A*'s beliefs (anchored to *A*)

## **Clouds of denotations**

Utterances *might* S in context C generate sets of possible denotations.

[[ *might* S ]]<sup>C</sup> = { *might* (*Bel<sub>G</sub>*) ([[ S ]]) | G one or more persons involved in context C }

If A is talking to B in C, this boils down to

 $[[might S]]^{C} = \{ might (Bel_{G}) ([[S]]) | G = A \text{ or } G = B \text{ or } G = A+B \}$ 

## Group belief

*might* ( $BeI_{A+B}$ ) ( $\phi$ ) is true iff in some of the belief worlds shared by A and B,  $\phi$  holds true.

## Choice of denotation

In conversation, interlocutors "understand" the strongest possible one of the possible denotations. (predicts: flip in questions, shared knowledge etc.)

(23) (A to B): Where might the key be?"where, according to B's knowledge, might the key be" not: "where, according to A's knowledge, might the key be"

B is authorised to base assertion on B's knowledge.

B is (normally) not authorised to base assertion on A's knowledge.

# Pooled knowledge is better knowledge

(24) AGGREGATION: For two groups  $G \subseteq G'$ , the belief worlds of the larger group are included in the belief worlds of the smaller group: If  $G \subseteq G'$  then  $Bel_{G'} \subseteq Bel_{G}$ . (For ex.,  $Bel_{A+B} \subseteq Bel_{A}$ .)

von Fintel+Gillies: DEFEASIBLE CLOSURE. If *might*(*Bel*<sub>A</sub>) ( $\phi$ ) and *might* (*Bel*<sub>B</sub>) ( $\phi$ ) then "usually" also *might*(*Bel*<sub>A+B</sub>) ( $\phi$ ).

Intuition: A and B will align their beliefs *in all matters that are relevant for the lost car key.* And normally, shared beliefs are more certain.

# Analysis of German mag.

(25) (A, to B) *Wo mag der Schlüssel sein?* where might the key be

Analysis by von Fintel + Gillies:

(22) a. [[ Mag<sub>x</sub> ( Wo ist der Schlüssel? ) ]]<sup>C</sup> = { { might (**Bel**<sub>A</sub>)('The key is at place z') | z possible location }, { might (**Bel**<sub>B</sub>)('The key is at place z') | z possible location }, { might (**Bel**<sub>A+B</sub>)('The key is at place z') | z possible location } } =: { Q<sub>A</sub>, Q<sub>B</sub>, Q<sub>A+B</sub>}

In discourse initial position

- B knows nothing A's beliefs
- A+B have no shared beliefs
- B is only entitled to provide answers to  $\mathsf{Q}_\mathsf{B}$

=>  $Q_B$  is the question effectively answered, even though A = speaker in (22).

- evidential flip
- no deliberation

# 4. The effect of V-end syntax: *mag*-questions

 $Q_{A+B}$  interpretation of (22)

Q<sub>A+B</sub> = { *might*(*Bel*<sub>A+B</sub>)('the key is in place z') ; z locations }

If  $Q_{A+B}$  is posed discourse initially

- B is not authorized to assert any of the propositions in Q<sub>A+B</sub>
- B can at best address Q<sub>A+B</sub> indirectly by starting an exchange that aims to establish shared knowledge,
- B can acknowledge A's interest in Q and change topic. If so, B does not bring the discourse into a crisis.

(Remark: Q<sub>A+B</sub> in "Sherlock-Holmes Context" = answers possible, see 6)

## Verb-end syntax forces anchoring to A+B

- (26) Delib
  - **Syntax**: The DELIB operator is a tacit operator in C<sup>o</sup> of questions. It blocks V-to-C movement and thus ensures V-end syntax.
  - Logical and sortal restrictions: DELIB is semantically licensed iff the sister node Q has meaning of type <<<s,t>,t>,t>,t>. More specifically, the sister node must be a cloud of questions that arise from different possible anchorings.
  - Semantics: DELIB (Q) maps Q to Q<sub>G</sub> ∈ Q that is anchored to the maximal set G among the questions in Q. (If there are only two salient speakers A and B, DELIB(Q) = Q<sub>A+B</sub>)
  - **Pragmatics**: DELIB is restricted to contexts where A believes that B can not answer DELIB(**Q**).<sup>2</sup>
- (27) Wo der Schlüssel sein mag? where the key be might 'Where might the key be, I wonder'
- (28) [CP DELIB Wo der Schlüssel sein mag]
- (28) a. [[ Wo der Schlüssel sein mag ]]<sup>A,B</sup> =

  { { might (Bel<sub>A</sub>)('The key is at place z') | z possible location},

  { might (Bel<sub>B</sub>)('The key is at place z') | z possible location },

  { might (Bel<sub>A+B</sub>)('The key is at place z') | z possible location} }
- (28) b. DELIB ( [[ Wo der Schlüssel sein mag ]]<sup>A,B</sup>
  = DELIB ({Q<sub>A</sub>, Q<sub>B</sub>, Q<sub>A+B</sub> } )
  = { might (**Bel**<sub>A+B</sub>)('The key is at place z') | z possible location}

Deliberative questions based on evidentials = *forced* anchoring to A+B.

 $<sup>^{2}</sup>$  To be derived, see section 6.

#### 5. The particle wohl in deliberative questions

#### 5.1 Wohl and defeasible inference

A: Der Schlüssel ist wohl im Auto. (29) 'the key is wohl in the car' asserted content: p = 'the key is in the car' non-at-issue: Assume(A,p) where Assume less certain than KNOW (Zimmermann 2011, 2006).

What does it mean to "assume p"?

(30) C: Wo ist die Oma jetzt? (Where is Granny?) A: Die ist wohl einkaufen. she is wohl shopping 'She has gone shopping I guess'

Reasons for A to claim 'she has gone shopping' could be:

- a) it is Friday afternoon and she usually goes shopping on Friday afternoon
- b) her slippers are in the hall
- c) the shopping bag is missing

Speaker A signals: My present knowledge defeasibly entails that p Additional facts may force me to retract the inference.

Statistical likelihood can not be expressed by wohl

- There is a box that contains 9 white marbels, 1 black marbel. A draws (31) one and keeps it in her closed hand. A can not see its colour.
  - a. A:  $\sqrt{1}$  lch hab **wahrscheinlich** eine weiße Murmel in der Hand. 'I probably have a white marbel in my hand'
  - b. A: # Ich hab wohl eine weiße Murmel in der Hand. # 'I have **wohl** a white marbel in my hand'

More clues: acceptability of wohl improves<sup>3,4</sup>

There is a box with 9 white marbels. 1 black marbel. A draws one and (32) keeps it in her closed hand. B watched A drawing, and – unlike A – was able to see the colour. A sees the unsurprised face of B. A says:<sup>5</sup> A: Ich hab wohl eine weiße Murmel in der Hand. 'I have wohl a white marbel in my hand'

<sup>&</sup>lt;sup>3</sup> The example was set up by Nicholas Allott at the workshop NAIS, Oslo 2017; judgments were confirmed by all of  $\approx 10^{\circ}$  native German participants.

<sup>&</sup>lt;sup>4</sup> Ideas about what counts as weak evidence can vary from speaker to speaker. It was repeatedly pointed out in discussions that professional statisticians could perceive statistical knowledge as sufficient evidence to use wohl. I agree in principle, although I have so far not met such a person. <sup>5</sup> I thank Sven Lauer for providing this minimal pair.

# Analysis of wohl (revised)

- (33) For individual *A*, let *Bel<sub>A,w</sub>* be the beliefs of *A* in index *w*. *A* utters: wohl p ⇔ A asserts p and conveys the non-at-issue content: *Bel<sub>A,w</sub>* defeasibly entails p
  "I have evidence that suggests p holds true. But further evidence may entail that p is false."
- (33') Definition:  $Bel_{A,w}$  defeasibly entails pFor individual A, let  $Bel_{A,w}$  be the beliefs of A in index w.  $Bel_{A,w}$  defeasibly entails p iff there is a finite set of propositions q, q'...in  $Bel_{A,w}$  such that  $q \land q'...$  defeasibly entail pand there is no additional belief r of A such that  $q \land q'... \land r$ defeasibly entail  $\neg p$ . *entail\** shorthand for 'defeasibly entails'

**Pooled knowledge is better knowledge:** defeasible entailment rests on specific propositions q believed by A and B respectively. Forming the union = more reliable entailments.

# 5.2 Evidential wohl in questions: Flip

wohl is anchored to some speaker and gives rise to cloud of denotations:

(34) [[ wohl S ]]<sup>C</sup> = {  $\lambda$  w.Bel<sub>g,w</sub> entails\* [[ S ]]<sup>C</sup> ;  $g \subseteq C$  }

Let C be the context where A talks to B.

- (35) *Der Kater ist wohl in der Badewanne.* 'The cat is wohl in the bath tub
- (32.a) [[ wohl (Der Kater ist in der Wanne) ]]<sup>C</sup>
  - = {  $\lambda$  w.Bel<sub>A,w</sub> entails\* 'The cat is in the bath tub',
    - $\lambda$  w.Bel<sub>B,w</sub> entails\* 'The cat is in the bath tub',
    - $\lambda$  w.Bel<sub>A+B,w</sub> entails\* 'The cat is in the bath tub' }

A is only authorized to assert the first proposition

Question *wohl* Q in context C => cloud in (36).

- (36) [[ wohl Q ]]<sup>C</sup> = { {  $\lambda$  w.Bel<sub>g,w</sub> entails\*  $p \mid p \in [[Q]]^g$  } |  $g \subseteq C$  }
- (36) a. [[ wohl (Wo ist der Kater?) ]]<sup>C</sup>
  - = { {  $\lambda$  w.Bel<sub>A,w</sub> entails\* q ; q  $\in$  [[ Where is the cat? ]] },

{  $\lambda$  w.Bel<sub>B,w</sub> entails\* q ;  $q \in [[Where is the cat? ]]$  }

{  $\lambda$  w.Bel<sub>A+B,w</sub> entails\* q ;  $q \in [[Where is the cat? ]]$  }

= {  $Q(wohl)_A$ ,  $Q(wohl)_B$ ,  $Q(wohl)_{A+B}$  }

B is only authorized to react to Q(wohl)<sub>B</sub>

# 5.3 evidential *wohl* in verb-end questions

V-end questions carry the operator DELIB in C<sup>o</sup>.

(37) [DELIB Wo der Kater wohl ist] DELIB where the cat wohl is

DELIB forces the interpretation that is anchored to **A+B**.

(37) a. DELIB ( [[ wo der Kater wohl ist ]]<sup>C</sup> ) = {  $\lambda$  w.Bel<sub>A+B,w</sub> entails\* p ;  $p \in$  [[ Where is the cat? ]]<sup>C</sup> }

The question at issue for A and B is thus: 'what is a proposition p = 'the cat is at place z' such that

- there are propositions  $q, q' \dots$  that we both believe and  $q \wedge q' \wedge \dots$ entails\* p
- there is no further proposition *r* that we both believe such that *q* ∧ *q*'
   ... ∧ *r* entails\* ¬*p*
- B is not authorized to provide an answer
- Question requires A and B to pool knowledge
- B could speculate about answers *p*, inviting A's feedback
- B can remain silent and thus *confirm* A's expectation that B can not answer the question.

# 6. The pragmatics of deliberation

**Pragmatics**: DELIB is restricted to contexts where A believes that B can not answer DELIB(**Q**).

Aim: Derive this property.

## Sherlock-Holmes context (SHC):

Watson and Sherlock have been sharing knowledge for days. Both know what the other knows, and know the same things.

(38) Sherlock: *Wer wohl der Mörder ist?* Who wohl the murderer is

# Why can't Watson seriously answer (38)?

Competition of A+B-anchored questions:

- (38) a. *Wer ist wohl der Mörder?* Fintel+Gillies: context selects the A+B anchored denotation.
- (38) b. *Wer wohl der Mörder ist?* Eckardt: Form selects the A+B anchored denotation.

Grice's maxim of manner (Levinson, 2000): *Express simple matters in a stereotypical way*.

(38a) = brief, stereotypical utterance to denote  $Q_{A+B}$  in SHC (38b) = complex, nonstandard way to denote  $Q_{A+B}$  in SHC => (38a) prefered

Net result: Verb-end syntax restricted to contexts where A believes that B can not answer  $Q_{A+B}$ .

## 7. Summary

- semantic link from evidentials to deliberation
- evidentials are anchored to speaker or group of speakers
- speakers must be authorized to speak on behalf of the group

## Deliberation

- evidentials in questions anchored to A+B *beyond* suitable contexts
- resulting questions can not be answered by the hearer (or the speaker believes so)
- · hearer has two rational options to react
  - o Either A and B start to pool their knowledge
  - o or B takes A's utterance as a statement of interest
- 7.1. Open questions

## Implementation

German: DELIB = Verb-end syntax Salish = DELIB is triggered by evidentials in questions Rumanian = -?- (see Farkas 2017)

## Varieties of deliberation

## Cat questions

A and B watch a cat earerly snooping in his owner's bag.

(39) A to B:

*Ob ein Würstchen in der Tasche ist?* whether a sausage in the bag is 'There seems to be a sausage in this bag'



Situation offers evidence in favour of the highlighted alternative

- Polar questions raise the alternative {  $p, \neg p$ }
- positive alternative *p* is highlighted
- Discourse-initial bare polar V-end questions: *triggered* by an observation or new information *q*
- speaker points out that *q* entails\* *p*.

Another variety of cat questions?

(40) Ob Karl immer noch diese schwarzen Zigarren raucht?
 whether Karl always still those black cigars smokes?
 I wonder whether Karl still smokes these black cigars.
 "Probably yes." "Some things never change."

Exasperated V-end questions (bloß/nur)

- (41) Wann Hans bloß kommt?
  When Hans bloß comes
  "When-the-hell will Hans arrive? (...I ask myself in exasperation, given that he should already be here now.")
- (42) Wenn ich bloß trocken nach Hause komme! If I only dry to home come If only I come home without getting wet!"
- (43) Wenn ich bloß wüsste, wann Hans kommt. If I only knew when Hans comes 'If only I knew when Hans is coming"

## ... more shades of deliberation?

#### References

Aikhenvald, Alexandra Y. 2004. *Evidentiality*. Oxford and New York: Oxford University Press. AnderBois, Scott. 2016. Illocutionary mirativity: The case of Yucatec Maya *bakáan*. In Bui

Thuy and Ivan Rudmila-Rodica (eds.), *Proceedings of SULA 9: Semantics of Under-Represented Languages in the Americas.* Amherst, MA: GLSA Publications.

- Eckardt, Regine. 2012. Particles as speaker indexicals in free indirect discourse. Sprache und Datenverarbeitung 35(2)/36(1), 99 119.
- Eckardt, Regine. 2015. The semantics of free indirect discourse. Leiden: Brill.
- Farkas, Donka & Kim B. Bruce. 2010. On reacting to assertions and polar questions. *Journal* of Semantics 27(1), 81 118.

Farkas, Donka. 2017. Going beyond the prototypical: Special declaratives and special interrogatives. Handout, to be presented at *Stanford Colloquium*, Dec. 8, 2017.

- von Fintel, Kai & Anthony Gillies. 2011. Might made right. In A. Egan & B. Weatherson (eds.), *Epistemic modality.* Oxford and New York: Oxford University Press, 108 130.
- Gutzmann, Daniel. 2011. Ob einer wohl recht hat? Zwei Satzmodustheorien für das Deutsche im Vergleich. *Deutsche Sprache* **39**, 65 84.
- Hintz, Daniel J. & Diane M. Hintz. 2017. The evidential category of mutual knowledge in Quechua. *Lingua* 186/187, 88 109.
- Littell, Patrick, Lisa Matthewson and Tyler Peterson. 2010. On the semantics of conjectural questions. In T. Peterson, U. Sauerland (eds.), *Evidence from Evidentiality*. Vancouver: University of British Columbia Working Papers in Linguistics (28), 89 104.
- Matthewson, Lisa, Davis, H., and Hotze Rullmann. 2007. Evidentials as epistemic modals: Evidence from St'át'imcets. *The Linguistic Variation Yearbook* 7.
- McCready, E. and Ogata, N. 2007. Evidentiality, modality and probability. *Linguistics and Philosophy*, 30(2), 147 206.

Peterson, Tyler. 2016. Mirativity as Surprise: Evidentiality, Information, and Deixis. In *Journal* of Psycholinguistic Research **45**, 1327 – 1357; doi: 10.1007/s10936-015-9408-9

Peterson, Tyler and Uli Sauerland (eds). 2010. *Evidence from Evidentiality* Vancouver: University of British Columbia Working Papers in Linguistics, vol. 28 San Roque, Lila, Simeon Floyd & Elisabeth Norcliffe. 2017. Evidentiality and Interrogativity. *Lingua* **186/187**, 120 – 143.

Truckenbrodt, Hubert. 2006. On the Semantic Motivation of Syntactic Verb Movement to C in German. *Theoretical Linguistics* **32**, 257 – 306.

Truckenbrodt, Hubert. 2013. Selbständige Verb-Letzt-Sätze. In J. Meibauer, M. Steinbach & H. Altmann (eds.), *Satztypen im Deutschen.* Berlin: de Gruyter Mouton, 232 – 246.

Zimmermann, Malte. 2004. Zum 'Wohl': Diskurspartikeln als Satztyp-modifikatoren. Linguistische Berichte 199, 253 – 286.

Zimmermann, Malte. 2011. Discourse particles. In von Heusinger, Maienborn and Portner (eds.) *Semantics (HSK 33.2)*. Berlin: Mouton deGruyter, 2012 – 2038.

Zimmermann, Malte. 2013. Ob-VL-Interrogativsatz. In J. Meibauer, M. Steinbach & H. Altmann (eds.) Satztypen im Deutschen. Berlin: Mouton deGruyter, 84 – 104.