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Evidentiality and Undirected Questions:
A New Account of the German Discourse Particle *wohl*

Goal of this talk (aka. Take-home Message)

Starting point: The German discourse particle *wohl* is commonly perceived as **expressing uncertainty** (Zimmermann 2008), translatable as *presumably* in English as in (1).

(1)   Hein ist **wohl** auf See.   *declarative*
          Hein is WOHL at sea
          'Presumably, Hein is at sea.'

The argument in two parts:

   (i) *wohl* can be <u>felicitous in declaratives when the truth-value is known</u>
   (ii) *wohl* is associated with an <u>effect of undirectedness in interrogatives</u>

Provided these arguments, I will argue that the standard analysis needs to be refined and suggest an **alternative view of *wohl* as an evidential**.

I. Basics on German Discourse Particles

(i)   Sentence Type Sensitivity

- each German discourse particle is restricted to certain sentence types, in our case *wohl* can only occur in declaratives (1) and interrogatives (2) but not imperatives (3)[1]

(2)   Wer hat **wohl** das Siegtor geschossen?   *interrogative*
          'Who shot the deciding goal, I wonder.'

(3)   *Schlaf **wohl** weiter!   *imperative*
          'Go WOHL back to sleep!'

(ii)   Cannot bear stress (or have stressed variants)

- German discourse particles are assumed to resist accenting, although there are exceptions of some particles having stressed variants that differ in meaning, as in (4)[2] (see also Felicitas' talk on *doch*)

(4)   A: Hein ist nicht auf See.   B: Hein ist WOHL auf See!
             H.   is not   at sea   *H.   is WOHL at   sea*
          'A: Hein is not at sea.'   *'B: (But,) Hein IS at sea!'*

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[1] The imperative restriction includes declaratives with imperative force, for instance with deontic modals. However, there are also cases of indirect speech acts that Zimmermann (2008) reports, for instance using the declarative in (i) as a directive:
   (i)   Bist du **wohl**   still?
               are you WOHL quiet
               'Will you be quiet!'
[2] Given the semantic relatedness of the VERUM-Focus effect of WOHL and the epistemic/evidential nature of *wohl*, we would want a unified account of the two variants, which is, however, a whole separate can of worms.

(iii)   Not At-issue Meaning

- discourse particles are standardly taken to contribute some form of not at-issue content, as the infelicity of direct denial in (5) shows[3], which is different from epistemic modal adverbials like *vielleicht* ('maybe') in (6) that have a similar meaning

(5)   Hein ist **wohl** auf See. (= (1), ≈ 'Hein is at sea, I assume.')
        #No, you don't assume that Hein is at sea!

(6)   A: Frankfurt könnte das Spiel vielleicht gewinnen.
        B: Ne, sie werden das Spiel SICHER gewinnen.
        A: 'Frankfurt might win the game.'
        B: 'No, they'll DEFINITELY win.'

II. Data #1 – wohl *in declaratives*

(i)   The Standard Analysis

- in the standard analysis by Zimmermann (2008, 2011), *wohl* **"expresses a certain degree of epistemic uncertainty about the proposition of the clause it occurs in"**

- suggestive evidence for this comes from its **non-factivity requirement** shown by the infelicity if (directly or indirectly) embedded under a factive verb like *wissen* ('know') in (7)

(7)   a.   #Ich weiß genau,   wo   Hein ist. Er ist **wohl** auf See.
                I   know for-sure where Hein is   he is PRT   at   sea
                # 'I know for sure where Hein is. Presumably, he is at sea.'

        b.   *Ich weiß genau, dass Hein **wohl** auf See ist.
                # 'I know for sure that Hein presumably is at sea.'

- it is furthermore in line with *wohl*'s **distribution across sentence types** discussed above insofar as declaratives and interrogatives concern epistemic states less so than imperatives

(ii)   The Counterevidence from 'known' Propositions

➢ contra Zimmermann's account, **there are cases where *wohl* can modify a proposition that has been shown to be true**, as in (8) and (9), and thus patterns with evidential adverbials ('obviously') rather than epistemic ones ('probably')

(8)   *[Context: Pascal and Mordecai are playing a guessing game.*
        Mordecai: Guess how much they're paying Aaron Rodgers.
        Pascal: 10 million?
        M: You're wrong, it's 22 million!]
        P: Hm, da   hab ich mich {**wohl**   / offenbar / *wahrscheinlich} verschätzt.
            *well there have I   me   {WOHL / obviously / *probably}   guessed*
        P: 'Well, I guessed WOHL wrong.'   ≈   'Well, looks like I guessed wrong.'

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[3] The fact that *wohl* cannot be stressed might arguably interact with the unavailability of a direct denial.
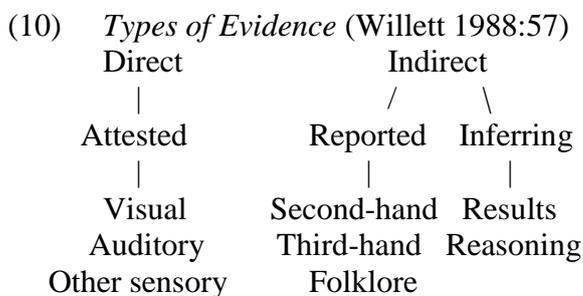
(9) *[Context: Ernie Banks has recovered from his amnesia and is told by the nurse how he couldn't remember any of the things that had happened to him. Ponderingly (and suddenly able to speak German), he says:]*
Ich konnte mich   {**wohl**   / offenbar / *wahrscheinlich} nicht erinnern.
*I   could myself {WOHL / obviously / *probably}   not   remember*
'I could WOHL not remember.'

The Proposal in a nutshell (again), Part I – basic meaning of wohl

To account for this data, I argue that **the meaning of *wohl* is that of an evidential.**

Since evidentials are supposed to indicate the source of evidence, they are **independent of the truth-value of the respective proposition** (which accounts for (8) and (9)), but also **consistent with the intuition of weakened commitment.[4]**

- this raises the question what kind of evidence *wohl* permits, using (10) as an orientation

(10) *Types of Evidence* (Willett 1988:57)

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    Direct               Indirect
      |                  /      \
   Attested        Reported   Inferring
      |                |           |
   Visual        Second-hand   Results
   Auditory       Third-hand   Reasoning
 Other sensory      Folklore
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- Matthewson (2015) provides suitable contexts to test which evidential sources are licensed by *must*, which can be applied to our case to find *wohl* and *must* pattern closely together (examples are listed in the Appendix):

	Visual	Auditory	other senses	Reported (trustworthy)	Reported (untrustworthy)	Inferring (engaged)	Inferring (disengaged)
wohl	✘	✘	✘	✘	✘	✘	✔
must	✘	✘	✘	✘	✘	✔	✔

  ➤ an interesting contrast, however, is for what I called 'engaged Inferring' in (11) where the inference occurs in a somewhat dramatic situation

(11) *Context*: *The speaker smells a smell like burning meat.*
SPEAKER KNOWLEDGE: *{I smell something like burning meat, I was cooking meat earlier, I haven't turned the oven off, ...}*
a. I must have burned the meat.
b. (#Verdammt,) ich hab **wohl** das Fleisch verbrannt.
'(Damn,) I did WOHL burn the meat.'

- intuitively, *wohl* seems odd in (11) due to the urgency that is usually associated with realizing your house might burn down[5]

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[4] This proposal predicts that we should be able to find *wohl*-declaratives in contexts where the respective proposition is shown to be false (in addition to the true cases I provided), which is a point of further research.
[5] It might also be due to the fact that *wohl* cannot occur with exclamatives (Seth Cable p.c.).

➢ given this observation together with the other data, I conclude that ***wohl* indicates an inferential evidence source that disallows direct evidence** (with (12) as a loose formalization), such that the oddness in (11) may be due to pragmatic incompatibility of 'cool' reasoning and the heat of the situation

(12) $[[\text{wohl } p]] = \text{INF}(i, p) = \{w \mid \text{in } w, \text{ speaker has inferential evidence about } p\}$

III. Data #2 – wohl *in interrogatives*

(i)   The Standard Analysis (again)

- with regard to interrogatives, Zimmermann's analysis takes the contribution of *wohl* to allow to a **less committed answer on the side of the addressee** as in (13)

(13)   Hat Hania **wohl** auch ihre Chefin   eingeladen?
        has Hania WOHL *also her boss-fem invited*
        ≈ *'What is your guess: Did she or didn't she invite her boss?'*
                                    (translation according to Zimmermann 2008)

- this correctly predicts the infelicity of *wohl* in questions that are meant to address someone who is supposed to know the respective answer, as in (14)

(14)   A to an airline official: # Geht der Flug **wohl** um 17.10 Uhr?
                        'Is the flight WOHL *leaving at 5:10pm?'*

(ii)   The Counterargument from undirected questions

➢ in the following, I want to show that the **behaviour of *wohl* in interrogatives is more complex** than Zimmermann's account assumes

a) *wohl*-interrogatives are undirected questions

- the example in (15) shows that *wohl* is odd when used as a direct question when the context should be suitable for Zimmermann's account, but rather is undirected

(15)   *[Context: Patrick and Malte are sitting in a windowless office without any clocks where they have been working since morning. Since a long time has passed, they have no clue what time it is. Patrick asks:*
        #Sag mal, wie   spät ist es **wohl** gerade?
         say once how late is it WOHL *currently*
        ≠ *'Tell me, what is your guess: What time is it currently?'* (predicted transl.)
        ≈ *(without* 'tell me'*) 'I wonder what time it currently is…'*

b) *wohl* licenses V-final syntax in interrogatives

- furthermore, as the minimal pair in (16) shows, an interrogative with the verb in clause-final position that would be otherwise ungrammatical (excluding a reading as echo-question) is felicitous with *wohl* and in fact most natural in the given context[6]

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[6] Note that this is not a specific property of *wohl* but of discourse particles in general, as *nur* ('just') in (i):
    (i)   Was Emma **nur**   macht?   =   'What Emma is NUR doing…'
            what E.   PART makes

(16)   *Context: Someone all by himself:*
a.   ?Was <u>macht</u> Emma (**wohl**) gerade?   *V2*
         what makes E.   WOHL   currently
         (with *wohl*:) *?? ≈ 'I wonder what Emma is doing currently…'*
b.   Was   Emma *(**wohl**) gerade   <u>macht</u>?   *V-final*
         what E.   WOHL currently makes
         (with *wohl*:) *≈ 'I wonder what Emma is doing currently…'*

- in addition to content-questions, *wohl* occurs frequently in undirected polar questions introduced by the complementizer *ob* ('whether') but is not necessary to license the structure in this case, as (17) shows

(17)   Ob   Thuy (**wohl**) schläft?
         whether T.   WOHL sleeps
         'Whether Thuy is [WOHL] sleeping?' ≈ 'I wonder whether Thuy's sleeping…'

➢ given these data, there are two immediate puzzles to solve:
   1.   ***What is the syntactic contribution of* wohl *to 'rescue' V-final syntax***
   2.   ***What is the difference between V2 and V-final* wohl *in interrogatives***

ad 1: wohl as overt realization of Force-Projection

- from the data in (16)-(17) we can infer the following generalization as to how an interrogative structure can be licensed:

         - by verb movement (16a)
         - by a discourse particle (16b)
         - by a complementizer (17)

- for a tentative solution, I will adopt some ideas from Keine (2016) who argues that the **verb position correlates with the clause size** it allows such that V-final clauses lack a ForceP projection that V2 clauses have, see (18)-(19)

(18)   *Structure of V-final finite clauses*
         [CP . . . [TP . . . [vP . . . [VP . . .]]]]
(19)   *Structure of V2 clauses*
         [ForceP . . . [CP . . . [TP . . . [vP . . . [VP . . .]]]]]

The Proposal in a nutshell, Part II – syntax of interrogatives

Diverging from Keine's proposal, I will assume that **ForceP has to be made overt** by either of the elements mentioned above rather than locating the difference in a correlation with clause size.[7]

This proposal is **in line with accounts to discourse particles as sentence-type modifiers** and specifically to Zimmermann (2008) who locates *wohl* in ForceP.[8]

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[7] Thanks to Stefan Keine and Rajesh Bhatt for suggesting this solution. An alternative that would leave clause sizes untouched would be to assume that discourse particles contribute the functional projection themselves (also due to Stefan Keine and Rajesh Bhatt).
[8] We might then predict that discourse particles that license V-final interrogatives share some semantics.

<u>ad 2: verb position as an indicator of evidential anchoring</u>

- to account for the 'interaction' of *wohl* with the position of the verb, I will again piggyback on another theory, namely Truckenbrodt (2006), who proposes an analysis of the syntactic facts embedded in speech act theory

- the aspect of the theory that is most relevant to our case is the assumption that **V-to-C movement correlates with the presence of an addressee** in a speech act which is applied in the informal representations of (20) (repeated from (16))

  (20) a. ?Was <u>macht</u> Emma **wohl** gerade? *V2*
       *Formal: S wants **from A** that it becomes common ground what Emma is doing*

     b. Was Emma *(**wohl**) gerade <u>macht</u>? *V-final*
       Formal: S wants _____ that is becomes common ground what Emma is doing

- ➤ crucially, this means that *wohl* **is not causing the undirectedness but is only strongly associated with it** – which brings us back to the initial problem

- as a contrasting minimal pair, consider (21) where V-final is infelicitous in a more narrative context that facilitates the shift of perspective

  (21) *[Context: A sports commentator while watching a tight race:]*
     a. Wer wird **wohl** gewinnen? *V2*
        who will WOHL win
     b. #Wer **wohl** gewinnen wird? *V-final*
        who WOHL win   will
        'Who's WOHL gonna win?'

The Proposal in a nutshell, Part III – wohl *in interrogatives*

The position of the verb indicates to which discourse participant the evidential source of *wohl* is anchored to such that V-final will anchor the speech act to the speaker while V2 anchors it to the/an addressee.

The mechanism is one that resembles Free Indirect Discourse (see Eckardt 2015) which would explain the contrasts in (16) and (21) and the frequent use of V2 *wohl*-interrogatives in narrative contexts.

- this leaves the issue of how to combine these ingredients in a formal way – which I won't have a complete answer to – but the representations in (16)' may be a good first approximation to understand how we arise at the feeling of undirectedness

  (16a)' Given the speaker's evidence, what is Emma doing
       ≈ 'I wonder what Emma is doing…'

  (16b)' Given the addressee's evidence, what is Emma doing
       ≈ 'I wonder (from your perspective) what Emma is doing…'

IV. Conclusion & Outlook

> *The Full Proposal*
>
> 1. I provided **counter-arguments against the standard account** of *wohl* by Zimmermann (2008, 2011) from both declarative and interrogative contexts
>
> 2. For a basic semantic, I argued for **treating *wohl* as an evidential that indicates an inferential source**.
>
> 3. To account for the licensing effect of *wohl* in V-final interrogatives, I proposed that a **ForceP has to be made overt by certain means which include discourse particles**.
>
> 4. Lastly, I contributed the interaction of *wohl*'s distribution with verb position to a difference in **perspectival anchoring governed by Free Indirect Discourse**.

❖ as an interesting closing point, the 'ambiguity' of *wohl*-interrogatives resembles what Murray (2010) calls ***illocutionary variability*** which has been observed in the evidential systems of languages unrelated to German, for instance Cheyenne in (22)

(22) *Tóne'še é-ho'eohtse-sėstse*
when   3-arrive-RPT.3SG
i. 'Given what you heard, when did he arrive?'
ii. 'He arrived sometime, I wonder when.' (Murray 2010:75)

❖ one obvious question would be whether the translations provided for Cheyenne could be linked to the observations made for German and test for syntactic factors that influence the interpretation there[9]

❖ investigating this cross-linguistic similarity and bring together the respective research traditions (in the spirit of Kratzer & Matthewson 2009) might shed light on the systems and the underlying forms

References

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Kratzer, A. & L. Matthewson (2009). Anatomy of two discourse particles. SULA 5.

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[9] In fact, Tlingit seems to have a distribution similar to German such that a self-directed question is linked to questions with subordination marking (Seth Cable p.c.).

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Appendix

A – REVIEW OF ZIMMERMANN (2008)

I. *wohl* functions as a **sentence type-modifier** located in a high functional projection at the left periphery of a sentence, namely ForceP

II. Semantically, *wohl* introduces an ASSUME operator that takes the proposition in which *wohl* occurs to indicate **weakened commitment**, see (A1), which gets - if accepted - represented in the Common Ground

III. For **interrogatives** with *wohl*, this can be understood as requesting an answer that does **not require full commitment** on the side of the addressee

(A1) $[[\text{wohl } p]] = \text{ASSUME}_X (p)$

B – DATA ON EVIDENTIAL SOURCE ADAPTED FROM MATTHEWSON (2015)

(B1) *The speaker sees the rain.*   VISUAL
a. # It must be raining.
b. # Es regnet **wohl**.
'It is WOHL raining.'

(B2) *The speaker hears people playing Tchaikovsky.*   AUDITORY
a. # They must be playing Tchaikovsky.
b. # Sie spielen **wohl** Tchaikovsky.
'They are WOHL playing Tchaikovsky.'

(B3) *The speaker smells something good.*   OLFACTORY
a. # Something must smell good.
b. # Etwas riecht **wohl** gut.
'Something smells WOHL good.'

(B4) *The speaker tastes something good.*　　　　　　　GUSTATORY
　　　　a. # Something must taste good.
　　　　b. # Etwas schmeckt **wohl** gut.
　　　　'Something tastes WOHL good.'

(B5) *The speaker feels that his/her coat is wet.*　　　TACTILE
　　　　a. # My coat must be wet.
　　　　b. # Mein Mantel ist **wohl** nass.
　　　　'My coat is WOHL wet.'

(B6) *The speaker sees people behind a window wincing*　　INFERENTIAL
　　　　and holding their ears while listening to music.　　(DISENGAGED)
　　　　{they're wincing and holding their ears, they're listening to music, people
　　　　wince and hold their ears when things are too loud, …}
　　　　a. The music must be too loud.
　　　　b. Die Musik ist **wohl** zu laut.
　　　　'The music is WOHL too loud.'

(B7) *The speaker hears someone crying inside the next room.*　INFERENTIAL
　　　　{someone is crying in the next room, I just saw Susie　　(ENGAGED)
　　　　go into that room, I know the room was empty before, …}
　　　　a. Susie must be crying.
　　　　b. ?Susie weint **wohl**.
　　　　'Susie is WOHL crying.'

(B8) *The speaker smells a smell like burning meat.*　　INFERENTIAL
　　　　{I smell something like burning meat, I was cooking　　(ENGAGED)
　　　　meat earlier, I haven't turned the oven off, …}
　　　　a. I must have burnt the meat.
　　　　b. ?Ich hab **wohl** das Fleisch verbrannt.
　　　　'I did WOHL burn the meat.'

(B9) *Belinda tells the speaker that Bob is home.*　　TRUSTWORTHY REPORT
　　　　{Belinda said Bob is home, Belinda is a reliable
　　　　source about Bob's whereabouts, Bob is home, ...}
　　　　a. # Bob must be home.
　　　　b. # Bob ist **wohl** zuhause.
　　　　'Bob is WOHL home.'

(B10) *Belinda tells the speaker that Bob is home*　　UNTRUSTWORTHY REPORT
　　　　{Belinda said Bob is home, Belinda is not a reliable source, …}
　　　　a. # Bob must be home.
　　　　b. # Bob ist **wohl** zuhause.
　　　　'Bob is WOHL home.'

C – REVIEW OF TRUCKENBRODT (2006)

- Truckenbrodt proposes the existence of semantic context indices of the form in (C1)
  that determine the illocution of an utterance by the two factors in (C2), namely mood
  and V-to-C movement, yielding the paradigm for the three major speech acts in (C3)

(C1)   Context indices on C in unembedded use have the form
        $\langle Deont_S (,x)_1 (,\langle Epist\rangle)_2\rangle$.
        A paraphrase is '*S wants (from x)₁ (that it is common ground)₂ that/whether…*'

(C2)   In a context index $\langle Deont_S (,x)(,\langle Epist\rangle)\rangle$ in C
        a. **Epist** is present iff (i) C contains a finite verb with indicative or
        Konjunktiv II or (ii) C/CP is marked [+WH].
        b. **x** = **A**(ddressee) iff C contains a finite verb with person inflection.

(C3)   Imperative: $\langle Deont_S, A\rangle$ '*S wants from A . . .*'
        Declarative: $\langle Deont_S, A, \langle Epist\rangle\rangle$ '*S wants from A that it is
                                                        common ground . . .*'
        Interrogative: $\langle Deont_S, A, \langle Epist\rangle\rangle$ '*S wants from A that it is
                                                        common ground . . .*'

▪ an illustrative example for an undirected question is in (C4)

(C4)   a. Ob   es morgen   regnet?
           whether it tomorrow rains
        '*I wonder whether it's going to rain tomorrow.*'
        b. $\langle Deont_S, \langle Epist\rangle\rangle$
        '*I want it to be common ground whether it is raining.*'