

On Evidentiality and Undirected Questions: Some Puzzles 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 of the proposition it modifies, translatable as *presumably* in English as in (1).

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

The argument: Given novel data from contexts where the proposition *wohl* modifies is known to be true and from its contribution to questions, I argue that an analysis as evidential seems more fruitful (without pretending having solved the problem completely).

Roadmap of the talk

- I. *Introduction to German Discourse Particles*
- II. *Brief Review of Zimmermann's (2008) Account of wohl*
- III. *A Preview of the Issues*
- IV. *Issue #1: Modality & Evidentiality*
- V. *Issue #2: Undirected Questions & Free Indirect Discourse*
- VI. *Conclusion & Outlook*

I. Introduction to German Discourse Particles

Basics

- as their name indicates, discourse particles contribute meanings that structure the discourse in a particular way, oftentimes relating knowledge or attitudes of the interlocutors
- unsurprisingly, the formal implementation of their semantic contribution commonly makes use of Stalnaker's Common Ground
- beyond that, there is no consensus regarding the type of meaning that discourse particles should be associated with, the proposals feature illocutionary operators (e.g. Zimmermann), presuppositions (Grosz 2014), conventional implicatures (Eckardt 2011), expressives (Kratzer 1999), or discourse-model accounts (Müller 2014)
- there are more than a dozen discourse particles in German, but are as well as a number in Dutch, Finnish, Hungarian, Japanese, Mandara and other languages, covering a wide range of language families

Some Examples

- discourse particles can be used to express a variety of meanings, usually by modifying a single proposition or relating propositions in the context

(i) *ja*

- the discourse particle that received most attention is *ja* in example (2) expressing a meaning along the lines of (3) and is often translated as *as you know*

(2) Wien liegt **ja** an der Donau.
'Vienna is [JA] situated at the Danube (as we all know).' (Grosz 2016, (15))

(3) *ja(p)* conveys: the possibility of $\neg p$ is not currently under consideration

(ii) *denn*

- *denn* can be considered an interrogative particle because it interacts with questions as in (4) conveying an interest on behalf of the speaker

(4) Was hast du **denn** da?
'Would you like to tell me what it is that you have there?'

(5) *denn(p)* conveys: there are other strategies of inquiry concerning *p* available

(iii) *auch*

- in contrast to some other particles, *auch*¹ is inherently relational indicating a causal relation between two propositions, as the dialogue in (6) is supposed to show

(6) A: Ich hab schon wieder den Bus verpasst.
B: Du bist **auch** zu spät aufgestanden.
A: 'I missed the bus again.'
B: 'No wonder, you got up too late.'

(7) *auch(p)* conveys: *p* is an explanation for some other proposition *q*

(iv) *ruhig*

- lastly, *ruhig* is strongly associated with permissions as it adds an air of politeness which can be paraphrased as *don't worry*

(8) Du kannst **ruhig** weiterschlafen.
,You can just go back to sleep, don't worry.'
(Schwager 2010, (2a))

(9) *ruhig(p)* conveys: the speaker considers *p* an acceptable course of action

¹ Confusingly, the discourse particle *auch* is homonymous to the focus particle *auch* ('too'), but exhibits slightly different semantics.

Sensitivity to Sentence Types

- one characteristic of discourse particles concerns their restrictions to certain sentence types which is shown below for the four particles mentioned above²

Declaratives:

- (10) a. Du bist **ja** bescheuert.
b. Du bist **auch** bescheuert.
c. *Du bist **denn** bescheuert.
d. *Du bist **ruhig** bescheuert.³
'You are PRT nuts.'

Interrogatives:

- (11) a. *Bist du **ja** bescheuert?
b. *Bist du **auch** bescheuert?
c. Bist du **denn** bescheuert?
d. Bist du **ruhig** bescheuert?
'Are you PRT nuts?'

Imperatives:

- (12) a. *Schlaf **ja** weiter.⁴
b. *Schlaf **denn** weiter.
c. *Schlaf **auch** weiter.
d. Schlaf **ruhig** weiter.
'Keep PRT sleeping.'

Transition

- with this short review of some background on German discourse particles, the focus for the rest of the talk will be on *wohl* as in (13) which is commonly assumed to indicate a lack of certainty of behalf of the speaker

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

- regarding the restrictions on sentence types, *wohl* is felicitous in declaratives (13) and (certain kinds of) interrogatives (14), but infelicitous in imperatives as (15)

- (14) Wer hat **wohl** das Siegtor geschossen? *interrogative*
'Who shot the deciding goal, I wonder.'
(15) *Schlaf **wohl** weiter! *imperative*

² To keep matters simple, I assume a partition into three major sentence types, declaratives, interrogatives and imperatives, without meaning to imply that there wouldn't be the possibility of assuming additional classes

³ As can be inferred from (8), *ruhig* is not necessarily bad in declaratives but adds additional restrictions to the context. For details on this, ask Magda (aka Schwager 2010).

⁴ One aspect of Discourse Particles that I won't go into concerns their prosody. It is commonly assumed that they cannot bear stress, but this assumption has been challenged by cases of stressed variants like JA, which would render (12a) felicitous. However, the stressed variants also seem to have a slightly different meaning such that it constitutes an area of research on its own.

- in the next section I will give a brief rendition of the most detailed account of *wohl* proposed by Zimmermann (2008), before turning to the problems of this proposal

II. Zimmermann's (2008) account of wohl

General Semantics

- according to Zimmermann (2008), *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 (16)

- (16) 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

Epistemic Reference Point

- Zimmermann argues that *wohl* comes with an additional sensitivity regarding the sentence type such that the epistemic state that *wohl* makes reference to depends on whether it occurs in a declarative or an interrogative
- for declaratives, *wohl* can only make reference to the speaker, as the infelicity in the context in (17) indicates

- (17) SPEAKER (B) CERTAIN, ADDRESSEE (A) UNCERTAIN:
 A: Where is Hein? I have a suspicion where he is, but I am not sure.
 B: #Ich weiß, wo Hein ist. Er ist **wohl** auf See.
 ‘I know where Hein is. He is **WOHL** at sea.’

- for interrogatives, on the other hand, *wohl* merely requires the addressee to be uncertain as suggested by data like the pedagogical question in (18b) and the infelicity of (19) with the addressee supposedly being aware of the answer

- (18) a. BOTH ADDRESSEE (B) AND SPEAKER (A) UNCERTAIN:
 A to B: Ist dies **wohl** der richtige Weg?
 ≈ ‘Would/could this be the right way?’
- b. ONLY ADDRESSEE UNCERTAIN:
 Teacher to student: Was ist **wohl** die Hauptstadt von Tansania?
 ≈ ‘What would be the capital of Tansania?’

(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

(28) [[*wohl* p]] = ASSUME (p)

III. Prefacing the Issues

1) *wohl* in declaratives

- contra Zimmermann's account, *wohl* is able to occur in contexts where the prejacent seems to be entailed as the corpus examples in (29) which would be incompatible with an explanation in terms of speaker uncertainty

(29) a. Dem ist **wohl** nichts mehr hinzuzufügen.
this is PRT nothing more to-add
'Looks like there is nothing to add here.'

b. Das nennt man **wohl** einen durchdringenden Blick...
that calls one PRT a penetrating look
'That's what you call a penetrating look...'

- moreover, consider the dialogue in (30) where the use of *wohl* is felicitous despite the fact that the prejacent is proven to be true
- crucially, an epistemic adverbial like *wahrscheinlich* ('probably') is infelicitous in this context while an evidential adverbial like *offenbar* ('obviously') is acceptable

(30) [A: Rate mal, wieviel Aaron Rodgers verdient.
B: 10 Millionen?
A: Falsch, 22 Millionen!
B: Hm, da hab ich mich {**wohl** / offenbar / *wahrscheinlich} verschätzt.
*well there have I me {PRT / obviously / *probably} guessed*
'[A: Guess how much they're paying Aaron Rodgers.'
B: 10 million?
A: You're wrong, it's 22 million!]
B: Well, looks like I guessed wrong.'

2) *wohl* in interrogatives

- as mentioned above, on Zimmermann's account, *wohl* simply contributes the same semantics in interrogatives as in declaratives, rendering it a request for a less committed answer as in (31)

(31) Hat Hania **wohl** auch ihre Chefin eingeladen?
has Hania PRT also her boss-fem invited
≈ 'What is your guess: Did she or didn't she invite her boss?'

- I take this analysis to be in disagreement with the empirical facts as well as ignoring other crucial pieces of data regarding the effect that *wohl* has in interrogatives

- first, *wohl* cannot freely occur in any type of question but is restricted to certain contexts
- for instance, *wohl* seems particularly odd in polar questions as (32)⁶

(32) Hast du dich (??**wohl**) entschieden?
has you you-acc PRT decided
'Did you WOHL decide?'

- second, when felicitous, a *wohl*-question seems to be not a request for an answer but feels almost self-directed, as the context and the translation in (33) indicates

(33) *Context: A man all by himself in his room.*
 Wie geht es ihr **wohl**?
how goes it her PRT
'I wonder how she's doing...'

- moreover, these effects correlate with the syntax that is associated with Free Indirect Discourse as in (34)
- the example in (34) only differs from (33) in its lack of V-to-C movement and displays the undirectedness effect, crucially requiring *wohl* to be acceptable

(34) Wie es ihr *(**wohl**) geht?
how it her PRT goes
,I wonder how she's doing.'

Transition

- both of the observed aspects are problematic for Zimmermann's analysis but moreover relate to broader big picture questions which I will discuss in the following sections

on 1) *How do we distinguish evidentials and modals?*
 on 2) *How can we explain the impact on the speech-act level?*

IV. Issue #1: Evidentials & Modals

- the debate on how to distinguish evidential from modal meaning, or whether such a distinction is meaningful in the first place, has received a lot of attention in recent years, particularly by the work of Lisa Matthewson
- at first glance, evidentials and modals are quite distinct categories:
 - ❖ evidentials “encode information about the speaker's source of evidence for the proposition being advanced“ with an example from Quechua in (35)

⁶ That is also to say that I don't share the judgment in (31).

(35) Marya-qa yachay wasi-pi-s ka-sha-n
 Marya-TOP know house-LOC-**RPT** be-PROG-3
 ‘Marya is at school.’ (the speaker was told this) (Faller 2002:22)

- ❖ modals, on the other hand, „introduce quantification over epistemically accessible possible worlds“ as in (36)

(36) Maria must be at school.
In all stereotypical worlds compatible with the speaker’s knowledge, Maria is at school.

- intuitively, the two kinds of meanings would then come apart when the truth of the prejacent is known since indicating evidence is compatible with knowing the truth while modals are taken to be disallowed in these circumstances, see (37)

(37) [Looking out the window at the pouring rain]
 #It must be raining.

- the data in (38) and (39) shows exactly this contrast for two elements from Salish, *lákw7a*, which indicates sensory evidence, and *k’a*, which indicates an inference as the source of evidence

(38) Context: *It sounded like someone was walking around outside, but it was actually only the wind.*
 wa7 **lákw7a** / * **k’a** ku=mám’teq láku7 álts’q7=a, t’u7
 be SNV / INFER DET=walk DEIC outside=EXIS but
 nílh=a cwílh=t’u7 ti=sk’éxem=a wa7 qan’im-ens-an
 FOC=A after.all=just DET=wind=EXIS IMPF hear-DIR-1SG.ERG
 ‘It sounded like someone was walking outside, but it was the wind.’

(39) Context: When you left the house there were dirty dishes in the sink and a dirty floor. When you come home, it’s spotless. You know that Eddy doesn’t know how to clean and never has and never will.
 o, ts’ex-n-ás **lákw7a** / * **k’a** ti=tsítcw=a k=Eddy
 oh clean-DIR-3ERG SNV / INFER DET=house=EXIS DET=Eddy
 ‘Looks like Eddy cleaned up.’

- the data in (38) and (39) would suggest that *lákw7a* is a modal while *k’a* is not⁷
- however, Matthewson argues for the unreliability of these tests to assess modal status for formal reasons
- following Kratzer (2010), Matthewson assumes that epistemic modals can combine with two kinds of conversational backgrounds, a realistic one or an informational one, and only the former is incompatible with knowing the truth of the prejacent

⁷ Although both would be considered evidentials – more on this issue in a second.

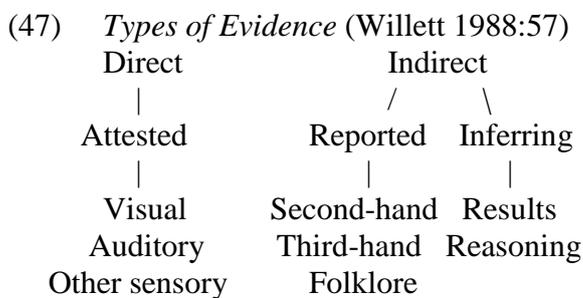
- (40) A realistic conversational background: a function f such that for any w in the domain of f , there is a body of evidence in w that has a counterpart in all $w' \in \cap f(w)$.
- (41) An informational conversational background: a function f such that for any w in the domain of f , $f(w)$ represents the content of some salient source of information in w .
- the different backgrounds are illustrated by the two adverbials in (42) with only the former making an assertion about the actual state of the matter
- (42) { Given/According to } the rumour, Roger **must** have been elected chief.
- alternative tests that have been proposed concern embeddability and challengeability as getting at the (non) at-issueness of the respective meaning
 - we have seen these tests being applied in some form beforehand in Zimmermann's analysis, with *wohl* passing the embeddability test in (43) (repeated from (27)) but not the challengeability test in (44)
- (43) a. Schröder sagt, dass die SPD wohl Hilfe verdient.
'Schröder says that the SPD wohl deserves support.'
 b. \neq <Schröder says that the SPD deserves support; Speaker unsure if the SPD deserves support>
- (44) A: Hein ist **wohl** auf See.
Hein is WOHL at sea
 B¹: #Nein, du hast keinen Beweis, dass Hein auf See ist.
 B²: Nein, Hein ist nicht auf See.
 A: *'Presumably, Hein is at sea.'*
 B1: *'#No, you don't have evidence for Hein being at sea.'*
 B2: *'No, Hein is not at sea.'*
- as Matthewson notes herself, these tests are not fool-proof themselves, but given the previous evidence from Zimmermann we might still be justified in considering *wohl* as contributing not at-issue content
 - overall, given the issues about distinguishing evidentials and modals we might fare better with using these labels only as broad semantic terms instead of linguistically distinct classes
 - thus, a more promising question would be whether we can say more about the kind of evidence that *wohl* provides
 - some suggestive evidence for an evidential account comes from the contrast between (45) and (46)
 - in a context like (45) where the speaker has no evidence whatsoever for his claim, *wohl* seems odd whereas a weak epistemic like *vielleicht* ('maybe') is compatible with a wild guess

(45) [Context: Stefan has a meeting with Angelika. When he gets to her office, he finds the door closed and the office empty. He says:]
 Angelika ist { ?**wohl** / vielleicht } krank.
 'Maybe Angelika's sick.'

- in contrast, with some additional evidence as in (46), *wohl* is acceptable (and moreover the bare prejacents is not)

(46) [Context: Stefan has a meeting with Angelika. When he gets to her office, he finds a post-it saying *I had to leave, doctor's appointment*. He says:]
 Angelika ist *(**wohl**) krank.
 'I guess Angelika's sick.'

- now, following the classic classification by Willett (1988) in (47) we can try to further determine whether *wohl* is restricted to a specific kind of evidence



- Matthewson (2015) looks at *must* from this perspective which seems to pattern closely with *wohl* (48)-(57)

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

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

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

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

- (52) *The speaker feels that his/her coat is wet.* TACTILE WITNESS
 a. # My coat must be wet.
 b. # Mein Mantel ist **wohl** nass.
 'My coat is *WOHL* wet.'
- (53) *The speaker sees people behind a window wincing and holding their ears while listening to music.*
 {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.'
- (54) *The speaker hears someone crying inside the next room.*
 {someone is crying in the next room, I just saw Susie go into that room, I know the room was empty before, ...}
 a. Susie must be crying.
 b. ?Susie weint **wohl**.
 'Susie is *WOHL* crying.'
- (55) *The speaker smells a smell like burning meat.*
 {I smell something like burning meat, I was cooking 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.'
- (56) *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.'
- (57) *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.'

- the data shows that a crisp classification doesn't seem viable in terms of the kind of evidence considered
- however, Matthewson (2011) proposes that evidential not only encode the relevant but only the strength of the evidence itself, see (58)

- (58) *Dimensions of meaning encoded in evidential restrictions:*
1. Evidence **type**: whether the evidence is visual, sensory, reported, etc.
 2. Evidence **location**: whether the speaker witnessed the event itself or merely some of its results
 3. Evidence **strength**: the trustworthiness/reliability of the evidence

- from this perspective, we could think of *wohl* as indicating a certain degree of reliability of the evidence which would be compatible with the prejacent being true but not necessarily

V. Issue #2: Undirected Questions & Free Indirect Discourse

- as mentioned above, the occurrence of *wohl* and its effect of undirectedness are strongly correlated with certain syntactic configurations such that they lack V-to-C movement
- this patterns with the difference between unembedded and embedded questions both for English (59) and German (60)

(59) a. Where is Emma?
b. I wonder where Emma is.

(60) a. Wo ist Emma?
'Where is Emma?'
b. Ich frage mich, wo Emma ist.
'I wonder where Emma is.'

- crucially, the syntax of embedded questions can't appear as an independent clause, shown in (61) and (62a), only that German allows to save it by adding *wohl* (62b)

(61) *Where Emma is...

(62) a. *Wo Emma ist....
b. Wo Emma **wohl** ist...

- Truckenbrodt (2006) proposes an analysis of these syntactic facts embedded in speech act theory
- he assumes semantic context indices of the form in (63) that determine the illocution of an utterance by the two factors in (64), namely mood and V-to-C movement, yielding the paradigm for the three major speech acts in (65)

(63) Context indices on C in unembedded use have the form
<Deont_S (,x)₁ (<Epist>)₂>.
A paraphrase is '*S wants (from x)₁ (that it is common ground)₂ that/whether...*'

(64) In a context index <Deont_S (,x)(,<Epist>)> 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.

(65) Imperative: <Deont_S, A> '*S wants from A . . .*'
Declarative: <Deont_S, A, <Epist>> '*S wants from A that it is common ground . . .*'
Interrogative: <Deont_S, A, <Epist>> '*S wants from A that it is common ground . . .*'

- what is interesting for our purposes is that V-to-C movement is related to the presence of an addressee in the speech act
- this would yield the representation for interrogatives with *wohl* in (66) where V-to-C movement is responsible for the undirectedness effect

(66) a. Ob es **wohl** regnet?
 'I wonder whether it's going to rain.'
 b. <Deonts, <Epist>>
 'I want it to be common ground whether it is raining.'

- one remaining question would then be why these interrogatives usually require the use of *wohl* and how to align this with its supposed evidentiality contribution
- interestingly, this effect on interrogatives of evidential elements is not unique to German but also attested for Salish (Matthewson 2010b) or Cheyenne (67)

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

❖ *I am not able to offer a satisfying solution to the puzzle, but a viable idea might be along the lines of viewing the evidentiality component as being reinterpreted as a marker of uncertainty (after all) which licenses the undirectedness: if there is no evidence to settle the issue, then there's no reason to ask someone*

VI. Conclusion & Outlook

- I have shown novel data from *wohl* in contexts that are not compatible with uncertainty of the speaker, as well as its peculiar association with undirected questions
- without having been able to provide a satisfactory solution to the raised issues, the discussion meant to give a new perspective on determining the meaning of discourse particles in German and related aspects with an attempt to make a connection to research on evidential markers in less prominent languages
- nonetheless, there are still some (more) open issues left of which I will simply mention two
- first, despite the appeal of some of the data I discussed, the correlations between V-to-C movement and *wohl* are not as strict as one would hope
- for instance, there are undirected questions with *wohl* that don't lack V-to-C movement as in (68)

(68) Wie geht es Emma **wohl**?
 how goes it E. wohl
 'I wonder how Emma's doing.'⁸

⁸ Intuitively, there also seems to be an effect of discourse structure such that

- second, *wohl* seems to interact with modals in an interesting way such that it is often more natural to use a modal additionally, shown in the contrast between (69b) & (69c)

- (69) A: Hast du eine Ahnung, wo Peter heute ist?
 B: a. Hm, der ist **wahrscheinlich/vermutlich** krank.
 b. ?Hm, der ist **wohl** krank.
 c. Hm, der wird **wohl** krank sein.
well that-guy will PRT sick be
 A: ‚Do you have an idea where Peter is today?‘
 B: a. ‚Well, he’s probably sick.‘
 b. ‚Well, he’s **WOHL** sick.‘
 c. ‚Well, I guess he’s **WOHL** sick.‘

all to say, there’s lots to do...

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 (ii) Was macht sie **wohl**. ‘I wonder what she’s doing.’

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