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Evidentiality and German Attitude Verbs

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Abstract

German attitude verbs usually embed that-clause complements. In addition, only certain verbs can also license clauses with matrix verb-second (V2) word order as their complements. These same verbs can also appear in slifting constructions. The main question addressed in this paper is why only some attitude verbs allow these additional constructions. I argue that in slifting, the attitude verb functions as an evidential parenthetical, elaborating on (Reis, 1997) and a suggestion in (Potts, 2007), but contra (Wagner, 2004). The lexical meaning of the slifting verb (e.g., the preference information for 'hope') is contributed as a conventional implicature. For V2-embedding, I show that the attitude verb syntactically and semantically embeds its complement. Still, the evidential semantics is the same as in slifting. What differs between the two cases is the distribution of the semantic pieces onto the semantic dimensions of assertion and conventional implicature. In both constructions, only verbs that contribute an upwards epistemic component without factivity are compatible with the evidential semantics.

Evidentiality and German Attitude Verbs

Tatjana Scheffler*

1 Introduction

German attitude verbs usually embed that-clause complements (1). In addition, only certain verbs can also license clauses with matrix-like verb-second (V2) word order as their complements (2). These same verbs can also appear in slifting constructions (3) (Ross, 1973).

(1) Regular ‘that’-complements:

- a. Ich glaube, dass Peter nach Hause gegangen ist.
I believe that Peter to home gone is
‘I believe that Peter has gone home.’
- b. Ich möchte, dass Peter nach Hause geht.
I want that Peter to home goes
‘I want that Peter goes home.’

(2) V2 Embedding:

- a. Ich glaube, Peter ist nach Hause gegangen.
I believe, Peter is to home gone
‘I believe that Peter has gone home.’
- b. *Ich möchte, Peter geht nach Hause.
I want Peter goes to home
‘I want that Peter goes home.’

(3) Slifting:

- a. Peter, glaube ich, ist nach Hause gegangen.
Peter, believe I, is to home gone
‘Peter, I believe, has gone home.’
- b. *Peter, möchte ich, geht nach Hause.
Peter, want I, goes to home
‘Peter, I want, goes home.’

The main question addressed in this paper is why only some, but not all, attitude verbs in German allow the additional constructions of V2 embedding and slifting. Given that there is good evidence that this is a semantic question, not purely a matter of syntactic argument selection, a related goal for this paper is to characterize the semantics of slifting and V2 embedding. This is particularly interesting in light of the fact that the sentences in (1–3) mean essentially the same.

In this paper, I argue that in slifting, the attitude verb functions as an evidential parenthetical, elaborating on Reis (1997) and a suggestion in Potts (2007), but contra Wagner (2004). For V2-embedding, I show that the attitude verb syntactically and semantically embeds its complement. Still, the evidential semantics is the same as in slifting. What differs between the two cases, as I discuss below, is the distribution of the semantic pieces onto the semantic dimensions of assertion and conventional implicature. In both constructions, only verbs that contribute an upwards epistemic component without factivity are compatible with the evidential semantics.

1.1 Structure of the Paper

First, I identify the class of verbs involved in V2 embedding and slifting. Then, given that the same class of verbs is allowed in both phenomena, I address the question of whether they are actually different constructions, or one and the same construction. In the next two sections, I analyze the

*I would like to thank Maribel Romero, the anonymous reviewers, as well as different audiences at Penn for comments and discussion of this work. All errors are my own.

semantics of slifting and V2 embedding, respectively. I argue that slifting is a parenthetical construction with evidential semantics. V2 embedding involves, as I show, the same evidential meaning as slifting, but contributes it differently on the semantic dimensions.

2 Slifting and V2 Embedding: Data

In German, (essentially) the same class of verbs can be used in slifting as well as V2 embedding. V2 embedding and slifting are possible with verbs of saying, belief, imagination, and preference verbs like ‘hope’ and ‘fear.’

- (4) a. Peter behauptet, Maria ist schwanger.
Peter claims, Maria is pregnant
‘Peter claims that Maria is pregnant.’
b. Maria, behauptet Peter, ist schwanger.
Maria, claims Peter, is pregnant
‘Maria, Peter claims, is pregnant.’
- (5) a. Peter glaubt, Maria ist schwanger.
Peter believes, Maria is pregnant
‘Peter believes that Maria is pregnant.’
b. Maria, glaubt Peter, ist schwanger.
Maria, believes Peter, is pregnant
‘Maria, Peter believes, is pregnant.’
- (6) a. Maria hofft, Peter kommt heute noch.
Maria hopes, Peter comes today still
‘Maria hopes that Peter will come today.’
b. Peter, hofft Maria, kommt heute noch.
Peter, hopes Maria, comes today still
‘Peter, Maria hopes, will come today.’

On the other hand, factive verbs, downward epistemic verbs, some preference verbs (like ‘wish’ and ‘want’), as well as most negated and modalized verbs do not allow V2 embedding or slifting. See Table 1 for an overview of the verb classes involved.

- (7) a. * Maria bereut, sie ist nach Berlin gezogen.
Maria regrets, she is to Berlin moved
‘Maria regrets that she moved to Berlin.’
b. * Maria weiß, Peter kommt heute noch.
Maria knows, Peter comes today still
‘Maria knows that Peter will come today.’
- (8) * Anna bezweifelt, Peter kommt noch heute.
Anna doubts, Peter comes still today
‘Anna doubts that Peter comes today.’
- (9) * Maria { wünscht sich / will }, Peter kommt heute noch.
Maria { wishes / wants }, Peter comes today still
‘Maria wishes/wants that Peter comes today.’
- (10) a. * Anna glaubt nicht, Peter kommt noch heute.
Anna believes not, Peter comes still today
‘Anna doesn’t believe that Peter will come today.’
b. * Anna will glauben, Peter kommt noch heute.
Anna wants believe, Peter comes still today
‘Anna wants to believe that Peter will come today.’

+ V2 embedding/slifing	– V2 embedding/slifing
verbs of saying	factive verbs
verbs of belief	downward epistemic verbs ('doubt', 'deny')
verbs of imagination	
'hope'/'fear'	pure preference verbs 'wish', 'want'
'it is better' ¹	'it is possible'

Table 1: Compatibility of attitude verbs with V2 embedding and slifing.

2.1 Epistemicity

So what is the generalization holding among the verbs that allow V2 complements and slifing? A study by Truckenbrodt (2006) attempts to explain, within a larger theory of the meaning of syntactic clause types, why certain verbs allow V2 complements, while others disallow this option (he does not discuss slifing). He identifies an *epistemic* component of meaning associated with V2 clauses. A stereotypical example of a verb that has an epistemic component is 'believe,' but this is also meant to include verbs of saying. Truckenbrodt (2006) does not discuss the exact nature of the epistemic component in great detail.

Truckenbrodt (2006) centrally addresses different verbs of preference, because they do not uniformly license V2 complements. He notes the following contrast (his (56) and (57)):

- (11) Es ist besser/Es ist ihr lieber/Maria hofft, sie ist in diesem Fall in Berlin.
'It is better/She prefers/Maria hopes she is in Berlin in that case.'
- (12) Maria *will/*wünscht sich, sie ist in diesem Fall in Berlin.
'Maria *wants/*wishes, she is in Berlin in that case.'

This shows that 'it is better' and 'hope' allow V2-complements, whereas 'want' and 'wish' prohibit them. So what is it that distinguishes these two sets of preference verbs from each other? We can show here that these predicates differ with respect to whether they allow a *counterfactual* use, i.e., whether they are compatible with our knowledge of the negated embedded proposition.

Both 'want' and 'wish' are compatible with counterfactual situations.² On the other hand, 'it is better' and 'hope' cannot be used if the embedded proposition is not considered possible by the speaker. Thus, the possibility of their embedded proposition is an important part of their meaning.

- (13) [Scenario: Uwe has to teach two days per week every semester. He is asking his wife for her preferences about when he should teach next semester. She says:]
- Ich will, daß du überhaupt nicht arbeiten mußt.
 - Ich wünsche mir, daß du überhaupt nicht arbeiten mußt.
 - # Ich hoffe, daß du überhaupt nicht arbeiten mußt.
 - # Es ist besser, daß du überhaupt nicht arbeiten mußt.
'I want / wish / * hope / * It is better that you don't have to work at all.'

Further evidence for this epistemic part of the meaning of 'hope' comes from an example due to Truckenbrodt:

- (14) A: Kommt Peter heute?
'Is Peter coming today?'
- B: Ich hoffe, dass er heute kommt. / # Ich will, dass er heute kommt.
'I hope he's coming today. / # I want him to come today.'

²Since both predicates are normally used to talk about the future, we can only test counterfactuality in as far as it applies to the future. Of course, in some sense, we can never exactly know about future events. But in practice, we can sometimes be pretty sure, for example what concerns our own plans.

Questions about facts of the world (whether Peter is coming or not) can be answered using the verb ‘hope.’ This makes sense if ‘hope’ indeed has a component that guarantees that the speaker holds its complement possible. Although B’s answer is not complete, it is at least a partial answer to A’s question: “I think it’s possible that he will come today.” I.e., “It is not the case that I think that he will not come today.” On the other hand, ‘want’ cannot be so used because what B wants is at best irrelevant to the question. Therefore, “I want him to come today” sounds odd in this situation.

To summarize, verbs that allow V2 complements and slifting are characterized by the fact that they do not allow a counterfactual use. That is, they require possibility of their complement; whereas verbs that could be counterfactual do not allow V2 complements, or slifting. V2 embedding and slifting verbs include an epistemic component that claims a certain epistemic probability (not zero) for the complement.

2.2 Upwards-directed

- (15) A: Kommt Peter heute?
 ‘Is Peter coming today?’
 B: Ich bezweifle es.
 ‘I doubt it.’

The attitude verbs that express an epistemic component can be sorted with regard to an epistemic scale. This scale ranges from zero belief of a proposition p (or belief of $\neg p$) to complete (100%) belief of a proposition p . Such scales are well known from the semantic analysis of evidentials in languages that employ these devices, and have been used for the analysis of modals (Potts, 2007). The epistemic component of a given verb expresses not only where on the scale one is located, but it also gives a direction (similar to monotonicity): ‘believe p ’ expresses that the likelihood of p is somewhere in between 0 and 100%, but also that the epistemicity is “upward”. This is in contrast to ‘doubt p ,’ which also ascribes a certain likelihood (between 0 and 100%) to p , but further expresses the fact that if anything this likelihood is going to go down according to the speaker. These observations are depicted graphically in Figure 1. Only upwards-epistemic verbs (like ‘believe’) can license V2 embedding and slifting, but not downwards-epistemic verbs like ‘doubt.’

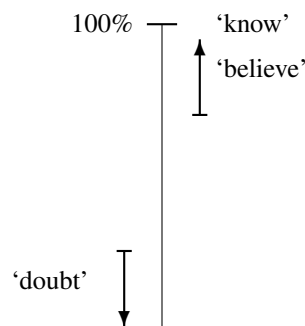


Figure 1: Epistemicity of ‘know,’ ‘believe,’ and ‘doubt.’

Note that in determining the upward or downward properties of a verb relevant here, only the epistemic component of meaning is important. For this reason, ‘fear’ can license V2 complements just as ‘hope’ can. Although the two verbs are opposed in direction on the preference side (if I ‘fear p ,’ I do not prefer p , whereas if I ‘hope p ,’ I do prefer p), they are both upwards directed in the epistemic component. In both cases, it is implied that the agent considers p epistemically possible.

- (16) Maria hofft, Peter kommt noch heute nach Hause.
 Maria hopes, Peter comes still today to home
 ‘Maria hopes that Peter will come home today.’

- (17) Maria fürchtet, Peter kommt noch heute nach Hause.
 Maria fears, Peter comes still today to home
 ‘Maria fears that Peter will come home today.’

2.3 Without Factivity

A final refinement to the generalization drawn here is needed. Since factive verbs are excluded, we observe that the epistemic component provided by the verb’s semantics must not lead to the top (100%) of the epistemic scale.

2.4 ‘It Is Better’

Reis (1996:64) notes that in addition to downward entailing verbs and negated or modalized verbs, “preference verbs” like ‘it is better’ are not possible in slifting (18). This is in fact not true for all preference verbs (since ‘hope’ is fine in slifting). Still, it is a notable difference that ‘it is better’ allows V2 complements but not slifting. For now, why this is the case has to remain an open question.³

- (18) *Peter, ist es besser, kommt noch heute.
 Peter, is it better, comes still today
 ‘It is better that Peter comes today.’

We can therefore agree with Reis (1996) that the classes of verbs that allow slifting and V2 embedding are the same; with the notable exception of ‘it is better’: verbs that provide an upward-directed epistemic component, without factivity, can license both V2 complements and slifting.

3 Slifting vs. V2 Embedding: One or Two Constructions?

Slifting as well as V2 embedding are licensed for verbs with an upwards-epistemic component (excluding factivity). It has sometimes been proposed that slifting is a subcase of V2 embedding, where an item has been extracted from the embedded V2 clause (Wagner, 2004). In this view, it is said that just as extraction from some embedded ‘that’-clauses is possible (19), extraction from embedded V2 clauses leads to slifting (20).

- (19) Was_i glaubt Peter, dass Maria liest e_i?
 What believes Peter, that Maria reads e
 ‘What does Peter believe that Maria reads?’
 (20) Was_i glaubt Peter e_i liest Maria?
 What believes Peter e reads Maria
 ‘What does Peter believe that Maria reads?’

However, despite the fact that the same class of verbs participates in both constructions, there are at least three reasons that speak against a unified analysis of V2 embedding and slifting.

First, it can be shown that the slifted phrase is a parenthetical, interpolated into the clause which expresses its semantic complement. In contrast, the attitude verb heads the main clause in V2 embedding: V2 complements are in fact syntactically and semantically embedded under the attitude verb. This can be shown by testing how slifting and the V2 embedding construction can be formed into a question. The German particle *denn* must be licensed locally by a question operator, that is, it is only possible in questions. We can therefore test which of the two clauses in slifting and V2 embedding is the matrix clause by checking which clause allows the particle *denn*.⁴ As a baseline

³In fact, the reason for this mismatch is equally likely to be syntactic or semantic: on the one hand, the phrase ‘it is better’ differs from the usual attitude verbs in its syntactic makeup. On the other hand, it is worth noting that ‘it is better’ is factive when used with a ‘that’-complement. It loses this factivity in V2 embedding (since V2 embedding is not allowed for factive verbs).

⁴Reis (1996) uses *denn* to argue for a parenthetical analysis of slifting, with slightly different examples.

we can also test regular embedded that-clauses, for which it is obvious which clause is the matrix one (that can be questioned).

- (21) Glaubst du denn, daß er (* denn) gefahren ist?
 Believe you PART, that he (* PART) driven is
 ‘Do you think that he has left?’
- (22) Glaubst du denn, er ist (* denn) gefahren?
 Believe you PART, he is (* PART) driven
 ‘Do you think that he has left?’
- (23) Ist er denn, glaubst du (* denn), gefahren?
 Is he PART, believe you (* PART), driven
 ‘Do you think that he has left?’

(21) demonstrates that the question particle *denn* can only appear in the matrix clause of questions. The use of *denn* in (22) shows that ‘you believe’ is a proper main clause here. The V2 clause is syntactically and semantically embedded, just like the that-clause is in (21). In contrast, ‘you believe’ is not the main clause in the question in (23). The particle *denn* is impossible in the slifted phrase, but fine in the clause that constitutes the semantic argument of the attitude verb.

Second, slifted phrases are not semantically embeddable under other operators like ‘because,’ whereas V2 embeddings are embeddable under these operators, just like sentences with regular ‘that’-complements.

- (24) Maria kommt nicht, weil ich denke, daß es regnen wird.
 Maria comes not, because I think, that it rain will
 ‘Maria won’t come. The reason is that I think that it will rain.’
- (25) Maria kommt nicht, weil ich denke, es wird regnen.
 Maria comes not, because I think, it will rain
 ‘Maria won’t come. The reason is that I think that it will rain.’
- (26) Maria kommt nicht, weil es, denke ich, regnen wird.
 Maria comes not, because it, think I, will rain
 ‘Maria won’t come. I think the reason is that it will rain.’

(25) means the same as (24), namely that Maria’s absence is due to my opinion that it will rain tomorrow. But (26) has a different meaning: here, the reason for Maria’s absence is the actual rain, and not just my thinking that it will rain.

Third, there is no extraction from V2 clauses in German (Reis, 1996). Recall that there is one verb which allows V2 embedding, but not slifting: ‘it is better.’ This would be inexplicable if slifting was merely a subcase of V2 embedding. Furthermore, the cases that most seem like extraction from V2, that are parallel to the extraction from ‘that’-clause examples (19), cannot be extraction cases either, since ‘it is better’ does not allow them (27). This example must be slifting, since ‘it is better’ would allow V2 embedding but does not allow slifting.

- (27) *Was ist es besser liest Maria?
 What is it better reads Maria
 ‘What is it better that Maria reads?’

I conclude that in their compositional semantic behavior, V2 embeddings act the same as embedded ‘that’-clauses, whereas slifting is a different case. V2 embedding is a case of proper syntactic and semantic embedding. In contrast, slifting cannot be a case of embedding: the behavior of a sentence remains unchanged whether or not a slifted phrase is present. A parenthetical analysis therefore is appropriate, as defended by Reis (1996).

4 Slifting as Evidentials

In slifting (Ross, 1973), an attitude verb appears interpolated into the clause that constitutes its semantic complement (3). Its proper syntactic analysis has been the subject of some discussion for

several decades. The reason for this is that although the slifted clause has many of the properties of parentheticals (modifiers), the matrix clause nevertheless identifies its semantic argument, which leads to mixed syntactic properties of the construction as a whole (see, e.g., (Simons, 2007:1039ff) for a summary of the discussion). Consider (28).

- (28) Peter, hoffe ich, kommt noch heute.
 Peter, hope I, comes still today
 ‘Peter, I hope, will come today.’

There are two major contenders for the structure of (28): The phrase *hoffe ich* (‘I hope’) could be analyzed as a parenthetical, or the sentence could be an example of extraction: *Peter* is extracted from the topic position of the embedded clause into the topic position of the matrix clause *hoffe ich*.

The syntactic and semantic behavior of slifting (see section 3) is expected if slifted phrases in German are analyzed as parentheticals, as proposed by Reis (1996). Given this syntactic structure, the compositional semantics of slifting remains to be determined. This semantics should also explain why only some verbs are capable of appearing slifted, as well as their unembeddability. This is the topic of this section.

Potts (2007) suggests that slifted phrases such as ‘I think’ function as evidentials. According to his proposal, evidentials affect the epistemic threshold which is associated with a conversation. This threshold is a context variable that determines whether the speaker is sufficiently sure of a certain sentence to utter it.

Typical slifted phrases are ‘I hear,’ ‘I think,’ ‘Peter says.’ Slifting is a way of expressing evidentiality in a productive way in languages like English or German that do not have morphological evidentials. For example, ‘I think’ would lower the threshold somewhat so that mere beliefs are assertable. ‘I hear’ lowers the threshold considerably, so that even hearsay evidence is sufficient for the speaker to make her utterance.

The characterization of slifting verbs as evidentials takes care of their unembeddability, and nicely captures their functional similarity to morphological evidentials in other languages. But the meaning of slifting verbs is not exhausted by their evidentiality. Slifting is a very productive way of expressing evidentiality in languages like English and German: many verbs with subtle meaning distinctions can be used in the slifting construction. The epistemic component (lowering of the epistemic threshold) is only one part of the meaning of these verbs. For example, consider the slifting verb ‘hope’: On the one hand, ‘I hope’ expresses a certain degree of epistemic possibility, similar to (although maybe lower than) ‘I believe.’ On the other hand, ‘I hope’ has very clear lexical content expressing a preference for the positive outcome. This component constitutes the difference between ‘hope’ and ‘fear’ as in (29–30).

- (29) Peter, I hope, will come today.
 ⇒ I think maybe Peter will come today; and I prefer him to come today.
 (30) Peter, I fear, will come today.
 ⇒ I think maybe Peter will come today; and I prefer him not to come today.

Based on these considerations, I am now in a position to propose a compositional semantics for slifting. The meaning I propose for a sentence *p* with slifting verb *V* is two-dimensional: The main assertion of the utterance is *p*, after the epistemic threshold of the conversation has been lowered (the function of evidentials). The actual content of the slifting verb *V* is contributed as a side comment in the conventional implicature dimension (31). This side comment distinguishes ‘I hear’ from ‘I hope.’

- (31) Assertion: $T \downarrow (p)$
 CI: $V(p)$
 (32) Peter, hoffe ich, kommt noch heute.
 Peter, hope I, comes still today
 ‘Peter, I hope, will come today.’
 (33) Assertion: $T \downarrow (p)$ (Peter will come today)
 CI: hope(I, Peter will come today)

Why, though, are only certain verbs able to participate in slifting? This, I argue, is a direct consequence of the verb's semantic properties. To show this, I will discuss the three broad types of verbs that are ruled out from slifting in turn: verbs without an epistemic component ('wish'), downward-epistemic verbs ('doubt'), and factive verbs ('know').

For the first case, consider the following example with the pure preference verb 'wish':

- (34) * Peter, wünsche ich, kommt noch heute.
 Peter, wish I, comes still today
 'Peter, I wish, will come today.'

Since verbs like 'wish' do not have an epistemic component in their meaning, they cannot be used in an evidential function, to modify the epistemic threshold provided by the context. The epistemic component of the attitude verb meaning is necessary so that the epistemic threshold *T* can be changed.

Second, downward epistemic verbs such as 'doubt' are ruled out:

- (35) * Peter, bezweifle ich, kommt noch heute.
 Peter, doubt I, comes still today
 'Peter, I doubt, will come today.'

If example (35) was possible, it would contribute the following two parts: first, the speaker claims that Peter will come today (relativized to a lowered epistemic threshold), and second, the speaker conveys his or her doubt that Peter will come today. These two contributions are contradictory. This explains why (35) sounds funny and is ruled out by the grammar.⁵

Finally, the third class of verbs that do not allow slifting in German are factive verbs.

- (36) * Peter, weiß ich, kommt noch heute.
 Peter, know I, comes still today
 'Peter, I know, will come today.'

Factive verbs presuppose their complement. Thus the sentence (36) makes altogether three contributions: the presupposition that Peter will come today, the assertion that Peter will come today (according to the epistemic threshold), and the conventional implicature that the speaker knows that Peter will come today. The presupposition and assertion are clearly redundant, making the utterance very odd. In addition, the factive verb does not actually manipulate the epistemic threshold, since the conditions under which one can utter "Peter will come today" are not changed by adding 'know.' Therefore, factive verbs cannot be used as evidentials in the slifting construction.

To summarize this section, I have proposed a two-dimensional meaning for slifting, with the lowering of an epistemic context variable (the epistemic threshold affected by evidentials) as the main contribution, and the attitude content of the slifting verb contributed as a side comment in the conventional implicature dimension. This two-dimensional semantics predicts why only upwards-epistemic (but not factive) verbs can be used in the slifting construction: (i) Only verbs with an epistemic component can affect the epistemic threshold (this rules out 'wish'); (ii) the asserted content (matrix clause) and non-asserted content (slifted phrase) must not clash (this guarantees upwards epistemicity and rules out 'doubt'); (iii) the point of the evidential is to manipulate the epistemic threshold: a factive verb does not lower the threshold and thus the construction does not feel like slifting.

⁵There are some cases of downward-epistemic slifting verbs whose ungrammaticality is not so easily explained (thanks to Kai von Fintel for bringing this to my attention). Consider for example:

- (i) * Peter, Mary doubts, will come today.

In (i), the fact that I'm uttering 'Peter will come today' and that Mary doubts this do not actually contradict each other. In fact, Mary and I could habitually disagree, which would make Mary's doubt good evidence for me uttering a certain sentence. Still, slifting is impossible. It seems that downward epistemic verbs are generally unable to bind the epistemic threshold index needed for slifting. Why this is the case in examples such as (i) must remain for further work at this point.

5 Embedding of V2 Complements: Slifting in Reverse

In this section, I address V2 complements of attitude verbs. Based on the similarities and differences of the slifting construction and V2 embedding, and given the analysis of slifting as two-dimensional evidentials as proposed in the previous section, I put forward a new analysis of V2 embeddings. I argue that they as well contribute a two-dimensional semantics. But the meaning parts, although the same as in the case of slifting, are distributed differently across the semantic dimensions for V2 embeddings, as can be shown by the compositional semantic behavior of both constructions.

I have shown above (section 3) that V2 embeddings are true syntactic and semantic embeddings. It follows that in the assertion dimension, V2 embeddings have the same meaning as regular ‘that’-complements. This is also expected because overall, V2 embeddings and sentences with regular ‘that’-complements are very close in meaning. However, unlike in ‘that’-clauses, the complement is expressed as a V2 clause. I would like to argue that this V2 syntax contributes a second meaning, namely that the proposition p from the complement clause is assertable given an epistemic threshold T. The indexical T is affected by the attitude contributed by the matrix verb, parallel to what happens in the evidentials (slifting). Thus, I propose the following compositional semantics for a sentence with matrix verb V and V2 complement p:

- (37) Assertion: V(p)
CI: T↓ (p)
- (38) Ich hoffe, Peter kommt noch heute.
I hope, Peter comes still today
‘I hope that Peter will come today.’
- (39) Assertion: hope(I, Peter will come today)
CI: T↓ (Peter will come today)

This meaning for V2 embeddings is completely parallel to the meaning for slifting above, but the semantic pieces are distributed differently over the semantic dimensions of assertion and conventional implicature, as shown in Table 2.

	slifting	V2 embedding
Assertion:	T↓ (p)	V(p)
CI:	V(p)	T↓ (p)

Table 2: Semantics of slifting vs. V2 embedding.

The closeness in meaning between slifting and V2 embeddings explains why the same class of verbs in German participates in both kinds of constructions. The three main problematic cases are ruled out for essentially the same reasons as were brought forward above for slifting. First, an epistemic component to the verb’s meaning is clearly needed to bind the epistemic indexical T. This is also argued (in different form) by Truckenbrodt (2006). A verb like ‘want’ which expresses pure preference without any epistemic contribution cannot bind this indexical, and the CI contribution of assertability given a certain epistemic index therefore fails.

Second, if the attitude verb contributes a downwards directed epistemicity (such as ‘doubt’), the two components of meaning in the assertion and conventional implicature will again clash.

- (40) *Ich bezweifle, Peter kommt noch heute.
I doubt, Peter comes still today
‘I doubt that Peter will come today.’
- (41) Assertion: doubt(I, Peter will come today)
CI: T↓ Peter will come today

The assertion states that Peter’s coming today is in doubt, and the CI states that Peter will come today (which is at least as likely as some index T). This clash in opposing contributions leads the sentence to fail.

Third, since factive verbs already presuppose their complement p, it is very odd to add another side comment (CI) stating the assertability of p.

- (42) *Ich weiß, Peter kommt noch heute.
 I know, Peter comes still today
 ‘I know that Peter will come today.’
- (43) Assertion: know(I, Peter will come today)
 Presupposition: Peter will come today
 CI: T↓ Peter will come today

An overt example attempting a similar effect is also decidedly strange:

- (44) Sue knows that Maria is pregnant, # which by the way is true.

Thus, only matrix verbs that have an upwards-directed epistemic component (but are not factive) are possible in V2 embedding. In effect, the meaning of sentences with V2 embedding is very similar to the meaning of slifting sentences. In both cases, the same semantic parts are expressed, but they are distributed differently over the semantic dimensions of assertion and conventional implicature. This leads to the different compositional behavior of the two constructions in German.

6 Conclusion

The main question guiding this paper was to find the exact semantics of V2 embedding and slifting in German, and to determine why only some attitude verbs can be used in these constructions. The classes of attitude verbs that allow slifting and V2 embedding are essentially the same (except for ‘it is better’) in German, as I show in section 2.

I argue that verbs with the given properties, namely upwards epistemicity without factivity, have some additional freedom when combining with their complement. In particular, these verbs can be used (1) parenthetically as slifting verbs, with an evidential-like semantics, or (2) as embedders of V2 complements that have their own assertability contribution. This has the effect that slifting and V2 embedding contribute the same semantic content, but they distribute it differently across dimensions. This difference in the distribution of meaning parts on semantic dimensions leads slifting and V2 embedding to behave quite differently syntactically and semantically, as I have shown contra Wagner (2004) in this paper.

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