

Everyone's been wondering what are the mechanisms for interpreting embedded root clauses in German and English...

1. Introduction

Understanding the division of labour between the syntax of the left periphery, semantics, and pragmatics has provided, and continues to provide, fertile ground for linguists across these subfields. Careful investigations of the relationship between tense, mood, agreement and context have revealed that core aspects of morphosyntax, whether in root or embedded clauses, require an interface with the utterance context to determine both their form and interpretation (Abusch 1997, Bianchi 2003, Giorgi 2010, a.m.o).

In the Germanic languages, overt movement of tensed elements marks not only clause type but also the interpretation in discourse of an utterance (see Heycock 2006, Co-author and Author 2020 for recent overviews). Movement of the tensed verb into the second position in the clause has been linked to assertive properties in German (Meinunger 2006, Truckenbrodt 2006, Lohnstein 2020; see also Reis 1995, 2000, Gärtner 2001 and Gärtner and Michaelis 2020), while subject-tense inversion is a common method¹ for marking a proposition as unresolved in the discourse, particularly in polar questions. Moreover, work on embedded root phenomena, in particular embedded Verb Second (EV2), have helped us refine our understanding of what it means to assert a proposition and what the discourse and social ramifications may be for expressing a proposition using certain morphosyntactic machinery. For example, Lohnstein and Staratschek (2020) argue that movement of the finite verb into the left periphery in German, whether in a root or embedded clause, anchors a proposition in a discourse context. This means that its temporal, spatial and other indexical parameters are defined, and that it is proffered for discussion by the discourse participants.

However, investigations of embedded speech acts have tended to focus on embedded declarative clauses and whether they are asserted, with far less (physical and digital) ink spent on other clause types or speech acts, such as imperatives and orders, interrogatives and questions.

The aims of this paper are three-fold. First, I will provide an overview of the characteristics of German EV2, English embedded inverted interrogatives (EIs) and embedded imperatives in both English and German, and how they compare with equivalent embedded clauses without root word order. I will analyse the interpretation of EIs and EV2 using Farkas's (2022) iteration of the Table model, critiquing and building on Lohnstein and Staratschek's (2020) proposal for German EV2. I will then discuss embedded imperatives in German and English to help me determine why EV2 is available in German, but EIs are not.

2. Key data

German EV2, English EIs, and embedded imperatives in both languages are considered ungrammatical in standard, written or formal varieties, yet are attested and widely used in colloquial speech.

¹ While common in Germanic, this is a crosslinguistically very rare feature – just 13 out of 955 languages listed in the World Atlas of Linguistic Structures principally indicate polar questions using interrogative word order (Dryer 2013).

EV2 in German has been well studied for many decades as a classic case of an embedded “root” phenomenon (see Heycock 2006 for an overview). Although verb second word order is typically a feature of root clauses, it can occur in some embedded contexts when specific syntactic, lexical and pragmatic requirements are met, as in (1):²

- (1) German (Reis 1995: 49)
Er sagt, sie wohnt jetzt in Bonn.
He said she lives now in Bonn.
“He said she lives in Bonn now.”
Compare: Er sagt, dass sie jetzt in Bonn wohnt.

English also allows interrogatives with subject-auxiliary inversion to be embedded in many dialects (e.g. Englishes on the isle of Ireland in Henry 1995, McCloskey 1992, 2006; African American English in Green 2002, Indian Englishes in Stringer 2015; a range of Englishes in England in Author 2016, a.o.):

- (2) Irish English (McCloskey 2006: 87)
I asked Jack was she in his class.
Compare: I asked Jack if she was in his class.

However, it is well attested that only declarative, and not interrogative, clauses with root syntax may be embedded in German:

- (3) German (constructed³)
*Ich habe Johannes gefragt, geht er morgen nach Köln.
I have Johannes asked goes he tomorrow to Cologne
- (4) German (Lohnstein and Tsiknakis 2020: 11)
*Maria sagt, wann kommt der Weihnachtsmann.
Maria said when comes the Father_Christmas

Both English and German allow embedded imperatives, though there is some disagreement in the literature with respect to the analysis of German embedded imperatives. Kaufmann (2012) reports on

² Though English is no longer a V2 language, Sailor (2020) identifies an innovative version of auxiliary verb raising in British English emphatic negative declaratives, as shown in (i). Given its reliance on the co-presence of a taboo word, Sailor dubs this construction *fuck*-inversion.

- (i) Glasgow English (Sailor 2020: 130)
They’re all wearing kilts, but will I fuck be wearing one of those.
(Meaning: ...I definitely won’t be wearing one of those)

Author (2016) demonstrates that in certain British dialects, *fuck*-inversion clauses may also be embedded, as demonstrated in (ii), providing a near-counterpart of German EV2:

- (ii) British English (Author 2016: 244)
He said would he fuck go to the party.
(Meaning: He said he would never go to the party.)

Fuck-inversion is similar to German EV2 in that it expresses a (strong) assertion, however, that assertion is necessarily negative. Sailor (2020) assumes that inversion is triggered by a covert negative operator in the left-periphery that is featurally linked to a taboo word on the left edge of the VP. *Fuck*-inversion cannot be multiply embedded and so on the basis of its syntactic and semantic exceptionality, I will not discuss it further in this paper.

³ Thanks to the following German L1 consultants who kindly provided judgements, examples and suggestions: [redacted for blind peer review]. Thank you also to an anonymous German L1 reviewer for their feedback and suggestions.

the presence of embedded imperatives like (5) in modern-day German, supported by later empirical work by Kaufmann and Poschmann (2013).

(5) German (Kaufmann 2012: 208)

Ich sag dir, geh nach Hause.

I tell you go.IMP to home

“I’m telling you go home.”

Compare: Ich sag dir, dass du nach Hause gehen musst.

Reis (2021) argues that examples like (5) are ‘grammatical illusions’ that fail to pass a number of tests for syntactic embedding. However, Kaufmann and Poschmann (2013) demonstrate a clear difference between the temporal interpretation of embedded imperatives compared with comparable embedded modalised declaratives and with direct reports (see section 3.3 for more detail), suggesting that for them, at least, these are true cases of embedding. I assume that there may be dialectal or even idiolectal differences in German grammar that lead to some speakers accepting embedded imperatives as grammatical while others must coerce them into interpretability, and focus on the grammars of the former group of speakers in the rest of this paper.

Embedded imperatives in English are less controversially accepted (Crnič and Trinh 2009); they also tend to pass tests for embedding, including cross-clausal binding:

(6) British English (constructed)⁴

He_i said don’t talk to his_i girlfriend.

Compare: He said that you shouldn’t talk to his girlfriend.

To summarise, the distribution of these constructions across English and German is as follows, Reis’s reservations about German embedded imperatives notwithstanding:

Table 1: Acceptability of embedded root clauses in German and English.

	EV2	Embedded imperatives	Ells
German	✓	✓	✗
English	(see fn. 2)	✓	✓

The rest of this paper details the similarities and differences between these three embedded “root” constructions, and how they are distinct from typically embedded counterparts that are accepted in standard and formal grammars. I will then draw on observations about the availability of ‘transparent’ readings of embedded DPs in German to propose that English and German differ in terms of language-specific pragmatic rules that affect how they allow discourse contexts other than the current one to be represented and interpreted, specifically in embedded clauses. These language-specific rules can explain (a) differences in interpretation of embedded root clauses between German and English and (b) the absence of embedded inverted interrogatives in German. Parts of the proposal remain necessarily programmatic given constraints of space⁵, but I hope to demonstrate fertile ground for further research based on solid empirical evidence and theory.

⁴ British English examples are constructed by the author in their [redacted] dialect of British English.

⁵ For previous syntactic/semantic approaches to Ells/embedded imperatives, see Author (2016, 2020) and Dayal (2023); for an updated syntactic account taking in German EV2 and verb second in relative clauses, see Author (in prep), which also builds work on V2 in relative clauses by Gärtner (2001).

Speaker need not be enacting the speech act

- (12) German (Lohnstein and Staratschek 2020: 236)
- Karl glaubt, Hans ist glücklich. Ich denke das auch. / Was für ein Unsinn.
Karl believed Hans is happy I think that too what for a nonsense
“Karl believed that Hans is happy. I agree./What nonsense.”
 - Karl glaubt, dass Hans glücklich ist. Ich denke das auch./Was für ein Unsinn.
- (13) Southern British English (EII attested)
Context: A rugby player is being interviewed for his opinions on the national team, coached by Richard Wigglesworth.
- I know Richard Wigglesworth says what the hell do I know about rugby[.]
 - I know Richard Wigglesworth says that I know nothing about rugby.
- (14) Caribbean English (embedded imperative attested)
Context: A cricketer is being interviewed about a belligerent opponent (Stokes)
- Stokes_i doesn't learn, because they_j keep telling him_i \emptyset , do not speak to me_{speaker}
 - Stokes doesn't learn, because they keep telling him not to speak to me.

With respect to multiple embedding, a feature of typical embedded clauses, EIs, EV2 and English embedded imperatives can multiply embed ((15)-(17)), though speakers report that judgements become less stable depending on the predicates involved (16).⁶ German embedded imperatives cannot multiply embed at all (18).

Multiple embedding is possible

- (15) British English (constructed)
Do you know [did he say [was he coming]]?
- (16) German (constructed)
Anna glaubt, [Maria sagt, [Peter ist glücklich]].
Anna thinks Maria says Peter is happy
“Anna thinks Maria said Peter is happy.”
- (17) British English (constructed)
He_i said [don't tell him_i [don't talk to your_{addressee} girlfriend]].

Multiple embedding is not possible

- (18) German (constructed)
*Hans sagte, [sag deinem Vater, [ruf deine Mutter an]].
Hans said say.IMP your.DAT father call your mother up
Intended: “Hans said tell your father call your mother.”

⁶ An anonymous reviewer points out that reversing the attitude verbs “improves acceptability to a point where the lack of recursive use seems doubtful”:

(i) Anna sagt, Maria glaubt, Peter ist glücklich. [Anna says Maria thinks Peter is happy.]
The reviewer further notes that “reporting thoughts seems more plausible than thinking about reports [...] probably [...] on grounds of relevance.” Tom Roeper (p.c.) has also noted a similar effect with respect to attitude verbs *think* and *know*, in that it is more natural to report on *knowing that one thinks X* compared with *thinking that one knows X*. I will not pursue this line of enquiry here, rather noting that the fact that the pragmatically more difficult “thinking about reports” is possible in EV2 cases suggests that apparent multiple embedding is not pragmatically licensed.

3.2. But they are also distinct from typical embedded clauses...

The constructions of interest also differ from typical embedding in the following ways: they are all more restricted in terms of extraction (preposing and *wh*-extraction) and binding than typical embedding and they are famously restricted with respect to the predicates that can embed them (see Gärtner 2001, Meinunger 2006, Djärv 2019 *inter alia* for EV2; McCloskey 2006, Author 2016 for EIs; Crnić and Trinh 2009, Kaufmann 2012, Reis 2021 for embedded imperatives). For detailed presentation of these claims, I refer the reader to Author (2016, in prep.).

These constructions also permit perspectival elements to shift to the original discourse context, which is not so readily available in their non-root counterparts.⁷ This can be illustrated through the use of discourse particles expressing emotion, like *ooh*, and motion verbs that orient to the original rather than the current speaker (as in (19)).

Perspective shift in emotive particles and motion verbs

(19) Yorkshire English (attested)

Context: Liz visited a town she used to live in and bumped into an old friend, who invited her to their house for coffee. She is reporting the encounter some weeks later.

They_j said *ooh* could we_i come over for coffee so we_i did.

Compare: They said *ooh* could we {come/#go⁸} over for coffee...

Compare: They asked if (**ooh*) we could come/go over for coffee...

However, German embedded imperatives have a restriction whereby the addressee of the original and reported imperative must be the same (Kaufmann and Poschmann 2013: 634-5). This means that example (20) can⁹ be interpreted not only as a direct speech report, but as a reiteration by the current addressee of an imperative that places an obligation on the current addressee. This means that (outside of direct speech reports), only speaker-related attitudes and perspectives can shift.

Original addressee restriction in German embedded imperatives

(20) German (based on Kaufmann 2015: 8)

Am Donnerstag hat Hans dir doch schon gesagt, ruf meinen_{speaker} Vater heute an.

On Thursday has Hans you.DAT PRT already said call.IMP my father today to

"On Thursday Hans_i already told you, call my_{speaker} dad today."

Kaufmann and Poschmann find that examples like (20) get different readings with respect to the meaning of *heute* ('today') depending on whether the imperative is understood as a direct speech report (today = Thursday) or an embedded imperative that is still live (today = the day of the report). Crucially, if the matrix addressee is an explicit third person nominal, then only the direct speech reading is available (2013: 634).

Our constructions of interest also implicate the existence of a previous relevant speech act even when they occur under predicates that don't explicitly express *saying*. For example, Author (2016, 2020)

⁷ This perspective shift is a point of difference between English/German on the one hand, and Swedish on the other. See Wiklund (2010), Djärv (2022) and Author (in prep) for more on this distinction.

⁸ An anonymous English L1 reviewer, who uses a dialect other than British English, notes that both *come* and *go* can be used here in their dialect. It is possible that users vary as to whether spatial reference is fixed or can shift in EIs; I am personally unsure whether terms like (*t*)*here* can orient to the current speaker in my EIs, and I have not found any attested EIs containing these terms. I therefore leave this for future research.

⁹ It may also be interpreted as a direct speech report, in which case *meinen Vater* "my.DAT father" refers to Hans's father. For some German speakers, only this reading is possible. Thanks to an anonymous L1 German reviewer for pushing me to clarify this point.

demonstrates that EIs under *want to know* conventionally implicate that a speech act with the embedded propositional content was still made.

(21) British English (Author 2020: 301)

- a. Everyone wanted to know whether Joe could come to the party.

No implicature that the question about Joe's attendance was actually asked

- b. Everyone wanted to know could Joe come to the party

Implicature: Joe's attendance was overtly discussed in some form

The implicature in (21)b is conventional in Potts's (2005) sense: it is not cancellable (as in (22)b), not-at-issue, speaker-oriented and detachable (see Author 2020 for more details).¹⁰

(22) British English (Author 2020: 313)

- a. I wanted to know if Joe was coming to the party but didn't mention it at all.

- b. I wanted to know was Joe coming to the party #but didn't mention it at all.

Lohnstein and Staratschek (2020: 239) also note that "[German] embedded V2 [...] is only available if the embedding predicate implies that there could have been an assertive speech act which is reported via the current speech event". This, they claim, explains the typical absence of EV2 under constituent negation and factive predicates, as well as the requirement for conjunctive II mood under verbs like volitional *wollen* ('to will, wish'). Note that all three constructions can occur under negation in the case that it is the content of the speech act, rather than the speech act itself, that is being negated:

(23) German, Truckenbrodt 2006: 296

Hans glaubt nicht, Peter hat gewonnen, #(er glaubt nur, dass Peter gut abgeschnitten hat)

Hans believes not Peter has won he believes only that Peter good done has

"Hans does not believe that Peter has won, he only believes that Peter has done well."

(24) British English (Author 2020: 313)

- a. I didn't ask would he cook tea for me #(, I asked would he cook lunch).

- b. Did Jane ask was Mary coming? ≠ something was asked

(25) US English (attested)

I didn't say don't interview them [survivors]. I said don't interview them in the first minutes after surviving a massacre.¹¹

In sum, our constructions of interest necessarily report on previous speech acts – not simply thoughts or wishes – and obligatorily orient attitudinal elements to the original speech act in a way that is only optional in typically embedded contexts. This obligatory orientation differs in English and German,

¹⁰ In cases where adverbials heavily bias the reading of *want to know* as a mental act, an EI becomes decidedly odd:

- (i) I couldn't sleep all night because I wanted to know #was John coming to the party.

Thanks to Hans-Martin Gärtner for querying this; the judgement here is mine.

¹¹ Taken from <https://twitter.com/JonAcuff/status/997566058142760961>, last accessed 29 Sep 2023. For context, and to demonstrate that this is not strictly a direct quotation, the tweet in (25) occurs in the exchange below:

- A. I don't think we should immediately shove a camera and a microphone in the face of a 15yo who has just survived a school shooting minutes ago. That's for ratings not healing. We need their voices but not in the 1st minutes of PTSD. We use victims as props and it's gross.
- B. Not interviewing people directly impacted by events (both good and bad) sort of defeats the purpose of the news and journalism.
- A. (25)

however – while both speaker and addressee attitudes can orient to those original role holders in English, in German the addressee must be coreferential with the addressee in the current discourse. In the next section, I refine what is meant by orienting towards the original speech act by comparing our constructions with another mode of reporting speech that shifts perspectives – Free Indirect Discourse.

3.3. And they are distinct from Free Indirect Discourse too

The fact that our constructions of interest do not exhibit indexical shift but do exhibit a shift of perspective is reminiscent of Free Indirect Discourse (FID) or *erlebte Rede* (free indirect thought) cases such as (26)-(27):

(26) English (D.H. Lawrence ‘England, My England’, quoted in Banfield 1982: 65)

Was there blood on his face? [...] Or was it dry blood congealing down his cheek? It took him hours to even ask the question [...]

(27) German (Klöpfl and Kobr ‘Milchgeld’, quoted in Eckardt 2012: 2)

“... Und Wachter verlor damals seinen Job.”

— Das war also der geheimnisumwitterte Skandal, von dem so viele redeten. Aber wie war Wachter nach seiner Entlassung nach Krugzell gekommen? Kluftinger musste nicht nachfragen, denn Schönmanger erzählte von sich aus weiter. ...

“... and at that time, Wachter lost his job.”

—So this was the mysterious scandal of which so many were talking. But how had Wachter come to Krugzell after getting sacked? Kluftinger didn’t have to ask, as Schönmanger went on talking by himself....

Taking FID and Ells first, differences remain. Banfield (1982) notes that certain ‘addressee-oriented’ adverbials like *honestly* and *confidentially* are not compatible with third-person narration in FID, forcing a first-person point of view in sentences like (28). However, these adverbials are fine in Ells with third-person subjects (29).

(28) English (Banfield 1982: 117)

- a. Honestly, she was so pleased to see him – delighted!
- b. Confidentially, how extraordinarily nice workmen were!

(29) English (constructed)

- a. Tom asked her, honestly did she think she would ever get away with it.
- b. Jane wanted to know, confidentially had he ever had feelings for Miranda.

While discourse particles and adverbials are used in *erlebte Rede*, only German EV2 under verbs of saying/thinking permits discourse particles in the EV2 clause (30).¹²

(30) German (Jacobs 2020: 184)

Paul sagt/denkt, es würde ja keiner merken, dass er Alkoholiker ist.

Paul says/thinks it would PRT no-one notice that he alcoholic is

“Paul says/thinks no-one would *ja* notice that he is an alcoholic.”

¹² I do not address the interpretation of *ja* here. Particle *ja* expresses that the speaker believes that the addressee might already know the content of the sentence (see e.g. Zimmermann 2011). As will become clear, my analysis predicts that *ja* in EV2 contexts would mark that the current speaker sees fit to ascribe to original speaker (Paul) the expectation that the current addressee may already know that no-one would notice that he is an alcoholic. I leave testing this prediction for future work.

Note that some verbs, e.g. hoping and wishing, are compatible with EV2, but disallow discourse particles (31). As mentioned in section 3.2, these verbs tend not to contextualise the embedded clause as a previous speech act.

(31) German (Jacobs 2020: 185)

Ich hoffe, es wird morgen *ja/*doch/*offen gesagt regnen.

I hope, it will tomorrow PRT PRT frankly said rain

“I hope it will, frankly speaking, rain tomorrow.”

Temporal adverbials also behave differently in FID compared with our constructions of interest. Famously, terms like *yesterday* shift in FID to be interpreted relative to the now of the relevant narrator or character rather than the author or reader (Banfield 1982, Schlenker 2004, Giorgi 2010 a.m.o.). For example:

(32) English/German (adapted from Eckardt 2012: 16)

Reading context: Both the sentences below are read on Thursday 4th April.

Story context: On Sunday, Peter took Sue to the movies. Unfortunately things didn't go well and he failed to impress Sue. On Sunday night he was sitting in the kitchen and thinking about the date. Strange...

a. Gestern war er doch extra zum Friseur gegangen.

b. Yesterday, he'd even been to the hairdressers again.

In (32), *yesterday/gestern* is understood as being Peter's Saturday rather than our (reader's) Wednesday. However, in Ells, *yesterday* does not shift and must be understood as the day before the current speaker is making their utterance, rendering yesterday in (33) rather odd:

(33) English (constructed)

Context: It's Monday. Peter rang me to commiserate about his unsuccessful date on Sunday.

I'm now telling my housemate about the phone call.

Peter told me his date went badly. He wanted to know did I think the hairdresser did him dirty on Saturday/#yesterday.

Kaufmann and Poschmann (2013) also demonstrate this for embedded imperatives in German, showing empirically that German L1 users interpret temporal terms in embedded imperatives relative to the current discourse context (34).

(34) German (Kaufmann and Poschmann 2013: 626)

*Am Donnerstag beim Frühstück sagt Veronika zu Oskar: Warum fragst du jetzt plötzlich mich, wann du zur Prüfung antreten sollst? Dein Kollege hat dir doch gestern in der Mensa klar gesagt, **mach sie morgen**.*

“On Thursday at breakfast Veronika says to Oskar: Why are you now all of a sudden asking me when you should take the exam? Your colleague told you yesterday, take.IMP it tomorrow.”

In (34), *tomorrow/morgen* is interpreted as Friday (i.e. the day after the current discussion between Veronika and Oskar). If the context forces an addressee shift (e.g. because Veronika and Oskar are discussing a third person's exam), then temporal terms tend to receive a quotational (i.e. shifted) interpretation.

These data suggest that while temporal adverbials and speaker-attitude-related elements typically shift together in FID/*erlebte Rede*, our constructions of interest tease shifting behaviour apart further.

In these contexts only speaker-attitude-related elements shift, and only then in the case that a prior speech act is being communicated.

Finally, while FID/*erlebte Rede* contexts allow the introducing predicate to follow the expressed material, our constructions of interest typically follow their matrix predicate (only German EV2 can, marginally, be fronted):

(35) English (constructed)
 Would he cook dinner for me tonight, I asked yesterday ✓FID, *EII

(36) English (constructed)
 *Don't speak to his_i girlfriend, he_i said.

(37) German (constructed based on Reis 2021: 170)
 Du sollst morgen zum Chef kommen, hat Hans gestern gesagt/*entdeckt.
 you should tomorrow to-the boss come has Hans yesterday said/discovered
 You should go to the boss tomorrow, Hans said/discovered yesterday.

3.4. Summary of the data

Table 2 summarises below the characteristics of the three embedded root constructions of interest in German and in English.

Table 2: Morphosyntactic, syntactic and pragmatic characteristics of embedded root clauses

	English EIIs	Embedded imperatives	German EV2
Sequence of Tense	✓	N/A	✓
Person and temporal indexicals anchor to current context	✓	✓	✓
Multiple embedding	✓	% (English) * (German)	✓
Position	Follows predicate, utterance-final, cannot be fronted	Follows predicate, preferably utterance-final, cannot be fronted	Follows predicate and utterance-final; can marginally be fronted
Addressing 'original' addressee restriction	✗	✗ (English) ✓ (German)	✗
Perspective shift	✓	✓ (English) Speaker-only (German)	Speaker-only (projected)
Implicature that previous speech act was made	✓	✓	✓

We see that EIIs, EV2 and English embedded imperatives pattern very similarly, while German embedded imperatives differ with respect to multiple embedding and the 'original' addressee restriction that is active in German. Two questions then remain: (a) why do German and English differ with respect to the interpretation of their imperatives and (b) why doesn't German have EIIs?

4. Syntax sketch

In this section I briefly sketch the syntactic structures of our constructions of interest.¹³ They are not directly selected by the embedding predicate but fall under their scope; this accounts for their ability to be relativised to a context other than the current context, as well as their other characteristics that suggest embedding, but it also captures the ways in which they are distinct from their typical embedded counterparts, for example their less flexible position in the clause.

I assume an expanded left periphery containing speech-act related projections, of which some may be embedded. I will use here Author (2016, 2020)'s approach (see also Dayal 2023), though it maps quite straightforwardly onto similar proposals by Krifka (2014, 2023) and Wiltschko and Heim (2016).

(38) [SpeechActP [PerspectiveP [CP [TP ...]]]

The SpeechAct Phrase (SAP) is, I argue, not embeddable (in line with Wiltschko and Heim 2016, contra Krifka 2023). PerspectiveP however, can be embedded. SAP is typically realised in English and German via prosody (e.g. Wiltschko 2021), whereas PerspectiveP can be realised lexically via discourse particles (e.g. Author 2021), metalinguistic negation (Author and Co-author in press) or other overt operators¹⁴.

PerspectiveP hosts in its specifier a situation pronoun (of the kind proposed by Schwarz 2012) that can mediate between the discourse situation and the proposition, or a matrix clause and the proposition, to determine from whose perspective the embedded proposition is to be understood. I propose that this situation pronoun consists of a tuple of parameters for speaker, addressee and discourse context, similar to ideas advanced to explain morphological phenomena such as Double Access readings of tense (Giorgi 2010) and reflexes of finiteness (Bianchi 2003).¹⁵ I propose this approach in contrast to Dayal (2023), who proposes PRO in SpecPerspectiveP, because we will see that English and German differ with respect to which of the interlocutor parameters can shift perspectives, such that PRO cannot capture the complexity of the shifting at issue in German in particular.

I assume that attitudinal and perspectival elements, e.g. speech act adverbs, as well as nominals, contain in their lexical entries perspective-holder variables (similarly to Krifka 2023) that take their reference from the properties of the speech act structure of their clause. It follows that any attitudinal and perspectival variables in the embedded clause will be bound by and receive the values of the situation pronoun in SpecPerspectiveP. Note that as PerspectiveP is not present in typical embedded clauses or (I assume) in FID clauses, many attitudinal and perspectival elements cannot be embedded, as there is no local (i.e. clause-mate) binder present (see section 3.3 on FID, though a more detailed syntactic account for FID cannot be given here).

The head of PerspectiveP is a semantic operator that converts the typed CP (in the case of an Ell, a set of propositions $\langle t, t \rangle$) into an contextualised entity $\langle s, e \rangle$ with content identical to that of the typed phrase. This idea originates in Lahiri's (2002) work, in which he analyses a type of embedded root question in Spanish. Taking Lahiri's two-place predicate UTT, which takes an expression with the

¹³ The reader is directed to Author (in prep) for greater detail.

¹⁴ An example from outside Germanic is independent-conjunct clause marking in Plains Cree (Algonquian), which marks speaker commitment and affect towards propositional content (Cook 2008, 2014).

¹⁵ Proposals where context parameters remain squarely outside the syntax, but are accessible via the highest position in the left periphery also exist, most relevantly in Lohnstein (2020) and Lohnstein and Staratschek (2020). I would argue that there is a role for discourse-related projections in syntax because of some of the overt material that requires hosting above CP in constructions like Ells (see Author 2021 on the embeddability of clause-initial *please* in Ells but not in typical embedded interrogatives).

semantic type of a proposition and returns an utterance of that expression (Lahiri 2002: 281), I claim that the Perspective head relates an interrogative CP to an act via the relation UTT as follows:

$$(39) \text{ If } S \in D_{\langle t, t \rangle} \text{ and } Q \in D_{\langle s, e \rangle} \\ \text{[[Perspective}_0\text{]]} = \lambda S \lambda Q [\text{UTT}(S, Q)]$$

Recall that PerspectiveP represents the aims and intent of some speaker; depending on what kind of utterance act the speaker wishes to perform with the CP, the Perspective operator may take a different argument as its input, for example a proposition of type $\langle t \rangle$ in the case of an intended assertion.

Note that the output Q is a nominal of type $\langle s, e \rangle$, and so must combine with a situation pronoun for its full interpretation. In combining with the situation in SpecPerspectiveP, an entity is returned, such that the type of PerspectiveP is $\langle e \rangle$.¹⁶

Representing the utterance as an entity is advantageous as it introduces a referent for the original speech event, which can then be referred back to e.g. in responses to EIs. Buch (2021) notes that speech acts must typically be referred to using demonstrative pronoun *that* before they can be referred to with non-demonstrative pronouns such as *it*. However, the act expressed by an EI can, like other nominals, be referred to as *it* at first mention (see below; see also example (50)):

(40) A: Mary wants to know if Sam is coming.
B: That's/??It's a sensitive question.

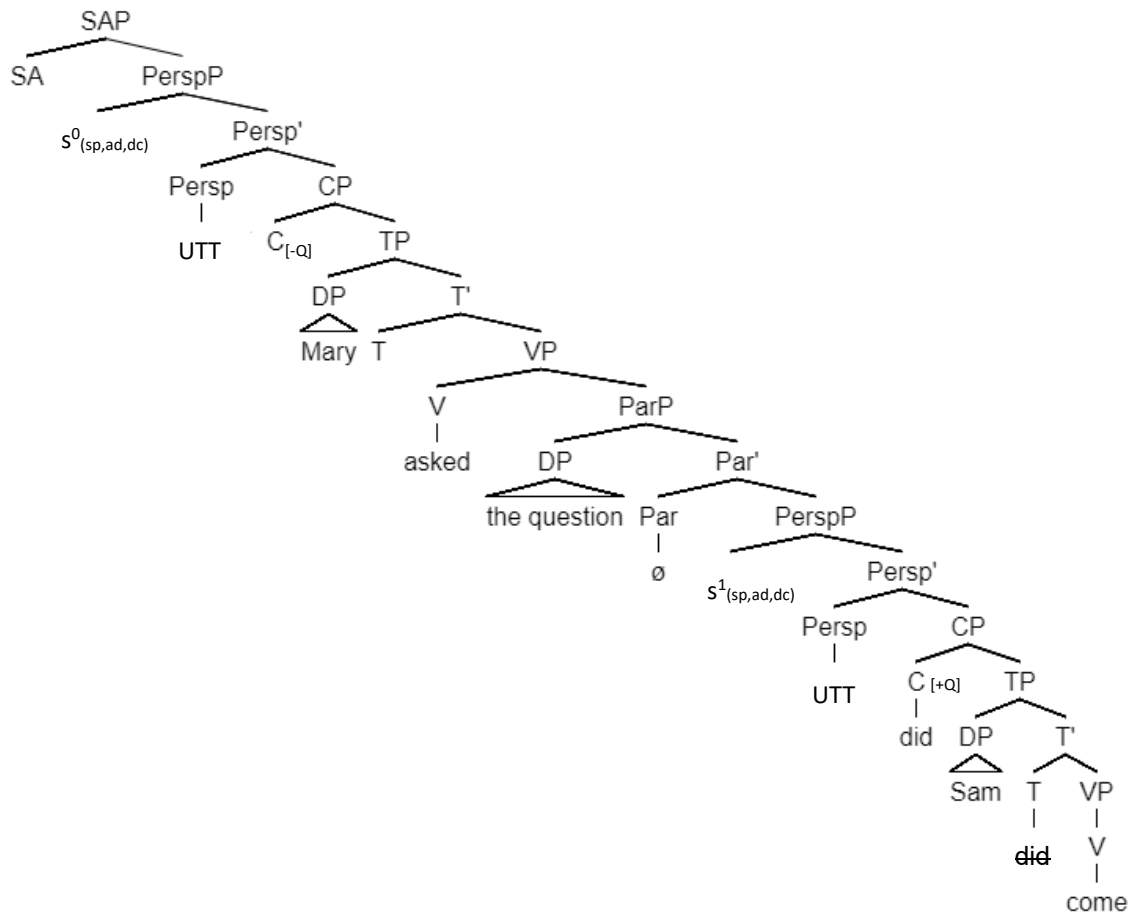
(41) A: Mary wants to know if Sam is coming.
B: That's/It's a sensitive question.

The embeddable nominal PerspectiveP is not selected directly by the matrix predicate but is parenthetically related to a(n often null) nominal that is the true complement of the matrix predicate (I adopt here Griffiths and de Vries's (2013) approach to nominal appositives).¹⁷ This captures the variable behaviour under different predicates (see section 3.2 and literature mentioned therein) but also the facts about embedded-like behaviour and clausal position. The structure for all of our constructions of interest is illustrated in (42) with the English EI *Mary asked (the question) did Sam come*.

¹⁶ There are echoes in this analysis of Abusch's (1997) approach to complements of belief. Similarities lie in the 'centered'-ness of the verbal complement, where the relationship between verb and embedded proposition is mediated through a relationship to a particular situation (world, time, place, participants) and a process of "picking out" the referent contained in the proposition in the actual world. Differences stem from the fact that the output in my proposal is an entity (an act expressing the content of the embedded proposition), whereas for Abusch it is a proposition. Note that I would not propose the above syntactic analysis for a typical embedded complement of a verb like *believe*, so our approaches are not incompatible – our aims and data here simply very different.

¹⁷ See Author (2016) for a number of examples of EIs with overt nominals in the complement position of the matrix predicate.

(42)



Note that there are two situation pronouns in the structure in (42): the highest one is in the immediate scope of the discourse context, whereas the lower one is in the immediate scope of the matrix predicate and, therefore, the speech event that it expresses. As they must be locally bound (see also Percus 2000, Hacquard 2010), the higher one takes its values from the discourse context, and the lower one from the matrix predicate and its arguments.

The same basic structure is assumed for German EV2 and for embedded imperatives in both languages, though the matrix direct object is typically null in these latter constructions. As such, I claim that the differences between the English and German constructions do not arise from syntactic factors but from (semantico-)pragmatic differences between the languages and subsequent differences in how the constructions affect acceptable discourse continuations.

5. Pragmatic constraints

I propose in this section that these differences between English and German arise principally from a difference in pragmatic rules, specifically that in English, both speaker and addressee variables 'shift' to take their reference from the closest possible antecedent, whereas in German, addressee variables are fixed to the current addressee.

There is some emerging independent evidence that German and English may differ in terms of default interpretation of situations under attitude predicates. Schwarz (2012) notes that he and Ezra Keshet,

in their respective work¹⁸ on situation pronouns, differ in their judgement as to whether transparent interpretations are available in contexts such as the following:

- (43) Context: The teacher thinks the glasses A, B, and C, which contained a clear liquid, were filled with vodka (they actually contained water).
- a. The teacher thinks John should be punished because he drank glasses A, B, and C.
 - b. The teacher thinks John should be punished because he drank every glass with water in it.

Schwarz (2012, pp.35-36)

Schwarz claims that a transparent interpretation of the context (43)b is available, while Keshet's judgements are consistent with the claim that only the opaque reading in (43)a is available. In this way, Schwarz's grammar allows representations from the current context to be used in the description of the teacher's behaviour, where the original perspective holder's perspective is privileged in Keshet's grammar.

Author (2016: 163), a first language English speaker, agrees with a Keshet-type interpretation rather than a Schwarz-type judgement. Noting that Keshet is also a first language English speaker, whereas Schwarz is a first language German speaker, Author conducted an informal survey of 5 English and 5 German and Swedish speakers on the context/examples in (43), which revealed that the English speakers only accepted (43)a while the German and Swedish speakers accepted both.

While requiring further investigation,¹⁹ this indicates that speakers of these languages may have acquired fundamentally different ways of interpreting perspective under attitude reports, and that these interpretations are brought to the fore in the interpretation of embedded root constructions. I propose that on the basis of their contextualised language input – of which ELLs are potentially a key part – English-acquiring children learn that both speaker and addressee perspectives can shift under attitude predicates, and that if a shift occurs, all parameters shift together.

Key to the acquisition of these rules are examples that explicitly illustrate in context a shifted reading that cannot be read as a *de re* non-shifting reading, for example the attested English embedded imperative examples in (11) and (14) which have *de re* third-person addressees, and ELLs where a speaker reports a third person questioning the speaker's own knowledge, as in (13). In contrast, German-acquiring children do not receive positive evidence for addressee shifting, meaning that they might hypothesise an English-like grammar, but they receive no reinforcement for it. Moreover, if they employ an English-like grammar, they may be met with confusion or misunderstanding by other German speakers who do not have such a grammar.

I will now tease apart in greater detail how our constructions of interest impact the discourse relative to typical embedded clauses, and how English differs from German.

5.1. The formalism

In the rest of the paper I will use Farkas and Bruce's (2010) Table model, updated by Farkas (2022), to formalise how the constituent parts of our embedded root structures contribute to conversational meaning. In this section I briefly lay out the model components.

The model is built on four principal components required for conversation: a Table on which issues are placed to be resolved, the discourse commitments of the speaker (DC_{Sp}) and the addressee (DC_{Ad}) and

¹⁸ For Keshet's approach, see e.g. Keshet (2011).

¹⁹ An L1 German reviewer, for example, reports not being able to get the transparent interpretation in (44)a; certainly a larger sample size is needed in a formalised experiment.

the projected set of canonical responses to issues on the Table. The discourse commitments map to the interlocutors' public (and it is assumed private) commitments in the discourse context.

I now present (informally) the mechanisms that operate when an utterance is made and proposition(s) enter into the conversational components. Starting with the Table, an issue placed on it takes a specific syntactic form and expresses some proposition(s). It can be resolved if it can be accepted into the interlocutors' shared commitments in that context, otherwise known as the common ground (Stalnaker 1978). If issues remain on the Table, the conversation is considered 'unstable'.

The form in which the issue is expressed determines its conventional discourse effects, which is to say how it is expected to be interpreted and responded to by an addressee. These conventional discourse effects shape the projected set, which is a set of preferred next discourse moves (or commitments) that the speaker expects the addressee to make. These moves typically are a step towards folding the (one of the) propositions on the Table into the common ground of the discourse participants, with the aim that future common grounds are always more informative than the one that precedes them.

To demonstrate for a root declarative utterance like *Mary likes Sam*, the speaker commits to an issue consisting of a single proposition p and places that on the Table for the addressee to respond to. Furthermore, they project that the addressee's next discourse move will be to commit to p too (on the basis that canonically, when uttering a declarative clause, the speaker expects the addressee to take the proposition it contains to be true). This is demonstrated in Figure 1. Note that the form of the utterance is marked on the proposition that is placed on the table – this is important because determining a 'canonical' response to any given utterance requires the addressee to take account of lexical choices *and* syntactic choices made by the speaker – both form and meaning map to community-determined canonicity.

DC _{Sp}	Table	DC _{Ad}
p	<'Mary likes Sam'[DECL]; p >	
Projected set: {DC _{Ad} U { p }}		

Figure 1: Conversational state after utterance of a declarative with the propositional content "Mary likes Sam".

Should the addressee act canonically and commit to p , it will be added to both interlocutors' discourse commitments, which is reducible (in this context) to it being in the shared common ground. The proposition can then be removed from the table and the issue is considered to be resolved.

Interrogative utterances (I limit myself here to polar interrogatives in the interests of space) consist of the speaker committing to an issue consisting of a set of propositions, meaning that they commit to one of the propositions in the set being true in the relevant context. They add that set to the Table to be resolved, which is canonically achieved by the addressee committing either to the truth of the positive or the negative proposition. This is visualised in Figure 2:

DC _{Sp}	Table	DC _{Ad}
$U\{p, \neg p\}$ ²⁰	<'Mary likes Sam'[Q]; p >	
Projected set: {DC _{Ad} U { p }, DC _{Ad} U { $\neg p$ }}		

Figure 2: Conversational state after utterance of the interrogative clause "Does Mary like Sam?"

This is a necessarily brief outline of the Table model that omits finer formal details, including rules for addition and reduction, for which the reader is directed to Farkas (2022). In brief or in full, this technology is particularly useful for my aims here because it focuses on how syntactic forms are related to conventional discourse effects. I will now go on to show how it can help us understand, with

²⁰ Thanks to Hans-Martin Gärtner for ensuring DC_{Sp}'s commitments remain consistent here.

a little expansion, how the discourse effects of EIs, EV2, embedded interrogatives and their non-root counterparts play out.

5.2. EIs in the Table model

To deal with our embedded root phenomena, in particular interrogatives, I need to add to the model by including prosody in the form of the utterance, as prosody crucially affects the interpretation of interrogatives (and canonical responses to them) in both matrix (e.g. Farkas and Roelofsen 2017) and embedded cases (Schafer et al 2000, McCloskey 2006, Dayal 2023).

I will focus on final contours, marking them with \searrow for a final fall and \nearrow for a final rise. This is necessary because we need to capture the contexts in which it is perfectly canonical to respond directly to an embedded interrogative clause – indeed in some contexts, it’s pedantic not to answer the embedded question. That said, to ask a question using an embedded interrogative is still a marked form relative to asking a matrix question, as the addressee must reason about the matrix proposition that is also plausibly at issue.

5.2.1. Typical embedded interrogatives

Let’s start by modelling a typical embedded interrogative clause with a final fall as in (44); a case in which, I argue, the embedded interrogative is not expected to elicit a response (see also Farkas and Roelofsen 2017: 244):²¹

- (44) *Context: Sam is back from university for the holidays. An old friend that he doesn’t want to see, Mary, has been asking his sister Taylor when he’ll be back. Taylor reports the conversation to her friend Jay, who knows that Sam is back, saying:*
 Taylor: Mary asked if Sam was home \searrow .

The utterance in (44) results in the conversational state modelled as follows:²²

DC _{Sp}	Table	DC _{Ad}
p	<‘Mary asked if Sam was home’[DECL]; p; \searrow >	
Projected set: {DC_{Ad} U {p}}		

Figure 3: Conversational state after utterance of "Mary asked if Sam was home" with final falling contour

In (44)/Figure 3, the speaker places a single proposition on the table for discussion, the complex proposition *p* “Mary asked if Sam was home”, and the falling tone reinforces the response expected by the speaker as a result of their syntactic choice – that the addressee will accept *p* as true and add it to their own discourse commitments. As a corollary of the syntactic and prosodic choices made, the speaker does not raise the issue of whether Sam is home, and the addressee is not expected to take a stance on it either.

²¹ I ultimately relate falling contours to the speaker adding the matrix and embedded propositions to the Table, and rising contours to the speaker placing the embedded proposition on the Table as a question. This is in line with the effects of Farkas and Roelofsen’s (2017) CLOSED and OPEN operators, however, they “take it that rising/falling intonation in English has semantic significance only in root clauses” (2017: 257, fn. 12). While the picture with respect to the availability of the embedded clause is much more complex than I present here (see e.g. Simons 2007 on at-issueness of embedded clauses under e.g. factive predicates, and much of the QUD literature), I think that the data presented here show that final contours can affect how the matrix and embedded clauses are integrated into the discourse.

²² This model was proposed in Author (2016: 189); the models that follow are inspired by that work but represent an updated and more accurate version.

Let's now model a string-identical embedded interrogative in a different context with a final rise, below in (45):

(45) Context: *Sam is back from university for the holidays. An old friend, Mary, is throwing a party and wants to invite him, so she has been asking his sister Taylor when he'll be back. Taylor hasn't spoken to Sam lately but knows that their mutual friend Jay will be up to date. Taylor wants to help Mary out so says to Jay:*

Taylor: Mary asked if Sam was home \nearrow .^{23,24}

DC _{Sp}	Table	DC _{Ad}
$\cup\{p \wedge q, \{p \wedge \neg q\}\}$	<'Mary asked if Sam was home'[DECL]; p; <'Sam was home'[Q]; q> \nearrow >	
Projected set: $\{DC_{Ad} \cup \{p \wedge q\}, DC_{Ad} \cup \{p \wedge \neg q\}\}$		

Figure 4: Conversational state after utterance of "Mary asked if Sam was home" with final rising contour

In (45)/Figure 4, two sets of propositions are placed on the Table and the resulting projected set is more complex, with two canonical responses that the addressee is expected to choose from; they will either choose to accept the matrix proposition and confirm that the embedded proposition holds, or accept the matrix proposition but reject the embedded proposition.

Evidence for this analysis is as follows: firstly, in this context, a silent response is infelicitous, in contrast to the felicity of silent acceptance of a single simple proposition p (see Farkas and Bruce 2010: 99, fn.14). Secondly, an overt response to the matrix proposition alone, e.g. *I know she did*, is considered infelicitous in the sense that it is interpreted as pedantic and partial. This reflects the fact that acceptance of p is part of both canonical responses and so to positively respond overtly to p alone is not informative in this context. Relatedly, bare *yes*, *of course* or *mhm* answers of acceptance are not appropriate responses to (45) as they are first interpreted as responses to p , not q .²⁵ To be acceptable, they must indicate explicitly that they target the embedded utterance.

(46) Taylor: So we're organising a party, and Mary asked if Sam was home \nearrow .

- a. Jay: #Yes.
- b. Jay': #Yes, I heard (that she asked...)
- c. Jay'': Yes, he is.
- d. Jay''': ?Is that right? (= that she asked...)

Note that (46)a, (46)b, (46)d are all acceptable in response to (44) with its final fall, but in that case (46)c would fall oddly on first-language speakers' ears. This is because typical embedded interrogatives with final falls do not mark the addressee of the embedded interrogative so, plausibly, the question could be addressed to either the original or current addressee, though the canonical case

²³ I assume that the prosodic rise indicated here is qualitatively different from the rise used in 'uptalk', where a question is not posed, but rather rising intonation marks that the speaker wishes to retain the conversational 'floor'. See Ritchart and Arvaniti (2014) for one such proposal. I furthermore assume, based on my own intuitions as an L1 English speaker, that the rise begins earlier and is a more gradual, less steep final rise than a contour which would be interpreted as the speaker asking an echo question that might challenge part of the embedded interrogative, as in (i):

(i) Mary asked if Sam was HOME? \nearrow

I leave cases like (i), and their contrast with (45), for future careful prosodic work.

²⁴ I also assume that the rise as in (45) is a root phenomenon hosted in SAP (see section 4) and as such scopes over both (sets of) propositions in the utterance.

²⁵ I return to the question of why the matrix utterance is privileged in responses in section 5.3.

is that it is not addressed to the current addressee. In contrast, the final rise on (45) marks the current addressee as being responsible for settling the issue in the embedded interrogative.

5.2.2. EIs

To capture EIs, a more syntactically complex phenomenon, we require one further addition to the Table model, namely the indexing of propositions to contexts. As demonstrated empirically in section 3, EIs shift perspective to the original discourse context (when the original and current context are the same, the illusion of non-shifting can occur) and can do this due to the fact their content, unlike their typical counterparts, is evaluated relative to a situation pronoun in PerspectiveP (see section 4). To capture this, I represent here potential contexts for evaluation as indices (0 for the discourse context, 1 for some other relevant discourse context).

(47) illustrates an EI used in its most canonical form as a report of an act in a previous discourse:

(47) *Context: Jay has heard that people have been speculating about Sam’s whereabouts and knows that Taylor has been party to some of the discussions. They ask Taylor about this and Taylor replies:*

Mary wanted to know was Sam home.

DC _{Sp0}	Table	DC _{Ad0}
p Sp ₁ overtly raised an issue related to q in w ₁ (=π)	<<'Mary wanted to know was Sam home'[DECL]; p> ₀ <'Sam was home'[Q]; q> ₁ ↘> ₀	
Projected set: {DC_{Ad0} U {π ∧ p}}		

Figure 5: Conversational state after the utterance "Mary wanted to know was Sam home" with final falling contour

Figure 5 demonstrates that by using an EI, the current speaker expresses as not-at-issue content the fact that a speaker in the relevant previous discourse, here identified as Mary, raised some issue in that discourse (π). The locution "related to q" is intentionally weak; Mary may have raised the exact issue of whether Sam is home (q), or a higher-level question that could be answered, in part or in whole, by the answer to q, e.g. Who is home?²⁶ This covers cases where the matrix predicate is not *say*, but rather *want to know* or other predicates that can suggest some reformulation of the exact content of the original speech act.

The current speaker also expresses as at-issue content the fact that Mary wanted to know whether Sam was home (p). As such, predicate negation in proposition p (with narrow scope) is not acceptable, because the fact that Mary raised an issue in the original context can't be denied – a contradiction with the not-at-issue content would result.

(48) British English (constructed; see Author 2016: 121)

- a. Mary wanted to know was Sam home #but never actually asked anyone about it.

²⁶ The concept of "an issue related to q" can also be expressed in terms of Questions Under Discussion (QUDs; Roberts 1996/2012; Simons et al 2010). QUDs are sets of alternative propositions corresponding to the current discourse topic (Simons et al 2010: 316). They may be overt or covert, and are addressed by assertions that contextually entail a partial or complete answer to the QUD, or questions whose answers contextually entail a partial or complete answer to the QUD (Simons et al 2010: 316). The embedded proposition q in an EI, then, expresses a QUD (or a subordinate QUD addressing the main QUD) that was either raised or addressed in the original discourse. Author frames the relationship between a QUD in the original discourse and the EI slightly differently, saying that "EI[s] refer to a conversational move; an act in a previous discourse that was made with respect to a relevant QUD in the original discourse" (2016: 84). As will follow, I demonstrate that the relevant conversational move is represented via a conventional implicature generated by the EI.

- b. A: Mary wanted to know was Sam home.
 B: #No she didn't, she never said a thing.

However, the content of the act can be rejected (49), as well as how it was expressed (50):

- (49) British English (constructed)
 A. Mary wanted to know was Sam home.
 B. No, she asked was Robin home.

- (50) British English (adapted from Author 2016: 89)
 A. Mary wanted to know was Sam home.
 B. But she didn't ask it like that!
 A. True, she actually asked was *that bore* home.

As such, the proposition π bypasses the table and passes straight into the addressee's discourse commitments, while proposition p is placed on the table but is expected to be accepted by the addressee into their discourse commitments.

With respect to the question expressed by the EII clause, it is placed on the Table but it is indexed relative to the original discourse context. Therefore, no-one in the current context is compelled to remove it from the Table. It may be that the discourse participants in the current context already know the answer to the question, in which case it will not remain on the Table (and its being discussed in the original context is already accounted for by π). If the answer to the question is not already part of the current context, it remains an open issue without destabilising the conversation. However, a current discourse participant may choose to resolve the issue, in which case $\{q, \neg q\}$ will be removed from the Table (in narratives, the issues contained with EIIs and embedded imperatives are often resolved in a subsequent speech act immediately following the EII/imperative report; see example (14)).

There is an implication here that if the speaker and addressee in the current context are identified with the speaker and addressee in the original context, then the addressee should be compelled to respond directly to an EII. This falls out, with a little help from intonation (a final rise) and an extended pause after the EII:

- (51) A: What I was really asking you the other day was, was Sam home already...?
 B: Yes, he got back last week.

Note however that example (47) fails to get this meaning, even with rising intonation. This is because there is no way of identifying the original speaker/addressee with the current ones:

DC _{Sp0} (Taylor)	Table	DC _{Ad0} (Jay)
p Mary overtly raised an issue in w ₁ (=π)	<<'Mary wanted to know was Sam home'[DECL]; p> ₀ <'Sam was home'[Q]; q> ₁ ↗> ₀	
Projected set: None - DC _{Ad0} can't access a set of propositions from which to provide a true answer		

Figure 6: Conversational state after uttering "Mary wanted to know was Sam home" with final rising contour, without authority to speak on behalf of Mary

If I adjust the context in which the string in (47) is uttered, as in (52), we have more luck, however.

- (52) Context: Taylor is Mary's secretary. Mary knows Taylor will know who knows whether Sam is back from university to be able to come to Mary's party and tasks Taylor with finding out this

information. Taylor knows that Jay will know Sam's whereabouts, and also knows Taylor's relationship to Mary. Taylor says to Jay:
Mary wanted to know was Sam home?

In (52), the current speaker has the authority/duty to speak on behalf of Mary and can reasonably be identified with her, at least in terms of her intentions relative to this issue. Resolving the issue of identity of the addressee is a little harder, but can be done if Mary expects or instructs Taylor to ask Jay, making Jay an indirect addressee (perhaps more accurately, source of information) in the original context.

DC _{Sp0} (Taylor for Mary)	Table	DC _{Ad0} (Jay)
p Mary overtly raised an issue with content q in w ₁ (=π)	<<'Mary wanted to know was Sam home'[DECL]; p> ₀ <'Sam was home'[Q]; q> ₁ ↗> ₀	
Projected set: {{DC _{Ad0=1} U {π ∧ p ∧ q}}, {DC _{Ad0=1} U {π ∧ p ∧ ¬q}}}		

Figure 7: Conversational state after utterance of "Mary wanted to know was Sam home" with final rising contour, in a context where the original "addressee" is an intermediary who becomes the current speaker.

As this requires some complex pragmatic reasoning, it may not be surprising that many speakers of EII dialects (including myself) would likely prefer a kind of direct quotation approach here, as in (53), indicated by the lack of sequence of tense:

(53) Mary wanted to know is Sam home?

Moreover, the projected set in Figure 7 is ultimately very similar to that of a typical embedded interrogative with rising tone (see (45), Figure 4) with the addition only of π, which in this context is fully redundant because it's not only communicated overtly in the matrix clause (p) but is also embodied in this context – literally, it is what is happening at the time of the utterance.

A related but more natural example can be seen in (54), where the original and current discourses are the same but the matrix clause is also interrogative:

(54) Context: Taylor is planning a party next week but isn't sure if Sam is still away at university.
Taylor asks Jay:
Do you know is Sam home?

DC _{Sp0}	Table	DC _{Ad0}
U{p, ¬p} Sp ₁₌₀ overtly raised an issue with content q in w ₁₌₀ (=π)	<<'You know is Sam home'[Q]; p> ₀ <'Sam is home'[Q]; q> ₁ ↗> ₀	
Projected set: {{DC _{Ad0=1} U {π ∧ p ∧ q}}, {DC _{Ad0=1} U {π ∧ p ∧ ¬q}}, {DC _{Ad0=1} U {π ∧ ¬p}}}		

Figure 8: Conversational state after utterance of "Do you know is Sam home?"

As you can see in Figure 8, the effect of uttering (54) is different from the effect of uttering (47) because the matrix proposition p is also at issue. Note that in the projected set it is not possible for the speaker to potentially commit to ¬p (I don't know) and either q (Sam is home) or ¬q (Sam is not home) severally. Though these options look as if they should be logically possible, {q, ¬q} is in fact contained within p, as can be seen on the Table. If the addressee can only answer ¬p, then ¬{q, ¬q} results, which is the Aristotelian formulation of the law of the excluded middle. In a more modern formulations this means that for q, either q or its negation is true, meaning that the issue remains open.

In summary, the conventional response to an EII in English is to accept a proposition π that an issue was raised with the content of the embedded clause by a contextually-specified speaker and a matrix proposition p that it was an open issue for them (i.e. was not yet resolved in that context). As π is not at issue, overt canonical responses to EIIs typically target p . Both π and p are expected to be new information for the addressee of the EII.

An EII may be deployed in the current context by the speaker to elicit a response from the addressee to the embedded proposition q , but this is a marked use of the EII due to the redundancy arising (a) from the similarity to the conventional effect of a typical embedded clause under a matrix declarative with a final rising contour and (b) from expressing as non-at-issue content the fact of the act, through the act itself. This situation improves if the EII is couched within a question, as the first type of redundancy no longer obtains.

A prediction arises here that EIIs are less likely than typical embedded interrogatives to be deployed as indirect questions; this feels intuitively correct, but can also be investigated through corpora and experimental work requiring more space than is left in this paper.

5.3. EV2 in the Table model

Turning now to German EV2, I assume that the typical canonical interpretation of an embedded *dass*-clause is as in (55)/Figure 9 (see also Lohnstein and Staratschek 2020: 238).

- (55) Context: Taylor and Jay are chatting about their friends Maria and Peter. They haven't heard directly from Peter, but Taylor has been in contact with Maria, who has seen him recently.
 She tells Jay:
 Maria glaubt, dass Peter glücklich ist.

DC _{Sp}	Table	DC _{Ad}
p	<'Maria glaubt, dass Peter glücklich ist'[DECL]; p _▷ >	
Projected set: {DC _{Ad} U {p}}		

Figure 9: Conversational state after utterance of "Maria glaubt, dass Peter glücklich ist."

(55)/Figure 9 mirrors the case of an English embedded declarative clause as in (44)/Figure 3.

Let's now take a EV2 clause in the same context:

- (56) Context: Taylor and Jay are chatting about their friends Maria and Peter. They haven't heard directly from Peter, but Taylor has been in contact with Maria, who has seen him recently.
 She tells Jay:
 Maria glaubt, Peter ist glücklich.

DC _{Sp0}	Table	DC _{Ad0}
p Sp ₁ overtly raised an issue with content q in w ₁ (=π)	<<'Maria glaubt, Peter ist glücklich'[DECL]; p> ₀ <'Peter ist glücklich'[DECL]; q> _{<Sp1,Ad0>} ▷> ₀	
Projected set: {DC _{Ad0} U {π ∧ p ∧ q}}		

Figure 10: Conversational state after utterance of "Maria glaubt, Peter ist glücklich."

Notice that (56)/Figure 10 projects a similar set to an English EII, with a crucial difference. It is projected that the addressee will accept into their discourse commitments the propositions π and p ; the former implicated and the latter asserted by the speaker. This is the same as the English EII. In

addition, though the speaker does not commit to proposition q themselves, the V2, root-like form of the proposition causes it to be placed on the Table separately from p and, because of the lack of addressee shift in German, the addressee is also expected to accept q into their discourse commitments *as it was uttered by the original speaker*. In Lohnstein and Staratschek's (2020: 237) terms, "[the f]unction of embedded V2 [under] attitude verbs [is to make] reference to another speech act with another speaker burdened by commitment [as] a strategy to be informative without being liable [for the truth of the embedded proposition]."

However a problem arises, because we have already seen that speakers can use an EV2 clause and immediately rebut the embedded proposition (12) and they can use an EV2 clause when they are reporting something that *wasn't* said (23).

A note here on mechanisms for clearing the Table is necessary because in Farkas and Bruce (2010) and Farkas (2022), the Table is cleared by propositions on the Table either being accepted into both interlocutors' discourse commitments (therefore, into the common ground), or by a process of negotiation between the interlocutors. Propositions cannot sit unaddressed on the Table or the conversation becomes unstable. It is possible to accept open issues (i.e. sets of mutually exclusive propositions) into the common ground,²⁷ but again only by consensus and not by default. How, then, do cases like (12) and (23) work?

In the case of (12) where a speaker directly rejects q after producing an EV2 clause with content q , the projected set will change on the basis of their follow up comment. The projected set can no longer contain q , as DC_{Sp} will contain $\neg q$ (and hence cannot expect the addressee to accept q). Proposition q , indexed for the original speaker, will remain on the Table, however, so the addressee will be forced to address q directly to resolve the conflict of DC_{Sp} and the Table to restabilise the conversation. That's to say, this is an unconventional use of an EII, and so the conventional discourse effect of the EII (to expect the speaker to add q to the common ground, but not via speaker assertion), cannot apply.

In the case of (23), EIIs under negation are typically used in cases where the embedded proposition q is already under discussion, so again, work will need to be done by the discourse participants to address and resolve q , removing it from the Table. I leave the mechanisms of this kind of negotiation for future work.

In my proposal, therefore, it is not enough to state that root word order allows a speaker to express q without commitment if we want to capture the discourse effects of German EV2. It is necessary to demonstrate that by using EV2, German indexes the embedded root clause to be interpreted from original speaker but also the current addressee's perspectives. Hence, there are two differences between the proposal made here and Lohnstein and Staratschek's (2020: 239) proposal for EV2: the inclusion of π (meaning that all aspects of expressed meaning related to the EV2 form are captured) and the indexing of addressee and speaker.

The issues raised by the expression of multiple propositions by the speaker relate to a more general question of the form an addressee's response should (or can) take when the projected set itself contains a non-singleton set (that is, that more than one proposition is expected to be added to the

²⁷ There are cases when open issues can be added to discourse commitments, see Farkas (2022) for a Romanian particle *oare* that does just this, and Author and Co-author (2023) for a West Flemish discourse marker, *kwestje*, which has a similar effect of informing an addressee that a question is open but not for them to solve. The key difference is that *oare/kwestje* questions are open *in the current context*, which is not necessarily the case for the question expressed by an EII.

discourse commitments of the addressee at once). In German, EV2 clauses need not be directly responded to by the addressee:

- (57) German (H.-M. Gärtner, p.c.)
 A: Maria sagt, Peter ist glücklich.
 B. Typisch Maria.
 "Typical Maria."

We have already seen from English *if*-clauses with rising intonation (see (46)) that bare response particles (e.g. *yes*) are understood as responding to the matrix clause, and extra material is needed to respond specifically to the embedded clause. This suggests that when more than one proposition is presented for addition to the addressee's discourse commitments, syntactic hierarchy dictates the default proposition (the matrix proposition, assuming the speaker is committed to it) which attracts the default bare response. However, as we saw in (46), this may not be sufficient to constitute a *canonical* response, and a targeted response to a subordinate proposition may be required.

Therefore, by addressing the asserted proposition p in (57), the addressee responds satisfactorily (p is addressed first and foremost) and no further comment need be made on q or π because there is no further need to distinguish between multiple equally canonical responses – the projected set is a singleton set in this case.²⁸

The proposal given here for EV2 is also compatible with Djärv's (2019, 2022) work, demonstrating that EV2 is pragmatically licensed not by speaker's assertion of the embedded proposition, but by discourse novelty (i.e. that the propositions contained in the utterance are not already in the current discourse common ground).²⁹

5.4. Embedded Imperatives in the Table model

Let's turn then to embedded imperatives. For the purposes of this paper I will assume that imperatives add to the Projected Set the proposition that the addressee should enact the content of the imperative, expressed here for an imperative with content m as $DC_{Ad0} \cup \{Ad_0 \sqcap m\}$. On this assumption, a root imperative enters the discourse as follows:

- (58) *Context: Taylor and Jay are talking about train timetables. Jay needs to get to central London for 11am and is considering leaving Newcastle at 8am. Taylor says: Leave earlier.*

DC_{Sp}	Table	DC_{Ad}
$Ad_0 \sqcap m$	<'leave earlier'[IMP]; $m \sqsupset$ >	
Projected set: $\{DC_{Ad0} \cup \{Ad_0 \sqcap m\}\}$		

Figure 11: Conversational state after utterance of the root imperative "Leave earlier."

When embedded in English, the imperative will be indexed as follows:

- (59) *Context: Jay needed to get to central London for 11am and was considering leaving Newcastle at 8am. Mary has considerable experience of the route and had been talking to Taylor about Jay's plans. Jay ends up delayed and missing their meeting. Taylor is talking to Sam about Jay's nightmare travel experience. Mary said leave earlier.*

²⁸Thanks to Hans-Martin Gärtner for comments that clarified my thinking here.

²⁹ Djärv (2022) also gives an account of a similar kind of perspective holder shift in Swedish EV2.

DC _{Sp0}	Table	DC _{Ad0}
p Sp ₁ overtly raised with Ad ₁ an issue with content m in w ₁ (=π)	<<'Mary said leave earlier'[DECL],p> ₀ <'leave earlier'[IMP];m> ₁ ∇> ₀	
Projected set: {DC_{Ad0} ∪ {π ∧ p}}		

Figure 12: Conversational state after utterance of "Mary said leave earlier."

The projected set here is the same as for Ells and again, if the context is such that the addressee parameter is the same in the current and original discourse contexts, then embedded imperatives like (59) can be interpreted as live in the current discourse, but not otherwise.

With respect to German, speakers have learned through years of contextually-situated experience of embedding under attitude predicates that addressee parameters do not shift, though speaker parameters can. Moreover, exposure to verb-final clauses and moods like conjunctive II, which both mark clauses as non-discourse linked, could mean that other cues for non-discourse linking are earlier and more robustly acquired.³⁰ Therefore, an embedded imperative like (60) has the conventional discourse effect shown in Figure 13.

(60) German (Kaufmann 2015: 8)

Context: On Monday, Magda tells Michael "Claudia should leave at 5, not 7." On Tuesday, Michael tells Claudia, who intends to book the train at 7:

Magda hat gesagt fahr schon früher.

Magda has said leave.IMP already earlier

"Magda said leave earlier.

DC _{Sp0}	Table	DC _{Ad0}
p Sp ₁ overtly raised with Ad ₁ an issue with content m in w ₁ (=π)	<<'Magda hat gesagt fahr schon früher'[DECL],p> ₀ <'fahr schon fruher'[IMP];m> _{<Sp1,Ad0>} ∇> ₀	
Projected set: {DC_{Ad0} ∪ {π ∧ p ∧ □m}}		

Figure 13: Conversational state after utterance of "Magda hat gesagt fahr schon früher."

The effect of using an embedded imperative is that the command (or order, or offer) holds of the addressee in the current context, coercing the addressee more strongly to enact its content than an embedded modalised predicate (by way of an alternative construction).

The fact that it expresses a kind of 'double command' relative to the addressee due to the not-at-issue proposition π could be expected to lead to a sense of contradiction – who is making the order, the original or the current speaker? – and ultimately to reduced acceptability in German, but the same problem would not typically hold in English. This could be the source of differences between German and English in terms of the wider acceptability of embedded imperatives in spoken English (compared with the controversy we see in German).

The analysis here might also predict that we find embedded imperatives more frequently in English, and that they are more readily judged grammatical, because they are more flexible in terms of the contexts in which they occur. The addressee restriction in German means that embedded imperatives are restricted to contexts where imperatives are both reported and 'current' at the same time, requiring very specific conversational and contextual set-ups. A first route for investigating this would

³⁰ See Lohnstein and Staratschek (2020) for an approach to how conjunctive II links to discourse contexts; thanks again to Hans-Martin Gärtner for pushing me on this point.

be to run a corpus analysis of speech in each language, comparing occurrences of root and non-root imperatives in terms of frequency and context of use.

5.5. The interrogative gap

The work laid out above helps us understand the final step in the embedded root clause paradigm that we saw in Table 1, namely why only English has embedded interrogatives. As interrogatives typically require shift towards the addressee (cf. interrogative flip, e.g. Garrett 2001), the fact that the addressee does not shift in German embedded contexts could form the basis for the lack of EIs in German – at least, the addressee of the EI would always have to be the current addressee, as in embedded imperatives.

In this case, German EIs would always be in competition with matrix questions, or they would only differ from matrix questions in contexts where the speaker would be asking a question of the addressee on behalf of someone else. Indeed, H.-M. Gärtner (p.c.) suggests to me “an example like [(61)], reporting on a phone call where Peter used the third person [(62)], sounds quite ok.” This judgement is in line with this prediction, presuming that Peter entertained the idea that his original addressee (let’s call them Alex) could be a conduit to Maria.

(61)German (H.-M. Gärtner, p.c.)
Context: Alex asks Maria...
Peter fragt, kommst du heute abend mit?
Peter asks come you today evening with
“Peter asks are you coming with us tonight?”

(62)German (H.-M. Gärtner, p.c.)
Context: Peter asks Alex...
Kommt Maria heute abend mit?
comes Maria today evening with
“Is Maria coming with us tonight?”

However, in these cases the speaker asking a question on behalf of someone else to some extent takes on the perspective of that person and ideally would position themselves as also not knowing the answer to the question. This can render the speaker shift redundant or at least forced.

Lohnstein and Staratschek also “tentatively” propose that German EIs would “concern a potential assertion which is then not reported but itself questioned by the speaker” (Lohnstein and Staratschek 2020: 240). In this case the addressee of the EI would be expected to provide a response, so this is also captured by the proposal in this paper, but the current speaker would also be the questioner, so again, we arrive at redundancy relative to a matrix question.

EIs crucially differ from embedded imperatives, where the belief states of speakers are not so relevant, as long as their desire states align in terms of their preferred outcomes. As such, pragmatically, embedded imperatives do not straightforwardly introduce redundancy through speaker shift.

As such, then, there are very few contexts in which German EIs would have a unique form-discourse effect mapping, and so a recognisably distinct class of embedded interrogatives has not reliably emerged.

5.6. Situating English and German perspective shifting more broadly

5.6.1. Who shifts?

This cross-linguistic variation in perspective shifting mirrors the variation available in indexical shifting as identified by Anand and Nevins (2004). Anand and Nevins note most importantly that mixed perspectives are not available in a single clause (i.e., all perspectives that can shift, must shift). This holds true in embedded root clause perspective shifting too, as we see in (19), repeated here as (63).

(63) Yorkshire English (attested)

Context: Liz visited a town she used to live in and bumped into an old friend, who invited her to their house for coffee. She is reporting the encounter some weeks later.

They_j said ooh, could we_i come over for coffee so we_i did [go over for coffee]

In (63), the discourse marker *ooh*, roughly expressing pleasure or surprise, and the spatial orientation of the verb *come* both orient to the perspective of the old friend, who is the original asker of the question. In this case it is not possible for *ooh* to express Liz, the current speaker's, pleasure or surprise, and from her current perspective, she would be more likely to express direction of travel using *go*, but this degrades the acceptability of this EII.

Variation also exists crosslinguistically as to which variables may shift in a given context. In their paper, Anand and Nevins identify two types of shift: one kind in which all parameters shift (exemplified by Zazaki (Indo-Iranian)) and one in which the 'author' (the speaker or other perspective holder) shifts, but no other parameters do (exemplified by Slave (Athabaskan)). Again, English and German perspective shifting map onto these types of indexical shifting: perspective shifting in Slave of the perspective-holder only type is optional, just as perspective shifting is in German. These similarities suggest that the shifting phenomena investigated here are not simply a cultural accident or idiosyncrasy of Germanic languages.

5.6.2. What shifts?

Our constructions of interest also tease apart attitude/perspective shifting from indexical shifting. Schlenker (2004) identified a split in how indexicals shift, using Free Indirect Discourse (FID) to demonstrate that tense and person can shift separately from *here*, *now* and demonstratives. He attributes this to the availability of two different types of context: the *Context of Utterance* (which determines tense/person) and the *Context of Thought* (which determines the *here/now/demonstratives*). Schlenker argues that in FID, the Context of Utterance and of Thought separate, such that "someone else appears to be talking through the actual speaker's mouth" (Schlenker 2004: 299). He also suggests that quotation might be understood as the Context of Utterance and of Thought being distinct from the actual context, such that quotation is not "mention of some words in the actual context, but [...] use of those same words in a shifted context" (Schlenker 2004: 300).

However, as mentioned in section 3.3, this is not the whole story, as speech act adverbials and discourse particles are restricted in FID (though they are allowed in quotation). So are they part of the Context of Utterance? If so, why are they banned in FID, and why do they shift separately from tense/person in our constructions of interest? Perhaps the Context of Utterance contains a dependent sub-Context concerning attitudes expressed in the event of uttering. To express your own attitudes at the same time as expressing someone else's Thought seems like it would be inherently difficult to track for the recipient of the message, which could rule this type of shifting out.³¹ Moreover, shifting

³¹ A similar idea is expressed in Evans (2012: 96), who also advocates for "biperspectival" speech reports that may vary along the dimension of attitudes and emotions.

of attitudes and Thought to the exclusion of the utterance event may be ruled out on the basis that Thought does not contain parameters that define an event, but rather of a locus of a mind, which attitudes cannot be defined in relation to. However, the attitude sub-Context can take its values relative to a separate event of uttering, which is what happens in our constructions of interest as a result of the obligatory embedding of the situation pronoun under (and linearly following) a matrix predicate that can be interpreted as expressing a prior speech event.

The extent to which this deconstruction of contexts holds deserves further scrutiny, also with respect to e.g. *de re* and *de se* attitudes. Interestingly, Abusch's (1997) examination of sequence of tense builds on the concept of centred propositions, where the *res* is related to the self, the now and the world, which at first blush map onto the concepts of attitudes, Thought and Utterance. As such, a more fine-grained conceptualisation of contexts seems ripe for further research.

6. Conclusion: Pragmatics affects the cross-linguistic distribution of certain embedded root clause types

In this paper I have demonstrated that the distribution of embedded root clauses in English and German is determined by pragmatic rules governing the interpretation of perspectives under attitude predicates, in conjunction with a conventional implicature brought about by use of matrix-like verb movement or morphology. The lack of EIs in German results from the pragmatic rules of the language which allow shifting of the speaker, but not of the addressee parameter (cf. Kaufmann and Poschmann 2013). This greatly restricts the contexts in which EIs could be used in German, so German speakers do not generate or receive pragmatic support for differentiating a class of EIs from matrix questions or typical embedded questions.

In contrast, the full range of embedded root clause types is available because of the greater 'shiftiness' of English – that is to say that all contextual parameters may shift under attitude predicates, and indeed do shift when the form of the embedded clause is marked. I predict that this has an effect on the shape of EIs that we see, namely that they tend to involve a third person matrix argument (that is, an 'original' interlocutor who is not part of the current discourse) and that they tend to be used in reporting contexts rather than as indirect question forms. This remains to be examined through corpus and experimental study.

Empirically, additional future study is required on other Germanic languages and other so-called 'partial' V2 languages, including those outwith Germanic that exhibit relevant properties like V2 in relative clauses, for example Estonian. On the theoretical side, much work remains to be done into the intricacies of modelling embedded clauses in general, but I hope the claims here provide a stimulating point of departure.

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