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On the interpretation and distribution of embedded main clause syntax: new perspectives on complex discourse moves

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This paper examines the hypothesis that embedded Verb Second (EV2), a classic main clause phenomenon, is licensed by assertion. Based on detailed examination of naturally occurring data from Swedish, I address two central questions in the study of EV2: the interpretation of V2-complements, and the role of the matrix predicate in licensing V2-complements. I propose that the interpretation of EV2-clauses is best characterized in terms of the statement that they share the *conventional discourse effects* associated with matrix declaratives, in the sense of Farkas & Roelofsen (2017). At their core, EV2-clauses represent discourse moves whereby the speaker adds the embedded proposition to the conversational table as an issue for discussion. In many cases, this is accompanied by the speaker expressing a public commitment to this proposition, as in matrix assertions. However, I also identify cases that involve a *commitment shift*, where the assertion gets anchored not to the speaker, but to a *contextually specified commitment anchor*, which is identified by the matrix clause (but which does not need to correspond to the matrix subject, contrary to previous proposals). This allows the speaker to raise the issue represented by the EV2-clause at the level of the current conversation with the force of an assertion, without committing to the proposal it represents. Thus, the speaker can immediately reject or take issue with it. In addition to these assertive uses, I identify cases where the EV2-clause does not represent an assertive discourse move at all, but functions as a type of biased question. Such cases are similar in both function and form to (unembedded) rising declaratives, and are problematic for previous theories of EV2-licensing. With respect to the role of the matrix clause, I show that its key role is to appropriately frame the discourse move represented by the EV2-clause, in terms of its *specific* pragmatic effects. This work also has consequences for theories of clausal embedding more broadly, as it shows that such theories need to address the issue of how the discourse effects associated with different sentence types are able to project from the embedded level in a complex expression, to the level of the discourse.

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1 Introduction

1.1 The puzzle of embedded V2

This paper examines the hypothesis that certain constructions, so called main clause phenomena, are associated with assertion. The empirical focus of this paper is embedded Verb Second [EV2], a well-studied main clause phenomenon since Andersson (1975).

In languages like Swedish and German, main clauses are obligatorily V2:¹

- (1) a. Hon **vinner** alltid (***vinner**).
 she wins always (wins)
She always wins. Swedish
- b. Sie **spielt** oft Schach (***spielt**).
 She plays often chess (plays)
She often plays chess. German

In embedded clauses, however, the empirical picture is more complicated. In complements of verbs like *say*, V2 is possible, though not obligatory:²

- (2) a. Lisa säger [att hon (**vinner**) alltid (**vinner**) när vi spelar schack].
 Lisa says that she (wins) always (wins) when we play chess
Lisa says that she always wins when we play chess. Swedish
- b. Lisa sagt, [sie **spielt** oft Schach] / [dass sie oft Schach **spielt**].
 Lisa says she plays often chess / that she often chess plays
Lisa says that she often plays chess. German

Verbs like *regret* and *doubt*, however, do not allow V2-complements:

- (3) a. *Han ångrade [att han **hade** inte sjungit].
 he regretted that he had not sung
He regretted that he hadn't sung. Swedish (Wiklund et al. 2009: 1920)
- b. *Maria bezweifelt, [Peter **geht** nach Hause].
 Maria doubts, Peter goes to home
Maria doubts that Peter is going home. German (Truckenbrodt 2006: 297)

The aim of this paper is to understand the conditions under which V2 is licensed in embedded contexts, and how to characterize the interpretation of EV2-clauses.

¹ In Swedish (1-a), which is SVO, V2 is diagnosed by the order of the finite verb with respect to sentence adverbs, including negation. This is unlike in German (1-b), which is SOV.

² In German, unlike in Swedish, V2 is in complementary distribution with the complementizer. Note also that topicalized clauses are obligatorily V2. Here, I focus on subject-initial EV2. For discussion of V2 more broadly, see for instance Holmberg (2015), Woods & Wolfe (2020), and references therein.

1.2 Embedded V2 and assertion

The general form of explanation for the above contrasts, following Hooper & Thompson (1973) [H&T] (building on earlier observations by Emonds 1970), is that the availability of embedded main clause phenomena is linked to the presence vs. absence of illocutionary force, and that verbs like *think* and *say* licence assertive complements, whereas verbs like *doubt* and *resent* do not. Looking at five classes of predicates, Classes A–E, H&T propose that Classes A (non-factives like *say*), B (non-factives like *believe*), and E (cognitive and perception factives like *discover* and *see*) license both asserted complement clauses and main clause syntax, whereas Classes C (non-factive ‘response stance’ verbs like *doubt* and *accept*³), and D (emotive factives like *resent*) license neither asserted complements, nor main clause syntax.

While H&T focused on English main clause phenomena (e.g. VP-preposing, topicalization, etc.), this pattern of distribution has generally been found to hold up also for EV2 (e.g. Wiklund et al. 2009, Julien 2009; 2015, Bentzen 2010, Wiklund 2010, Jensen & Christensen 2013, Djärv et al. 2017, Caplan & Djärv 2019, Djärv 2019):⁴

(4) Swedish (based on Wiklund et al. 2009: 1918–1921)

Han sa/trodde/upptäckte/*ångrade/*tvivlar på [att vi **hade** inte sett den].
 he said/believed/discovered/regretted/doubts on that we had not seen it
He said/believed/discovered/regretted/doubts that we hadn't seen it.

H&T's idea that main clause phenomena are associated with assertion has also been present in the literature on EV2 since Andersson (1975). However, though this hypothesis has been widely adopted, it has proven difficult to pinpoint exactly in what sense V2-complements are asserted, and how to formally characterize this claim. Addressing the question about the precise interpretation of EV2-clauses is the primary goal of this paper.

(5) **Question 1:** What is the precise interpretation of embedded V2-clauses?

With respect to this issue, current theories fall into two general camps: those appealing to the discourse status of the embedded proposition [p], and those appealing to the presence of a particular type of commitment to p (both in line with research on matrix assertions since Stalnaker 1978 and Hamblin 1971, a.o.). See for instance Truckenbrodt (2006), Wiklund (2010), Gärtner & Michaelis (2010), Krifka (2014), Julien (2009; 2015), Woods (2016), Caplan & Djärv (2019), and Djärv (2019).

³ The term ‘response stance verb’ is from Cattell (1978), and highlights their requirement that the issue represented by the embedded proposition must be up for debate. My characterization of H&T's Class C in these terms follows Djärv (2019); though see also discussion along similar lines in Kastner (2015).

⁴ As has been noted since H&T, the observation that the cognitive factives allow for embedded main clause phenomena poses a theoretical challenge for the idea that the availability of main clause phenomena is linked to assertion, on the standard assumption that factive verbs presuppose their complement. For discussion of this issue, and a proposal for the meaning of factive verbs which avoids this problem, see Djärv (2019).

Besides the embedding verb, another important observation that has been used to motivate these different types of accounts is the effect of negation on the availability of EV2. As shown in (6), verbs like *believe* lose their ability to embed EV2-clauses when negated; mirroring the pattern found with inherently negative verbs like *doubt* (3-b)–(4).

- (6) German (Truckenbrodt 2006: 278, 295)
 Maria glaubt/*glaubt nicht, [Peter **geht** nach Hause].
 Maria believes/believes not Peter goes to home
Maria believes/doesn't believe that Peter is going home.

According to Truckenbrodt (2006), EV2 is licensed when the embedding context entails a commitment to a belief that *p* (see Section 3.2). Thus, EV2 is available under *believe*, but not under *not believe* or *doubt*. As Caplan & Djärv (2019) point out, however, this also predicts that EV2 should improve under verbs like *doubt*, when negated. While judgements to this effect have in fact been reported (e.g. Wiklund 2010), it's not clear how robust they are. An experimental study from Djärv (2019), (looking at German EV2), replicated the judgements in (2)–(6), but did not find a significant effect of negation on the acceptability of EV2 for verbs like *doubt*.^{5,6} Caplan & Djärv (2019) observe instead that the availability of EV2 across verb types and polarities tracks the potential for introducing the embedded proposition as discourse new information, as illustrated in (7), and argue based on this that the availability of EV2 across embedding environments is better explained in terms of the discourse status of *p* as old vs. new information.

- (7) Example after Caplan & Djärv (2019: 21); based on corpus-data from Caplan & Djärv (2019) and experimental results from Djärv (2019: Ch. 3.2)
 [Uttered out of the blue:] *Guess what — / You know what —*
- | | |
|--|------|
| a. Anna {told me, thinks, discovered} that Lisa won. | ✓EV2 |
| b. #Anna {didn't tell me, doesn't think, didn't discover} that Lisa won. | *EV2 |
| c. #Anna {doubts, accepts, resents} that Lisa won. | *EV2 |
| d. #Anna {doesn't doubt, doesn't accept, doesn't resent} that Lisa won. | *EV2 |

Thus, while both type of accounts make the same predictions for verbs like *think* and *say*, with respect to negation, we find that the *overall* effect of negation across H&T's predicate types is better accounted for in terms of the discourse status of the embedded proposition. This is because the commitment-based account predicts an interaction with negation for the response stance

⁵ Djärv (2019) study looked also at inferences about speaker and attitude holder commitment to *p* across verb types and polarities, and found such inferences to be substantially stronger for *not doubt/deny* than for *doubt/deny*.

⁶ Caplan & Djärv (2019) also note that the commitment-based hypothesis additionally predicts an asymmetry between positive and negative response stance verbs (e.g. *accept/admit* vs. *doubt/deny*). However, neither Djärv (2019) experimental study of German EV2, nor Caplan & Djärv (2019) quantitative corpus study of Swedish EV2 found a clear difference between the positive and the negative response stance verbs.

verbs, whereas the discourse novelty-based account makes no such prediction, given that these verbs, regardless of their polarity, require *p* to be discourse old.

As we shall see in Section 2, however, examination of naturally occurring data shows us that commitments also play a role, though in a different way from how it's previously been characterized. On previous accounts (Section 3.2), EV2-clauses represent assertions that are either *fully* anchored to the current discourse context, including the speaker, or *fully* anchored to the reported context, including the matrix subject. I show that at their core, EV2-clauses represent discourse moves whereby the speaker adds the embedded proposition to the conversational table as an issue for discussion (in line with the claim that EV2 involves an attempt to update the context). In many cases, this is accompanied by the speaker expressing a public commitment to this proposition, as in matrix assertions. However, I also identify cases that involve a *commitment shift*. Here, the assertion is not anchored to the speaker, but to a *contextually specified commitment anchor*, which is identified by the matrix clause, but does not need to correspond to the matrix subject (contrary to previous accounts). This allows the speaker to raise the issue represented by the embedded clause with the force of an assertion, without committing to it. The speaker can thereby immediately reject or take issue with the proposal it represents. Crucially, even though the assertion is anchored to a contextually specified commitment anchor, the discourse move still pertains to the current conversational context, rather than to the reported context, as on previous accounts.

In addition to these assertive discourse moves, this paper also identifies a third type of discourse move associated with EV2. Here, the EV2-clause functions as a type of biased question, similar in form and function to (unembedded) rising declaratives (e.g. *Lisa won?*). This shows us that EV2 doesn't need to be associated with *assertive* discourse moves at all, but —depending on properties of the matrix clause and prosodic factors— can also be associated with *inquisitive* discourse moves. This presents a problem for accounts that analyse V2 in terms of an assertive operator or feature (Section 3.2). Interestingly, while these EV2-clauses represent inquisitive discourse moves at the discourse-level, they are interpreted as regular embedded declaratives within the complex sentences in which they occur. This raises important questions about the composition of these clauses, which I discuss in Section 4.4.

To account for this data, I propose that the interpretation of EV2-clauses is best captured by the statement that they share the *conventional discourse effects* associated with main clause declaratives, in the sense of Farkas & Roelofsen (2017). On their account of matrix declaratives and interrogatives, differences in the conventional discourse effects of these sentence types follow from their semantic differences (modelled in terms of inquisitive semantics), combined with a basic convention of use, applicable to both sentence types. This proposal —supplemented with the novel assumption that in embedded contexts, the matrix clause may be used to identify a contextually specified commitment anchor for the discourse move represented by the

embedded clause— thus provides a unified account of the various assertive and inquisitive uses of EV2-clauses. It allows us to capture the insight from previous work that EV2 is associated with assertion, while offering the flexibility to account also for the inquisitive uses and the commitment-shifted assertions identified here.

1.3 The role of the matrix verb

In addition to their *conventional* discourse effects, we also find that EV2-clauses can be associated with a similar range of *pragmatic* discourse effects to matrix declaratives: they may be used for clarification, to signal agreement or disagreement with a previous claim, to persuade, remind, or reassure the addressee, make a promise, etc. In these embedded contexts, we find that the particular pragmatic effects associated with the EV2-clause are closely linked to both the specific matrix verb and other properties of the matrix clause (e.g. person, tense, sentence mood). This observation allows us to address a second central question in the study of embedded main clause phenomena, regarding the precise role of the matrix predicate. Addressing this question is the second goal of this paper:

(8) **Question 2:** What is the role of the matrix verb in licensing embedded main clause syntax?

With respect to this question, current theories fall into three general types: accounts arguing that certain predicates *select* for a particular type of clause, which is either *compatible* with main clause syntax (as in Wiklund et al. 2009) or effectively *blocks* it (as in Kastner 2015);⁷ accounts that take the compatibility between the embedding verb and main clause complements to be essentially pragmatic (e.g. Julien 2009; 2015; Jensen & Christensen 2013; Woods 2016; Caplan & Djärv 2019; Djärv 2019); and accounts where the compatibility is fundamentally semantic (Krifka 2014) (see Section 3.2).

As we shall see, the data examined in Section 2 shows us quite clearly that the role of the matrix clause is fundamentally pragmatic. Specifically, I argue that the role of the matrix clause is to *frame* the specific type of discourse move represented by the EV2-clause. On this view, the compatibility of a given verb and a V2-complement depends on the specific discourse move represented by the embedded clause together with the overall function of the matrix sentence.

1.4 Outline

Section 2 presents the data. Section 3 summarises the empirical findings and briefly evaluates previous formal accounts of EV2. Section 4 presents the proposal, and discusses the issue raised by the inquisitive EV2-clauses identified in Section 2.3, regarding the mismatch between the

⁷ As pointed out by Caplan & Djärv (2019), the effect of negation (6)–(7) speaks against a selection-based account.

discourse effects and the semantic interpretation of these clauses. Section 5 discusses the role of the matrix clause. Section 6 summarises.

2 New data: interpreting embedded V2

In this section, I examine a set of naturally occurring sentences with EV2 from the Swedish Borin, Forsberg & Roxendal (2012) corpus (also used in Caplan & Djärv's 2019 quantitative corpus study). The sample investigated here consists of 233 sentences with EV2 randomly selected from the three largest sub-corpora in the corpus, which represent data from blogs and online forums.⁸ For reasons of space, only a subset of the sentences examined is included here. I have tried to ensure that this subset is representative of the uses observed in the whole sample.⁹

In this sample, we find three clearly distinct uses of EV2-clauses. In the first case (Section 2.1), the EV2-clause is interpreted just like a (falling) matrix declarative: the speaker adds the issue represented by the EV2-clause to the conversational table for discussion, and additionally, signals their commitment to this proposition. The second case (Section 2.2) involves a type of *commitment shift*, such that the assertion—which still pertains to the current discourse context—is anchored not to the speaker, but to a *contextually specified commitment anchor*. In the third case (Section 2.3), the EV2-clause does not represent an assertive discourse move at all, but functions as a type of biased question. Such cases are similar in both function and form to (matrix) rising declaratives.

2.1 Assertive discourse moves fully anchored to the current discourse

The EV2-clauses discussed in this section represent assertions by the speaker, in the current discourse context (such uses have been discussed in previous literature, since Andersson 1975, e.g. Wechsler 1991; Julien 2009; 2015; Woods 2016; Caplan & Djärv 2019; Djärv 2019). As shown in (9)–(15), such cases can further be associated with a range of more specific uses, also available to matrix declaratives.¹⁰

⁸ Familjeliv-känsliga (5,971,907 sentences; proportion non-ambiguous EV2-sentences = 0.1163), Bloggmix (2,713,376 sentences, proportion non-ambiguous EV2-sentences = 0.0765), Flashback-politik (2,841,872 sentences, proportion non-ambiguous EV2-sentences = 0.0972); see Caplan & Djärv (2019: 12). The data is publicly available at <https://spraakbanken.gu.se/>. One criterion was used in creating the sample: only verbs were included that occurred at least 10 times with a V2-complement in the corpus.

⁹ Some of the discussion in these blogs and online forums concern sensitive topics. In selecting examples for illustration, I have chosen examples based on their theoretical significance, in terms of the discourse effects and types of matrix clauses that they exemplify, while at the same time attempting to avoid problematic examples. In the same vein, a couple of the examples included below have been very lightly edited. None of these edits affect the acceptability or discourse effects associated with the sentences in question.

¹⁰ The underlined elements indicate the V > Neg cluster that signals V2-order: for reasons of space, I'm omitting full glosses, as the crucial thing here is the overall interpretation of the sentence, rather than specific sentence-internal elements.

In (9), the speaker clarifies, re-states, or agrees with a previous claim that p. In (9-a) and (9-b), the previous claim that p was by the speaker, as signalled by the matrix clause ('I just meant', 'I'm just saying'), marked in boldface. In (9-c), the speaker expresses their agreement with someone else's point of view, as indicated by the matrix clause ('I agree with those who think').¹¹

- (9) a. **Jag menade bara** att en man behöver inte vara manlig.
I just meant that a man doesn't need/have to be manly.
- b. Nej, **jag säger bara** att folk kan inte hantera det.
No, I'm just saying that people can't handle it.
- c. **håller med de som tycker** att andra ska inte bli lidande!
agree with those who think that others should not have to suffer!

We also find examples where the speaker directly *contrasts* their opinion that p with an alternative point of view in the context (10)–(11). These cases differ in terms of the point of view highlighted. In (10), the point of view highlighted is that of the speaker, as indicated by the matrix clause ('I'm myself of the opinion', 'I would be more inclined to think'). In (10-c), the quotation in the embedded clause signals that the speaker is taking issue with and rejecting a previous claim that a ban is "the solution to all problems".

- (10) a. **själv anser jag** att det handlar inte så mycket om träning
I am myself of the opinion that it's not so much about exercise
- b. kan absolut vara skuld-känslor, **men jag tror mer** att han orkar inte ta konflikten...
could definitely be guilt, but I would be more inclined to think that he doesn't have the energy to deal with the conflict...
- c. **jag anser** att förbud är inte "lösningen på alla problem"
I am of the opinion that a ban is not "the solution to all problems"

In (11), the point of view highlighted is that of the addressee. Unlike in (9) and (10), where we saw first person matrix clauses with verbs of saying, thinking, or opinion, here, we find second person matrix clauses with cognitive factives like *get it*, *learn*, *realize*, and *know* ('don't you get that', 'you have to learn', 'when will you realize', 'you know that p, right?').

- (11) a. **fattar du inte själv** att pengar kan inte betala för allt som ett barn behöver?
don't you get (it) that money can't pay for everything that a kid needs
- b. **du måste lära dig** att människor fungerar inte på det sättet
you have to learn that people don't work that way

¹¹ The example in (9-c) shows us that p doesn't strictly speaking need to be discourse new in order for EV2 to be available.

- c. **när skall du inse och fatta** att din åsikt är är inte något som alla delar?
when are you going to realize and understand that your opinion is not something that everyone shares?
- d. **du vet** att man kan inte betala för kärlek va?
you know that one can't pay for love, right?

In (10)–(11), the speaker contrasts their opinion that p with the point of view of someone in the current discourse context; highlighting either their own point of view (10) or the addressee's (11). However, we also find “contrastive” uses of EV2 where the point of view highlighted is that of someone in the reported discourse context:

- (12) a. min dotter vill börja med ridning men det finns inte en chans för mig att betala, **man får helt enkelt acceptera** att man kan inte leva över sina tillgångar
my daughter wants to take up horseback riding but there's no chance for me to pay for it, one just has to accept that one can't live above one's means
- b. låter som om **din mans barn behöver lära sig** att livet är inte rättvist
sounds like your husband's children need to learn that life isn't fair
- c. **förklara för honom** att all förändring behöver inte ske på en gång
explain to him that all change doesn't need to happen all at once

We also find a large number of cases where the matrix clause is used, broadly speaking, to motivate the assertion represented by the embedded clause. (13-a) and (13-b) are persuasive, or argumentative, as signalled by the matrix clause (‘if you’ve done so and so, you will know’ or ‘based on so and so, I’m saying’). In (13-c), the matrix clause justifies the embedded assertion (‘now I’ve learned that’).

- (13) a. **har du följt debatten så vet du** att folk blir inte direkt hjälpta när de lägger sig i
if you've been following the debate you will know that people aren't exactly helped when they get involved
- b. **jag har ett inifrånperspektiv och säger** att det är inte så de delar av de institutioner jag varit i beröring med fungerar
I have an insider's perspective and (I'm) saying that that's not how the institutions that I've been in contact with work
- c. **nu har jag lärt mig** att det går inte att samtala med er
now I've learned that it's not possible to have a conversation with you guys

We also find cases where the speaker provides a reminder that p (14). Here, we get direct reminders with matrix clauses like ‘never forget that’ (14-a) or ‘know that’ (14-b), as well as generic reminders, with matrix clauses like ‘it’s often forgotten that’ (14-c).

- (14) a. **glöm aldrig** att man kan inte sprida för lite glädje!
never forget that one can't spread enough happiness
- b. **ska du veta** att du är inte ensam ... och det finns hjälp att få
(you should) know that you're not alone ... and there's help to be had
- c. **det glöms ofta bort** att barnet ska inte överleva på underhåll
it is often forgotten that a kid is not supposed to survive off of child support

Finally, we find promises and reassurances, involving first person subjects and the verb *promise*.

- (15) a. den ser ganska liten ut på bilden **men jag lovar** att den där buren är inte liten, den är stor
it looks small in the photo but I promise that this cage isn't small, it's big
- b. tyvärr är det sant och **jag kan lova dig** att jag är inte ensam.
unfortunately it's true and I can promise you that I'm not the only one

In all of these cases (9)–(15), it's clear that the embedded proposition *p* is asserted by the *speaker*. As shown in (16), the complex sentences discussed in this section can all be paraphrased as two simple matrix clauses with the same conversational effects as their complex counterparts.

- (16) a. Let me clarify what I meant. A man doesn't need to be manly. ≈ (9-a)
- b. It's not so much about practise. That's my opinion. ≈ (10-a)
- c. Money can't pay for everything that a kid needs. Don't you get it! ≈ (11-a)
- d. One can't live above one's means. We just have to accept that. ≈ (12-a)
- e. People aren't exactly helped when they get involved. You would know that if you'd been following the debate. ≈ (13-a)
- f. One can't spread enough happiness. Never forget that. ≈ (14-a)
- g. I promise you. This cage isn't small, it's big. ≈ (15-a)

Additionally, in all of these cases, it would be odd for the speaker to follow up with a rejection of the embedded proposition.

To formally characterize these assertive uses of EV2-clauses, I adopt Farkas & Roelofsen's (2017) analysis of the conventional discourse effects of matrix declaratives (building on Farkas & Bruce 2010): the issue of *p* is pushed onto the conversational table as an issue for discussion, and *p* is added to the speaker's discourse commitments.^{12,13} Following Farkas & Roelofsen (2017), I also distinguish the *conventional* discourse effects of a given sentence type from the *pragmatic* discourse effects of the utterance (e.g. whether it is intended to be informative, or provide a

¹² See Section 4 for details of their analysis and the extension to EV2.

¹³ See also Section 3.2 for a discussion of Woods's (2016) analysis, where Farkas & Bruce's (2010) model is used, alongside other theoretical machinery, to capture the interpretation of a subset of EV2-sentences.

reminder, clarification, justification, or a promise, etc.), which depend on the particular utterance situation. Adding to the picture from Farkas & Roelofsen, the data discussed here shows us that in complex sentences, the embedded clause may be part of the speaker's assertion. In this case, the utterance situation which frames the discourse move represented by the embedded clause includes the matrix clause. Thus we get clarifications with matrix clauses like 'I just meant that' or 'I'm just saying that', cases where the speaker takes issue with the interlocutor's position with matrix clauses like 'don't you get that' or 'when will you realize that', promises with 'I promise you that', and reminders with 'don't forget that'.

Note additionally that the proposition represented by the matrix clause is also asserted by the speaker. For instance, in (15-a) ('I promise that this cage isn't small, it's big'), one possible response would be *Den är visst liten.* ('It is small.'). Taking issue with the assertion represented by the embedded clause (that the cage *isn't* small). However, another possible response would be *Lovar du det?* ('Do you promise?'), following up on the assertion represented by the matrix clause (that the speaker promises that p). Thus, a complex assertion of this type introduces two possible future directions for the conversation.¹⁴

In addition to these cases, we also find two kinds of uses of EV2-clauses where the speaker does not express a commitment to p: assertive discourse moves anchored to a contextually specified commitment anchor (Section 2.2) and inquisitive discourse moves, which function as a type of biased question regarding the issue of p (Section 2.3).

2.2 Assertive discourse moves with commitment shift

In matrix declaratives and in the cases we saw in the previous section, the discourse move of adding the issue of p to the table and the expression of a public commitment to p are both anchored to the speaker. In the examples discussed here, however, they come apart. As in the previous section, the EV2-clauses in (17) represent *assertive* discourse moves. The difference between the two cases is that here, the assertion of the embedded proposition is not anchored to the speaker, but to a *contextually specified commitment anchor*, which is specified by the matrix clause, but—crucially—doesn't need to correspond to the matrix subject, as shown in (17-b). As shown in (17), this *commitment shift* allows the speaker to raise the issue of p at the level of the current conversational context, with the force of an assertion, without themselves committing to this proposal. The speaker can thus immediately reject or take issue with it, without making contradictory discourse moves.¹⁵

¹⁴ Here, I leave the question of whether these two issues are *ordered* in some way for future investigation.

¹⁵ Note that what is modified here is the *anchor* of the commitment to p, and not the perceived strength of the commitment (as on various other accounts of marked sentence types, e.g. Gunlogson 2008, Malamud & Stephenson 2015, and Jeong 2018).

- (17) a. **nu kanske någon säger** att man kan inte ha 4 föräldrar, men det tycker jag
now someone might say that one can't have 4 parents, but I think you can
- b. **jag har fått höra både det ena o andra** att jag har inte uppfostrat honom på rätt sätt o inte satt gränser, men det har jag
I've heard both this and that that I haven't raised him right and haven't set boundaries, but I have
- c. och **man säger jämt** att man har inte tid med hus, djur och tre barn, men någon måtta får det vara
*and people always say that they don't have time for a house, pets and three kids, but give me a break*¹⁶

Similar cases have been discussed by Julien (2009; 2015), who suggests that Mainland Scandinavian EV2-clauses “represent a proposition that is asserted, either directly, by the speaker [as in Section 2.1], or indirectly, with the speaker reproducing a claim that someone else has made” (Julien 2009: 1). To account for these ‘indirect assertions’, Julien (2015) adopts Krifka’s (2014) account (which I discuss in Section 3.2), whereby EV2-clauses represent assertions by the matrix subject, semantically, and are evaluated with respect to the reported context.

From looking at the naturally occurring cases in (17), however, it is clear that these utterances do more, pragmatically, than simply reproduce a claim that someone else has made. Crucially, even though the assertion of the embedded clause in these cases is shifted to a contextually specified commitment anchor, the discourse move of adding the issue of *p* to the table still pertains to the *current* conversational context, rather than to the context provided by matrix clause. This is clear from the speaker’s follow-up, whereby the speaker denies *p* by asserting $\neg p$ ¹⁷ at the level of the current conversational context, where it then becomes available for further conversational uptake, as shown in (18), based on (17-b).

- (18) a. A. Jag har fått höra både det ena o andra att [_p jag har inte uppfostrat honom på rätt sätt o inte satt gränser],
A. *I've heard both this and that that* [_p *I haven't raised him right and haven't set boundaries*],
[shifted assertion of *p*]
- b. A. men det har jag.
A. *but I have.* [‘I have raised him right.’] [rejects *p*/asserts $\neg p$]
- c. B. Ja, det har du verkligen.
B. *Yes, you definitely have.* [‘You have raised him right.’] [agrees with $\neg p$]

¹⁶ The expression *någon måtta får det vara* (lit. ‘there must be some limits/moderation’) expresses roughly the same sentiment as the expressions *give me a break!* or *what's next?* (as in ‘what’s your next excuse’).

¹⁷ Or in the case of (17-c), an expression that implies rejection of *p*.

In the case of a denial by an actual discourse participant, a typical outcome is that one of the participants retracts their assertion or that the participants ‘agree to disagree’ (see Farkas & Bruce 2010). In (17)/(18), where the assertion of *p* is not anchored to an actual discourse participant, the effect of the speaker’s denial (18-b) is that the issue of *p* simply gets removed from the table; with $\neg p$ remaining as an issue for further discussion. Evidence for this comes from the availability of the Swedish polarity sensitive response particles *ja* and *jo* in responding to the utterances in (17), with vs. without the speaker’s denial.

For positive questions and statements, such as (19), the positive response particle *ja* signals affirmation and the negative response particle *nej* signals rejection.

- (19) Johan kom i tid. / Kom Johan i tid?
Johan was on time. / Was Johan on time?
- a. Ja. [‘He was on time.’]
 - b. Nej. [‘He was not on time.’]

For negative questions and statements, however, as in (20), *ja* is infelicitous (20-a). Here, *nej* is used for affirmation (20-b), and the polarity-reversing particle *jo* is used for rejection (20-c). (See Holmberg 2013, and also fn. 17, for further discussion.)

- (20) Based on Holmberg (2013: 43)
 Johan kom inte i tid. / Kom Johan inte i tid?
Johan was not on time. / Was Johan not on time?
- a. #Ja.
 - b. Nej. [‘He was not on time.’]
 - c. Jo. [‘He was on time.’]

Considering again (17-b), we find that *without* the speaker’s follow-up (21-a), the issue represented by the EV2-clause is available for an interlocutor to take issue with and reject. Since this is a negative statement (‘I haven’t raised him right...’), the interlocutor has to use the response particle *jo* in this case (21-b); a *ja*-response is infelicitous and a *nej*-response can only be used for affirmation (21-c).¹⁸

- (21) a. A. Jag har fått höra både det ena o andra att [_p jag har inte uppfostrat honom på rätt sätt o inte satt gränser].
 A. *I’ve heard both this and that that* [_p *I haven’t raised him right and haven’t set boundaries*].
 [shifted assertion of *p*: negative statement]

¹⁸ The discourse particle *ju* in (21-b) has the effect here, approximately, of signalling that the prejacent (*det har du*, ‘you have raised him right’) is obviously true.

- b. B. Jo/#Ja, det har du ju.
B. Yes, you have. ['You have raised him right.'] [rejects p: *jo*]
- c. B'. Nej, det har du inte.
B'. No, you haven't. ['You haven't raised him right.'] [agrees with p: *nej*]

However, *with* the speaker's follow-up (22-a)–(22-b), the interlocutor can now only agree with or reject the shifted assertion of *p* *indirectly*, by targeting the speaker's follow-up assertion of $\neg p$, which is a positive statement ('but I have'); either with a *ja*-response ((22-c); agreeing with $\neg p$), or with a *nej*-response ((22-d); rejecting $\neg p$). The *jo*-response, however—which we saw in (21) would have to be used in order to reject the shifted assertion of *p* represented by the (negative) EV2-cause—is now infelicitous (22-e).

- (22) a. A. Jag har fått höra både det ena o andra att [_p jag har inte uppfostrat honom på rätt sätt o inte satt gränser],
A. I've heard both this and that that [_p *I haven't raised him right and haven't set boundaries*],
 [shifted assertion of *p*: negative statement]
- b. men det har jag.
but I have. ['I have raised him right.'] [rejects *p*/asserts $\neg p$: positive statement]
- c. B. Ja, det har du.
B. Yes, you have. ['You have raised him right'] [agrees with $\neg p$: *ja*]
- d. B'. Nej, det har du inte.
B'. No, you haven't. ['You haven't raised him right'] [rejects $\neg p$: *nej*]
- e. B''. #Jo, det har du ju.
B''. Yes, you have. ['You have raised him right'] [#rejects *p*: #*jo*]

What this suggests is that the issue of *p* is effectively removed from the table by the speaker's follow-up. Interestingly, the fact that *p* is no longer available for the addressee to directly respond to in (22) doesn't seem to be due simply to the fact that there is an assertion *intervening* between the (shifted) assertion of *p* in (22-a) and B's response in (22-e). In (23) where A asserts *p* (directed at C) (23-a) and B intervenes with a denial of *p*, asserting $\neg p$ (23-b), C can respond to A either by siding with and agreeing with B, effectively echoing their assertion of $\neg p$ (in which case, a *ja*-response is used; (23-c)), or by responding directly to A with a rejection of their assertion of *p* (in which case, a *jo*-response is used; (23-d)).¹⁹

- (23) a. A to C. Du har inte gjort det du sa.
A to C. You haven't done what you said. [asserts *p*: negative statement]

¹⁹ In fact, the speakers I've consulted express a slight preference for the *jo*-response here (23-d). This is then in clear contrast to (22), where only the *ja*-response is available, and the *jo*-response is infelicitous.

- b. B to A. Det har hon ju visst det.
B to A. She has too. [asserts $\neg p$: positive statement]
- c. C to A. Ja, det har jag.
C to A. Yes, I have. [agrees with $\neg p$: ja]
- d. C to A'. Jo, det har jag.
C to A.' Yes, she has. [rejects p: jo]

Here, I do not offer a formal account for how this happens, but intuitively, this seems to be linked to the fact that the assertion of p is not linked to an actual discourse participant. Rather, this commitment shift is used by the speaker as a type of conversational device, enabling them to raise the issue of p in the guise of an assertion, in order to immediately reject or take issue with the proposal it represents.

As in Section 2.1, the proposition represented by the matrix clause is also asserted by the speaker. Considering again (17-b) ('I've heard both this and that...'), we find that an interlocutor can also respond to this by taking issue with the claim 'I've heard that...', for instance with a response such as *När har du hört det?* ('When did you hear that?'). This assertion is *fully* anchored to the speaker: it would be infelicitous for the speaker to follow up with a denial, e.g. 'but I've never heard that'.

2.3 Inquisitive discourse moves: embedded declarative biased questions

Finally, we find an interesting case where the discourse move represented by the EV2-clause is not that of an assertion, but of a question. This is illustrated in (24).

- (24) **jag har hört** att man ska inte frakta ett barn fram och tillbaka förräns efter 1 år?
I've heard that one shouldn't move a kid back and forth until after 1 year?

A sentence of this syntactic form could in principle be used in two ways. With falling intonation, it would naturally be interpreted as a type of evidential statement, where the matrix clause provides support for the speaker's claim that p by pointing to the existence of a reliable source of evidence for p (cf. (13)). However, the question mark in (24) suggests that it involves rising intonation. In this case, the sentence is interpreted as a type of biased question, similar to rising matrix declaratives, such as *Lisa won?*. Here, the matrix clause signals that the speaker has some evidence for p , though not necessarily evidence that they take to be fully reliable.

It is worth noting that rising declaratives have been shown to also allow for non-inquisitive uses (e.g. Ward & Hirschberg 1985, Malamud & Stephenson 2015, Jeong 2018). (24), however, is clearly inquisitive. Evidence for this comes from the observation that a natural continuation by the speaker in (24) would be a follow-up question like *Stämmer det?* ('Is that right?'), targeting the question represented by the EV2-clause. Another diagnostic, originally from Gunlogson (2008), is the availability of responses like 'Oh, I didn't know that' vs. 'Yes, that's right'. Whereas 'Oh, I didn't know that' signals acknowledgement of new information, 'Yes, that's right' signals affirmation based

on the speaker's own evidence or judgement. As discussed by Jeong (2018), the *Yes/Oh* diagnostic is helpful in distinguishing between inquisitive and non-inquisitive uses of rising declaratives:²⁰

- (25) Jeong (2018: 311)
- a. A. John is picking up his sister.
 - b. B.' (Huh.) *Does John have a sister?* [polar interrogative]
 - c. B." *John has a sister?* [inquisitive rising declarative]
 - d. A. *Yes, didn't you know. / #Oh.*
- (26) Jeong (2018: 311)
- a. A. Tell me about John's family.
 - b. B.' *John has a sister.* [falling declarative]
 - c. B." (Um...) *John has a sister?* [non-inquisitive rising declarative]
 - d. A. *Oh, I didn't know that. / #Yes.*

In (27-b), which involves an EV2-clause with falling intonation, a natural response would be *Jaha* (similar to 'Oh I see'), signalling acknowledgement of the new information offered in the embedded clause; the same pattern we find in response to the unembedded falling declarative in (27-c).

- (27) a. A. Jag har inte pratat med Lisa på evigheter – hur är det med hennes familj?
A. *I haven't talked to Lisa in ages – how's her family doing?*
- b. B. Jag har hört att hennes syster mår inte så bra.
B. *I've heard that her sister is not doing too well.*
 - c. B'. Hennes syster mår inte så bra, tydligen.
B'. *Her sister is not doing too well, apparently.*
 - d. A. *Jaha – vad tråkigt att höra.*
A. *Oh I see – sorry to hear that.*

In (28-b), which involves an EV2-clause with rising intonation, on the other hand, a natural answer would be *Ja, det stämmer* ('Yes, that's right') or *Ja, så är det* ('Yes, that's how it is'), signalling an affirmative answer to B's question. Here, the *Jaha* ('Oh I see') response is infelicitous. This is the same pattern that we find with the unembedded rising declarative in (28-c).²¹

²⁰ The rising declarative in (26-c) signals that B is unsure about the relevance of their answer.

²¹ Note here that the empirical picture regarding the polarity-sensitive response particles *ja* and *jo* is in fact more complicated than the pattern we saw in Section 2.2. Though a *ja*-response is indeed infelicitous in response to a plain negative question or statement such as (i-a) (\approx (20)), as we discussed in Section 2.2, a *ja*-response is in fact felicitous in response to the kinds of non-canonical negative biased questions with declarative word order in (28-b)–(28-c); also (i-b).

- (i) a. Johan kom inte i tid. / Kom Johan inte i tid? (*J. was not on time. / Was J. not on time?*)
- 1) Nej, han kom inte i tid. (*No, he did not come on time.*)
 - 2) #Ja, det stämmer. / #Ja, så är det. (*Yes, that's right. / Yes, that's how it is.*)

- (28) a. A. Jag har precis varit och träffat Lisa.
 A. *I've just been to see Lisa.*
- b. B. Jag har hört att hennes syster mår inte så bra?
 B. *I've heard that her sister is not doing too well?*
- c. B.' Hennes syster mår inte så bra, visst?
 B.' *Her sister is not doing too well, right?*
- d. A. Ja, det stämmer. / Ja, så är det. / #Jaha – vad tråkigt att höra.
 A. *Yes, that's right. / Yes, that's how it is. / #Oh I see – sorry to hear that.*

The same applies to the naturally occurring example in (24), repeated in (29). Here, a natural response would be *Ja, det stämmer* ('Yes, that's right') (29-a), offering an affirmative answer to the biased question represented by the embedded clause. A response such as *Jaha, då vet jag* ('Oh I see, now I know')—which *would* be felicitous if the sentence was pronounced with falling intonation—is not felicitous here (29-b). As in the previous two sections, the speaker also asserts the proposition represented by the matrix clause. An interlocutor can therefore also choose to ignore the question of whether p and instead respond to the speaker's claim that they have heard p, as shown in (29-c).

- (29) jag har hört att man ska inte frakta ett barn fram och tillbaka förrän efter 1 år?
I've heard that one shouldn't move a kid back and forth until after 1 year?
- a. Ja, det stämmer. (*Yes, that's right.*) [Respond to embedded question]
- b. #Jaha, då vet jag. (*Oh I see, now I know.*) [Respond to embedded question]
- c. Jaha, har du? (*Oh, have you?*) [Respond to matrix assertion]

3 Interim discussion

3.1 Summary of results

In Section 2, I examined the discourse functions associated with EV2 in a sample of naturally occurring data. In this sample, we saw three clearly distinct uses of EV2-sentences. In the first case (Section 2.1), the EV2-clause is interpreted like a (falling) matrix declarative: the issue of p gets pushed onto the conversational table as an issue for discussion, and the speaker expresses a discourse commitment to p. Among these cases, we observed a range of more specific discourse effects, also available to matrix declaratives, which we saw are closely tied to the specific properties of the matrix clause. Additionally, I identified two cases where the speaker raises the issue of p, at the level of the current discourse context, without expressing a commitment to p.

-
- b. Johan kom inte i tid, eller? (*J. did not come on time, eh?*)
- 1) Nej, han kom inte i tid. (*No, he did not come on time.*)
 - 2) Ja, det stämmer. / Ja, så är det. (*Yes, that's right. / Yes, that's how it is.*)

The first case (Section 2.2) involves a *commitment shift*. Here, the discourse move represented by the embedded proposition is also that of an assertion. However, in this case, the assertion is anchored to a *contextually specified commitment anchor*, thus allowing the speaker to immediately reject or take issue with the proposal represented by the EV2-clause. In the second case (Section 2.3), the discourse move represented by the embedded clause is not that of an assertion, but a type of biased question, similar in both form and function to (matrix) rising declaratives.

The data discussed in this section allow us to address both the question of the precise interpretation of EV2-clauses (5), and the question of the role of the matrix predicate in licensing EV2 (8). Regarding the first question, I propose that the interpretation of EV2-clauses is best characterized in terms of the statement that they share the *conventional discourse effects* typically associated with main clause declaratives, in the sense of Farkas & Roelofsen (2017): they add the issue raised by the embedded clause to the table as an issue for discussion, and they convey a commitment to the informative content of the clause. In the case of EV2-clauses with falling intonation, the commitment to *p* can either be anchored to the speaker or shifted to a contextually specified commitment anchor. EV2-clauses with rising intonation, on the other hand, function as a type of biased question, in which case, as I discuss in Section 4, the commitment is trivial.

Regarding the role of the matrix predicate, what the data discussed here shows us is that a given predicate is able to embed a V2-complement, to the extent that the matrix clause as a whole is able to frame the discourse move represented by the EV2-clause. As we have seen, this depends not only on the embedding verb, but also on other properties of the matrix clause such as person, tense, and sentence mood. Here, we have mainly seen verbs of saying and thinking, as well as cognitive factives, in line with previous observations (Section 1). Importantly, however, the different predicates are closely linked to the particular discourse move represented by the EV2-clause. For instance, we have seen clarifications with matrix clauses like ‘I just meant that’ or ‘I’m just saying that’, cases where the speaker takes issue with the interlocutor’s position with matrix clauses like ‘don’t you get that’ or ‘when will you realize that’, promises with ‘I promise you that’, and reminders with ‘don’t forget that’. Additionally, we saw examples involving *accept*, which—as I mentioned in Section 1—has been found in previous work to not take V2-complements. According to Caplan & Djärv (2019) and Djärv (2019), this is because *accept* does not readily allow the embedded proposition to be presented as discourse new information.

(30) #Guess what! Anna accepts that Lisa won.
(to introduce *Lisa won* as new information)

In the case we saw here, however, the matrix clause was ‘one has to accept that’ (12-a). Similar cases were also noted by Caplan & Djärv (2019), involving matrix clauses like ‘can’t you just accept that’ and ‘accept that’.

- (31) Caplan & Djärv (2019: 23) (corpus data from Borin et al. 2012)
Acceptera att du kan inte älska alla men du kan inte hata alla heller.
Accept that you can't love everyone, but you can't hate everyone either.

Thus, it seems like the ability of *accept* to embed V2-complements is linked to its ability to frame an assertion of *p*, in cases where the speaker wants to highlight that the addressee *should* —but doesn't already— accept *p*. As in (16) above, the example in (31) can be paraphrased as two matrix assertions, and achieve the same discourse effects.

- (32) You can't love everyone, but you can't hate everyone either. You just have to accept that.

A similar point holds also for *forget*, for which we observed matrix clauses like 'never forget' or 'it's often forgotten' (14). These contexts provide natural environments for the embedded clause to provide an actual reminder (by the speaker to the addressee) that *p*. This is unlike sentences like *Anna forgot that Lisa won* (cf. (30)), which can only be interpreted as statements about the attitude holder forgetting something.

To summarise, we have seen that EV2-clauses are associated with what appears to be the same range of discourse functions that are available to matrix declaratives, with the addition of the possibility of *commitment shift* offered by the embedding. In Section 4, I spell out my proposal for EV2 formally, extending Farkas & Roelofsen's (2017) account of the discourse effects associated with matrix declaratives and interrogatives. First, however, let us briefly consider some previous assertion-based accounts of EV2, in order to see that the data discussed here motivates a new account of EV2.

3.2 Alternative accounts

On previous formal accounts of EV2, EV2-clauses represent assertions that are either *fully* anchored to the current discourse context, including the speaker, or *fully* anchored to the reported context, including the matrix subject. As we have seen, however, while EV2-clauses may represent speaker-assertions in the current discourse context (Section 2.1), they may also represent assertions which are evaluated with respect to the current discourse context, but which are anchored to a contextually specified commitment anchor, rather than the speaker (Section 2.2). Additionally, previous accounts of EV2 predict that EV2 should be associated exclusively with *assertive* discourse moves. As we saw in Section 2.3, however, EV2-clauses may also represent *inquisitive* discourse moves.

An influential account of EV2 comes from Krifka (2014) (focusing on EV2 in German), who models assertions as representing a change from a conversational state (modelled as a world-time index) where the speaker's assertive commitment does not hold, to one where it does

hold. Assertive states are modelled using the predicate ASSERT (33), which “takes an index i , an addressee variable y , a proposition p and a speaker variable x , and yields the value true iff at i , x has assertive commitments with respect to the proposition p to the addressee y .” (Krifka 2014: 7).

(33) Krifka (2014: 8)

ASSERT(i)(y)(p)(x) \Leftrightarrow at i , the speaker x has assertive commitments with respect to the proposition p towards the addressee y .

Krifka (2014) assumes, after Rizzi (1997) and others (including Julien 2009 for EV2), that assertions are ForcePs, syntactically, and proposes the following semantics for such clauses:

(34) Krifka (2014: 10)

$\llbracket [_{ForceP} I \text{ admire Sue}] \rrbracket = \lambda c \lambda y \lambda x \lambda i i' [i \leq i' \text{ [ASSERT}(i')(y)(\llbracket [I \text{ admire Sue}] \rrbracket)(x)]]$

Uttered at a context c , this will change the input index i minimally to the index i' such that “at i' , the speaker x is committed to defend the truth of the proposition $[I \text{ admire Sue}]$ towards the addressee y ” (Krifka 2014: 10).

Whereas *unembedded* assertions involve adding p to the speaker’s list of public commitments, *embedded* assertions, marked by V2-order, are proposed to describe an event of the *matrix subject* adding p to *their* list of public commitments. On Krifka’s analysis, the difference between a sentence with and without EV2 is that with a non-V2-complement, *say* selects (semantically) for a proposition (p), a CP, whereas with a V2-complement, *say* selects for an assertion (A), a ForceP (34):

(35) Krifka (2014: 24)

- a. SAY(i)(p)(x) \Leftrightarrow at i , x asserts (by saying) the proposition p .
- b. SAY(i)(A)(x) \Leftrightarrow at i , x performs the speech act A, where A is an assertion.

The semantic difference between a sentence with and without EV2 is shown in (36): the non-V2 sentence in (36-a) involves the predicate *say* in (35-a), and the EV2-sentence (36-b) involves the predicate *say* in (35-b) and a ForceP-complement (34).

(36) Krifka (2014: 24)

- a. $\llbracket [_{VP} \text{ Mary sagte } [_{CP} \text{ dass sie John hasst}]] \rrbracket =$
 $\lambda c \lambda i [\llbracket \text{say-(35-a)} \rrbracket](c)(i)(\llbracket [_{CP} \text{ she hates John}] \rrbracket)(c)(\llbracket \text{Mary} \rrbracket)(c)(i))]$ non-V2
- b. $\llbracket [_{VP} \text{ Mary sagte } [_{ForceP} \text{ sie hasst John}]] \rrbracket =$
 $\lambda c \lambda i [\llbracket \text{say-(35-b)} \rrbracket](c)(i)(\llbracket [_{ForceP} \text{ she hates John}] \rrbracket)(c)(\llbracket \text{Mary} \rrbracket)(c)(i))]$ EV2

As shown in (36-b), an EV2-sentence like *Mary sagte, sie hasst John* is analysed as describing an event of Mary asserting that she hates John. Thus, on Krifka’s account, EV2-clauses always represent assertions by the matrix subject.

As we have seen here, however, EV2-clauses, at least in Swedish, represent discourse moves that are anchored to the *current* speaker and conversational context, either fully or partially. Even the cases identified here as involving a commitment shift (Section 2.2) still represent discourse moves whereby the speaker adds *p* to the current conversational table. Additionally, as we saw in Section 2.3, EV2-clauses do not in fact need to represent assertions, but can also represent inquisitive discourse moves. Another problem for this account is that it's not clear how it would capture the availability of EV2 under verbs that do not describe speech acts. Krifka (2014) does acknowledge this problem in the context of verbs like *denken* ('think') and *glauben* ('believe'), and suggests that "it is easy to see that a propositional attitude can be characterized by a speech act that an agent would utter if the agent has that propositional attitude. If Mary believes that Bill is at school, then she is willing to assert that Bill is at school, and hence believe can subcategorize for such an assertion" (p. 25). However, this type of explanation would not extend to a predicate like *forget* (14). As we have seen here, the ability of a given verb to embed a V2-complement is linked to its ability to appropriately frame the discourse move represented by the embedded clause, rather than to the type of event or attitude that it describes.

An alternative account of EV2 (also focusing on German) comes from Truckenbrodt (2006), extending a proposal by Gärtner (2002). On this account, V2 is linked to the presence of context indices in C. For main clause declaratives and interrogatives, Truckenbrodt analyse these as the speaker S wanting to change the world by changing the epistemic states of the speaker or the addressee A (i.e. conveying or requesting knowledge). Falling declaratives are characterized as adding to the common ground that S believes *p* and additionally calls for A to accept *p*. This is encoded by context indices in C: A, ⟨EPIST⟩, ⟨DEONT⟩, where A and ⟨EPIST⟩ are responsible for triggering V-to-C movement.

- (37) Truckenbrodt (2006: 271–2)
 ⟨Deont, A, ⟨Epist⟩⟩ *Es regnet* ('It's raining')
 'S(peaker) wants from A(ddressee) that it is common ground that it's raining.'

For main clause V2, A and ⟨EPIST⟩ are proposed to combine with ⟨DEONT⟩ and give rise to an attempted context update (37). For embedded V2-clauses, however, Truckenbrodt argues that they have assertive 'proto-force', which gets *absorbed* in appropriate embedding contexts, namely those that entail a commitment to a belief that *p*: "V-to-C movement is connected to *assertional proto-force*, which becomes *assertional force* (potential) in unembedded use and can be *absorbed* under appropriate embedding. The process of absorption is to account for the restrictions on embedded V-to-C" (p. 281). On this account, then, EV2-clauses (unlike main clause V2) do not have proper illocutionary force, but rather, illocutionary force potential, which gets 'absorbed' when the embedding contexts entails a commitment to a belief that *p*. This is then used to explain why EV2 is available under verbs like *say* and *believe*, but not under predicates like *don't believe* or *doubt*.

Though the details of Truckenbrodt’s account differ in important ways from Krifka’s, the two accounts end up facing similar problems in light of the Swedish data discussed here. As we have seen, these EV2-clauses —just like matrix declaratives— represent discourse moves whereby the speaker adds the issue of p to the *current* conversational table as an issue for discussion. Thus, these clauses have proper illocutionary force, rather than ‘proto-force’. Moreover, EV2-clauses do not need to represent assertive discourse moves at all, but can function as questions.²²

A final proposal for EV2, which shares core features of both the current account and the above proposals, comes from Woods (2016). The primary empirical focus of Woods (2016) is embedded inverted questions in English, though she proposes an extension to EV2 in German and Mainland Scandinavian. Woods’ proposal involves both a grammatical component, which is responsible for triggering V-to-C movement, and a separate discourse component. At the level of the grammar, Woods links V-to-C to an Illocutionary Act Phrase (Speas & Tenny 2003). This phrase is argued to host two semantic elements: the (doxastic) assertion operator in (38), which can either be anchored to the matrix context or to the current conversational context, and a perspectival monster (Sudo 2012), which is responsible for fixing the context which determines the perspective holder for the embedded illocutionary act to either the current discourse context (including the current speaker) or the reported context (including the matrix subject):²³

$$(38) \quad \text{Woods (2016: 119, 125), from Hacquard (2010: 102)} \\ \llbracket \text{ASSERT} \rrbracket^c = [\lambda p. [\lambda w. \forall w' \in \text{DOX}_{\text{speaker-of-}c}(w): p(w') = 1]]$$

In addition to this grammatical component, Woods’ analysis includes also a discourse component (p. 185–187, 193): the assertion operator of Farkas & Bruce (2010), which Woods invokes only for a subset of EV2-clauses, namely those cases where the assertion is anchored to the *speaker* and the *current* discourse context. On Farkas & Bruce’s (2010) model, if a speaker (or author; a) asserts a declarative sentence $S[D]$ against an input context K_i , then that assertion will change the context in three ways. First, the propositional content of $S[D]$ will get added to a ’s discourse commitments (DC_a). Secondly, the syntactic form of $S[D]$ and its denotation are *pushed* to the top of the conversational Table (T). Finally, the propositional content of $S[D]$ gets added to a so-called *projected set* (ps), which is a set of common grounds that reflects canonical

²² As mentioned in Section 1, this type of account also risks *over-generating* contexts that are predicted to license EV2. At least without further stipulation, it incorrectly predicts that EV2 should be freely available under positive response stance verbs like *accept* and *admit*, as well as under (negated negative) response stance verbs like *don’t doubt*, and also under emotive factive verbs like *resent* and *appreciate*, which all give rise to a strong inference that the attitude holder believes p (as a presupposition, for the emotive factives).

²³ Though note that Woods elsewhere characterizes assertions as not an expression of what the speaker believes, but as “the expression of responsibility being taken for the proposition/set of propositions in the given clause by a given discourse participant.” (Woods 2016: 114).

ways of settling the issues on the Table. These discourse effects are achieved via the assertion operator in (39).²⁴

- (39) Farkas & Bruce (2010: 92)
- $A(S[D], a, K_i) = K_o$ such that
- a. $DC_{a,o} = DC_{a,i} \cup \{p\}$
 - b. $T_o = push(\langle S[D]; \{p\} \rangle, T_i)$
 - c. $ps_o = ps_i \bar{\cup} \{p\}$

With respect to the discourse component, Woods' proposal is similar to the current account, the details of which are discussed next. The problem for Woods' account is how to account for the commitment-shifted cases (Section 2.2) and the inquisitive uses of EV2-clauses (Section 2.3). The operator in (38) predicts that the commitment anchor and the conversational context in which the assertion is evaluated should always shift together. Thus, we expect that EV2-clauses should represent assertions that are anchored *either* to the current discourse context and the speaker, *or* to the reported context and the matrix subject (as for Krifka 2014). However, we do not expect to see the more complex discourse move identified in Section 2.2, where only the commitment anchor, but not the conversational context, is shifted. In terms of the *inquisitive* uses of EV2-clauses, note that even if we supplemented Woods' proposal with an appropriate discourse-level question operator to capture these cases (instead of (39)), the operator in (38) would still result in the interpretation that the speaker believes *p* to be true, in conflict with the interpretation of these EV2-clauses as a type of question. As we shall see next, the current proposal—where the only theoretical machinery is the table model—offers a simple and unified account of all of these discourse functions available to EV2-clauses.

4 Proposal: interpreting embedded V2-sentences

The data discussed here suggest that the interpretation of EV2-clauses is best characterized in terms of the statement that they share the conventional discourse effects typically associated with main clause declaratives, in the sense of Farkas & Roelofsen (2017): they add the issue of *p* to the table as an issue for discussion, and they express a (type of) commitment to *p*. Sections 4.1–4.2 provide a brief description of the semantic model, and Section 4.3 extends it to the different uses of EV2-clauses identified in Section 2. In Section 4.4, I discuss an issue raised by the inquisitive uses of EV2-clauses, concerning the semantic composition of these sentences.

²⁴ Farkas & Bruce (2010: 95) also propose a polar question operator, which doesn't make reference to discourse commitments.

4.1 Semantic model (Farkas & Roelofsen 2017)

On Farkas & Roelofsen's (2017) account of matrix declaratives and interrogatives, differences in the conventional discourse effects of these two sentence types follow from their semantic differences, modelled in terms of inquisitive semantics (e.g. Ciardelli et al. 2013; 2015), combined with a single 'convention of use' (building on Farkas & Bruce 2010). As a result, they argue, illocutionary force (assertion and question) operators are not necessary.²⁵

Traditionally, a distinction is drawn between declaratives and interrogatives, in terms of their semantic type.

- (40) a. Lisa won. traditionally ⟨st⟩
 b. Did Lisa win? traditionally ⟨st,t⟩

While both sentences in (40) pertain to the truth of the proposition *Lisa won*, they differ in terms of their conventional discourse effects. In uttering the declarative in (40-a) in a world w , the speaker is typically assumed to (at least) express a public commitment to p (i.e. that p is true at w) and further propose to add p to the common ground (i.e. the set of propositions that are mutually accepted by the discourse participants; Stalnaker 1978). In uttering the interrogative in (40-b), on the other hand, the speaker is understood to ask the question of whether the proposition *Lisa won* is true at w or not. With this distinction in mind, declaratives are traditionally analysed as propositions ⟨st⟩, and interrogatives as sets of propositions ⟨st,t⟩. Using the terminology of inquisitive semantics, the semantic representation of a declarative is analysed in terms of its *informative* (truth-conditional) content, whereas the semantic representation of an interrogative is analysed in terms of its *inquisitive* content (the issue it raises).

In inquisitive semantics, on the other hand, the semantic value of a sentence is taken to capture *both* its informative and its inquisitive content; with propositions analysed as singleton proposition sets and interrogatives as multi-member sets; where propositions are viewed as *information states*. In uttering a sentence (whether declarative or interrogative), the speaker is understood to simultaneously do two things with respect to the current conversation: (i) provide the information that the actual world is contained in the informative content of the sentence, and (ii) raise an issue for which its resolution requires establishing one of the propositions expressed by the sentence.²⁶ For a declarative like (40-a) (represented by the singleton proposition set $\{p\}^\downarrow$), this means that the speaker provides the information that the actual world is a member of p , and steers the conversation towards a state where p is common ground. In this case, the inquisitive

²⁵ The following discussion draws heavily on Sections 4 and 5 of Farkas & Roelofsen (2017).

²⁶ Note that in inquisitive semantics, sentences meaning are assumed to be *downward closed*: if $p \in \llbracket \phi \rrbracket$ and $q \subset p$, then also $q \in \llbracket \phi \rrbracket$. Citing Theiler et al. (2019: 98), "this captures the intuition that, if a proposition p resolves a given issue, then any stronger proposition $q \subset p$ will also resolve that issue." Following Ciardelli et al. (2017), downward closed sets of propositions are written as P^\downarrow . See also fn. 22.

content of the sentence is trivial, given that the issue raised by the utterance of the sentence is already resolved by its informative content. For an interrogative like (40-b), on the other hand, the informative move is trivial (as the informative content of the sentence covers the whole logical space W). The move of steering the conversation towards one of the information states expressed by the sentence, however, is non-trivially inquisitive, given that in order to reach such a state, the addressee will need to provide additional information, either that Lisa won (p) or that she didn't win ($\neg p$). (For more discussion of this perspective, see Farkas & Roelofsen 2017, as well as Ciardelli et al. 2013; 2015; Theiler et al. 2019, a.o.)

Farkas & Roelofsen (2017) argue that on this perspective, the conventional discourse effects associated with declaratives and interrogatives follow as a consequence of their semantic content, together with a single convention of use which applies to both sentence types. This convention builds on Farkas & Bruce (2010) and previous work. As in Farkas & Bruce (2010), a discourse context is modelled as in (41) (where a *possibility* is modelled as the set of possible worlds which are compatible with it):

(41) Farkas & Roelofsen (2017: 255)

A basic discourse context is a triple $\langle \text{participants}, \text{table}, \text{commitments} \rangle$, where:

- a. *participants* is the set of discourse participants;
- b. *table* is a stack of propositions, representing the proposals made so far;
- c. *commitments* is a function that maps every participant $x \in \text{participants}$ to a set of possibilities, those possibilities that x is publicly committed to.

The *commitment set* of a participant x , $cs(x)$ is defined as the set of worlds that are compatible with all the possibilities that x is publicly committed to: $cs(x) = \bigcap \text{commitments}(x)$. Unlike on the Stalnakerian picture, the common ground is not taken to be a conversational primitive, but is derived from the commitments of each of the discourse participants: $cg = \bigcup \{cs(x) | x \in \text{participants}\}$. The basic convention of use proposed by Farkas & Roelofsen (2017) is given in (42).

(42) Farkas & Roelofsen (2017: 265)

Basic convention of use

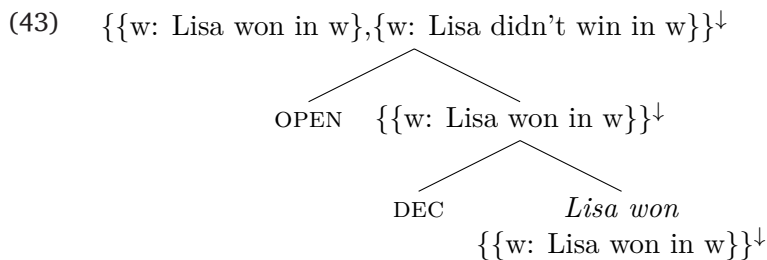
If a discourse participant x utters a declarative or interrogative sentence φ the discourse context is affected as follows:

1. The proposition expressed by φ , $\llbracket \varphi \rrbracket$, is added to the table.
2. The informative content of φ , $\bigcup \llbracket \varphi \rrbracket$, is added to $\text{commitments}(x)$.

Thus, an utterance of a (falling) declarative sentence has the following effects on the context: (i) p gets added to the speaker's discourse commitments, and (ii) the issue of p , $\{p\}^\downarrow$, gets added to the conversational table; thus steering the conversation towards a state where the participants mutually agree that the actual world is contained in p .

To account for non-canonical uses of interrogatives and declaratives, such as rising declaratives and tag-interrogatives, Farkas & Roelofsen (2017) additionally invoke the clause type markers DEC/INT and CLOSED/OPEN. In English root clauses, DEC/INT are marked by declarative vs. interrogative word order, and in embedded clauses, DEC/INT are marked by the complementisers *that* vs. *whether*. In English root clauses, CLOSED/OPEN are marked by falling vs. rising intonation. They assume, based on data discussed in Section 4.4, that rising/falling intonation in English has semantic import in root clauses only (see Farkas & Roelofsen 2017: fn. 12). However, as we saw in Section 2.3, rising vs. falling intonation can have the relevant types of semantic effects also in embedded clauses (see Section 4.4 for further discussion).

On this account, rising declaratives like *Lisa won?* start out as sentence radicals denoting a singleton set $\{p\}^\downarrow$, but take on the meaning of a question, $\{p, \neg p\}^\downarrow$, when they combine with the clause type marker OPEN, which is marked by rising intonation (see Farkas & Roelofsen’s 2017 Section 4.2 for more detailed discussion):



Additionally, the rising declarative *Lisa won?* also signals that the speaker has access to some *evidence* for the possibility that Lisa won (see also Malamud & Stephenson 2015). To account for this, Farkas & Roelofsen (2017) add a *special effect* to the basic discourse effects discussed above:

(44) Farkas & Roelofsen (2017: 268–9)

Conventional discourse effects of rising declaratives

When a discourse participant x utters a rising declarative φ , expressing the proposition $\llbracket \varphi \rrbracket = \{\alpha, \bar{\alpha}\}^\downarrow$, the discourse context is affected as follows:

1. Basic effect – as defined in (42)

- The proposition expressed by φ , $\llbracket \varphi \rrbracket$, is added to the table.
- The informative content of φ , $\cup \llbracket \varphi \rrbracket$, is added to $\text{commitments}(x)$.

2. Special effect

- $\langle \alpha, [\text{zero}, \text{low}] \rangle$ is added to $\text{evidence}(x)$

where $\text{evidence}(x)$ is a list of pairs, $\langle p, i \rangle$, where p is a possibility, and i a credence interval, capturing the amount of credence x signals that she has in p .

Thus, an utterance of a rising declarative like *Lisa won?* has the following effect on the context: as for unmarked polar interrogatives, the speaker (a) raises the issue of whether Lisa won by

placing $\{p, \neg p\}^\downarrow$ on the table; thus steering the conversation towards a resolution, a state where either *Lisa won* or *Lisa didn't win* is common ground, and (b) expresses the (trivial) commitment that the actual world is an element of $p \cup \neg p$ (the set of all possible worlds, W). Additionally, by virtue of the special discourse effects, the speaker also signals that they have some evidence for p , to which they assign at most low credence.

4.2 Clausal embedding in inquisitive semantics

A consequence of this model is that declarative clausal complements denote sets of propositions, rather than propositions (Hamblin 1971). In terms of the composition with the matrix predicate, I follow Theiler et al. (2018; 2019), who argue in the framework of inquisitive semantics that clausal complements are uniformly of type $\langle st, t \rangle$ and that clause-embedding predicates take arguments of this type. The composition of a complex sentence like *Mary believes that Anna won* is illustrated in (45)–(46) (for discussion, see Theiler et al. 2019: 97–100):²⁷

- (45) a. $\llbracket \text{believe} \rrbracket^w = [\lambda P_{\langle st, t \rangle} . [\lambda x_e . \text{DOX}_x^w \in P]]$
 b. $\llbracket \text{that Anna won} \rrbracket^w = \{\{w' : \text{Anna won in } w'\}\}^\downarrow$

- (46) Mary believes that Anna won.
 \rightsquigarrow True in w iff $\text{DOX}_x^w \subseteq \{w' : \text{Anna won in } w'\}$

4.3 Proposal for embedded V2

In Section 2, we discussed three uses of EV2-clauses: (i) assertive discourse moves which are *fully* anchored to the current discourse context, including the speaker, (ii) assertive discourse moves where the context update of adding the issue of p to the table is anchored to the current discourse context, but where the commitment to p is shifted to a contextually specified commitment anchor, and (iii) inquisitive discourse moves which function as a type of biased question, anchored to the speaker and the current discourse context.

4.3.1 Proposal: assertive discourse moves fully anchored to the current discourse

In Section 2.1, we discussed cases like (47), in which the speaker asserts the embedded proposition p , with respect to the current discourse context.

- (47) a. men jag tror mer att [han orkar inte ta konflikten]
but I would be more inclined to think that [he doesn't have the energy to deal with the conflict]

²⁷ Given downward closure (see fn. 26), the set denoted by *that Anna won* in (45-b) will contain its informative content $\{w_a, w_{ab}\}$ (assuming that the domain consists of Anna and Bob), as well as all subsets of $\{w_a, w_{ab}\}$, i.e. $\{w_a\}$, $\{w_{ab}\}$, and \emptyset . Thus the sentence *Mary believes that Anna won* (46) will be true as long as Mary's beliefs entail that Anna won, regardless of whether Mary additionally has any beliefs about Bob.

- b. du måste lära dig att [människor fungerar inte på det sättet]
you have to learn that [people don't work that way]

Semantically, the composition proceeds as in (45). This will be the case regardless of the matrix predicate. I illustrate here using (47-a).

- (48) LF of (47-a): [jag₁ tror mer [_{EC} att han orkar inte ta konflikten]]
 a. $\llbracket \text{tro} \rrbracket^w = [\lambda P_{\langle st, t \rangle} \cdot [\lambda x_e \cdot \text{DOX}_x^w \in P]]$ ('believe'/'think')
 b. $\llbracket \text{EC} \rrbracket^w = \{\{w': \text{he doesn't have the energy... in } w'\}\}^\downarrow$
 c. $\llbracket (47\text{-a}) \rrbracket^w = 1$ in w iff $\text{DOX}_{g(1)}^w \subseteq \{w': \text{he doesn't have the energy... in } w'\}$

To capture the discourse effects of these EV2-clauses, I assume the basic discourse context in (41), consisting of the triple $\langle \text{participants, table, commitments} \rangle$, and the basic convention of use in (42). Here, the only relevant discourse participants are the speaker (Sp) and the addressee (Ad). As we saw in Section 2.1, in uttering sentences like (47), both the issue represented by the matrix clause $\{p_m\}^\downarrow$ and the embedded clause $\{p_e\}^\downarrow$ are added to the table (49-a). Additionally, both p_m and p_e are added to the speaker's discourse commitments (49-b).

- (49) Discourse effects of the speaker (Sp) uttering (47) to the addressee (Ad):
 a. $\{p_m\}^\downarrow$ and $\{p_e\}^\downarrow$ are placed on the table
 b. p_m and p_e are added to commitments(Sp)

4.3.2 Proposal: assertive discourse moves with commitment shift

In Section 2.2, we discussed commitment-shifted cases like (50), where the speaker adds the issue of p to the table as an assertion anchored to a contextually specified commitment anchor. In terms of the semantic composition, it works out just as in (45)/(48). With respect to the discourse effects, these utterances involve two conjuncts ($S1$, $S2$), which both represent discourse moves pertaining to p , as shown in (50).

- (50) a. [_{S1} nu kanske någon säger att [_p man kan inte ha 4 föräldrar]],
 [_{S2} [_{-p} men det tycker jag]]
 [_{S1} *now someone might say that [_p one can't have 4 parents]],*
 [_{S2} [_{-p} *but I think you can]]*
 b. [_{S1} jag har fått höra både det ena o andra att [_p jag har inte uppfostrat honom på rätt sätt o inte satt gränser]], [_{S2} [_{-p} men det har jag]]
 [_{S1} *I've heard both this and that, that [_p I haven't raised him right and haven't set boundaries]],*
 [_{S2} [_{-p} *but I have]]*

With respect to the first part of the utterance ($S1$), i.e. the complex sentence with the EV2-clause (our main focus), the difference between this case and that discussed in the previous

section is that here, the speaker uses the reported context ('now someone might say', 'I've heard both this and that') to specify a commitment anchor for the EV2-clause. I propose that this contextually specified commitment anchor (CA) gets added, temporarily, to the set of discourse participants (51-a). In uttering *S1*, both the issue represented by the matrix clause $\{p_m\}^\downarrow$ and the embedded clause $\{p_e\}^\downarrow$ get added to the table (51-b). With respect to the discourse commitments, however, we now get a split whereby p_m gets added to the speaker's commitments (51-c), and p_e gets added to the commitments of the contextually specified commitment anchor (51-d).

(51) Discourse effects of the speaker (*Sp*) uttering (50)–*S1* to *Ad*:

- a. CA is added to participants
- b. $\{p_m\}^\downarrow$ and $\{p_e\}^\downarrow$ are placed on the table
- c. p_m is added to commitments(*Sp*)
- d. p_e is added to commitments(CA)

In the second part of the utterance (*S2*), the speaker rejects the (shifted) assertion of p_e represented by the EV2-clause, by asserting its negation ('but I think you can', 'but I have'). Thus, $\{\neg p_e\}^\downarrow$ is placed on the table (52-a) and $\neg p_e$ is added to the speaker's discourse commitments (52-b). Additionally, as we saw in Section 2.2, the effect of the speaker's rejection is that the issue of p_e gets removed from the table (52-c).

(52) Discourse effects of the speaker (*Sp*) uttering (50)–*S2* to *Ad*:

- a. $\{\neg p_e\}^\downarrow$ is placed on the table
- b. $\neg p_e$ is added to commitments(*Sp*)
- c. $\{p_e\}^\downarrow$ is removed from the table

On this account, the fact that the discourse move represented by the EV2-clause can be anchored to a contextually specified commitment anchor follows directly on Farkas & Roelofsen's (2017) model, together with the fact that the asserted clause is embedded. By using the matrix clause to indicate a contextually specified discourse participant, the set of discourse participants, in the sense of the discourse context in (41), now comes to include also the contextually specified commitment anchor, as shown in (51-a), though just for the purpose of this particular discourse move. This allows the speaker to add the issue of p to the table with the force of an assertion, while at the same time shifting the expression of the commitment to p to the contextually specified commitment anchor.

4.3.3 Proposal: inquisitive discourse moves

In Section 2.3, I discussed cases like (53), where the EV2-clause represents a type of biased question (with respect to the current discourse context), similarly to unembedded rising declaratives.

- (53) jag har hört att [man ska inte frakta ett barn fram och tillbaka förrän efter 1 år?]
I've heard that [one shouldn't move a kid back and forth until after 1 year?]

To account for the interpretation of these cases, I assume that the EV2-clause in (53) starts out as denoting a singleton set $\{p_e\}^\downarrow$, but takes on the meaning of a question $\{p_e, \neg p_e\}^\downarrow$ when it combines with the clause type marker OPEN, which is marked by rising intonation, as shown in (43). To capture its special discourse effects, I adopt Farkas & Roelofsen's (2017) proposal for (matrix) rising declaratives in (44). An utterance of the sentence in (53) is therefore predicted to have the following effect on the context: the inquisitive proposition $\{p_e, \neg p_e\}^\downarrow$ is added to the table (54-a), and the speaker expresses a (trivial) commitment to its informative content, $p_e \cup \neg p_e$ (W) (54-b). Additionally, the speaker signals that they have some evidence for p_e , to which they assign at most low credence (54-c). As we discussed in Section 2.3, this special discourse effect is reinforced by the assertion represented by the matrix sentence, which points to the speaker's potential evidence for p_e , namely, that they have heard it. The effect of the speaker's assertion of the matrix sentence is that the issue it represents, $\{p_m\}^\downarrow$, is added to the table along with the inquisitive proposition $\{p_e, \neg p_e\}^\downarrow$ (54-a), and that p_m is added to the speaker's discourse commitments (54-b).

- (54) Discourse effects of the speaker (Sp) uttering (53) to the addressee (Ad):
- $\{p_e, \neg p_e\}^\downarrow$ and $\{p_m\}^\downarrow$ are placed on the table
 - W and p_m are added to $\text{commitments}(Sp)$
 - $\langle p_e, [\text{zero}, \text{low}] \rangle$ is added to $\text{evidence}(Sp)$

Note that in this case, the speaker's commitment with respect to the matrix clause is a subset of their commitment with respect to the embedded clause ($p_m \subseteq W$). Since the *commitment set* of a participant x , $cs(x)$ is defined as the set of worlds that are compatible with all the possibilities that x is publicly committed to (i.e. $cs(x) = \bigcap \text{commitments}(x)$; see Section 4.1), saying that both p_m and W are added to the speaker's discourse commitments (54-b) correctly captures the fact that in the end, the utterance of (53) only commits the speaker to p_m . With respect to the discourse effects of the utterance in (53), note also that the speaker starts by asserting that they have heard that p_e , before asking the biased question represented by the embedded clause. We can thus understand the question represented by the embedded clause as being restricted to the p_m worlds, i.e. the worlds in which the speaker has heard that p_e . That is, the speaker first provides the information that the actual world is a p_m world (thus restricting their commitment set to include only worlds in which they have heard that p_e), and then asks whether, relative to those worlds, the actual world is a p_e world (a world in which one *is* supposed to...) or a $\neg p_e$ world (a world in which one *isn't* supposed to...).

This model thus seems to capture the discourse effects of the embedded declarative biased question in (53) quite well. Questions arise, however, about the semantic composition of these sentences. I discuss this issue in Section 4.4, next.

4.4 Inquisitive embedded V2: discourse effects vs. semantic composition

On Farkas & Roelofsen's (2017) account, rising declaratives start out as sentence radicals denoting a singleton set $\{p\}^\downarrow$, but take on the meaning of a question, $\{p, \neg p\}^\downarrow$, when they combine with the clause type marker OPEN (43). However, if this shift is represented at LF, that means that the embedded clause in (53) will be an inquisitive proposition $\{p, \neg p\}^\downarrow$ when it combines with the matrix verb (*hear*). This is not a problem for the compositional semantics as such; as shown in (55), *hear* is compatible with both declarative and interrogative complements.

(55) Have you heard whether it's going to rain tomorrow?

Intuitively, however, the interpretation of the matrix sentence in (53) is that the speaker has heard *that p*, not *whether p*, thus suggesting that the EV2-clause denotes a non-inquisitive proposition $\{p\}^\downarrow$ when it combines with the matrix verb, while still triggering the *global* discourse effect of a question with respect to the issue it represents.

According to Farkas & Roelofsen (2017), this problem is not expected to arise. They suggest, based on (56), that rising declaratives and tag-interrogatives cannot be embedded, stating that “even if we consider a sentence involving a plain declarative complement clause, like [John thinks that Amalia left], the commitment that the embedded declarative would induce, if uttered in isolation, does not need to be taken into account in determining the discourse effects of the entire sentence. All we need is the propositional content of the embedded clause” (p. 244).

- (56) Farkas & Roelofsen (2017: 214)
- a. *John told Bill that [Amalia left, didn't she].
 - b. *Don't tell Bill that [Amalia left↑].

However, as the embedded rising declarative in (24)/(53) shows us, rising vs. falling intonation can have these kinds of discourse effects also in embedded contexts. Moreover, we have seen that for EV2 *in general*, the discourse effects associated with the embedded V2-clause *do* matter for the discourse effects of the sentence as a whole.

The example in (53) thus highlights what is actually a more general issue for this analysis, which is that at some point, the embedded content needs to become accessible independently to the matrix predicate (for the semantic composition, potentially as an informative proposition) and to the discourse level (to have discourse effects at the level of the conversational context, potentially as an inquisitive proposition). This could potentially be achieved via some type of discourse-level operator, which would combine with the sentence radical denoted by the embedded clause and trigger the appropriate discourse-level effects (e.g. those of a biased question), while at the same time allowing the sentence radical to combine with the matrix clause (as an informative proposition).

Regarding the judgement in (56), a note is also in order. While the judgement in (56) is clear, the overall picture painted in this paper is that main clause phenomena are complex: their acceptability depend on a multitude of factors, including the particular properties of the matrix clause (rather than just the type of verb), together with the precise discourse move represented by the embedded clause. H&T, who discuss tag-questions (56-a) as one of their original main clause phenomena, note that they *can* in fact be embedded in appropriate circumstances (just like rising declaratives, as we have seen in this paper), including under verbs which don't generally embed questions, like *suppose*:

- (57) Hooper & Thompson (1973: 468, 471)
- a. The square root of nine is three, isn't it?
 - b. I suppose acupuncture really works, doesn't it?
 - c. *Gloria supposes acupuncture really works, doesn't it?

The contrast between (57-b) and (57-c) is consistent with the empirical picture observed here, whereby the availability of embedded (assertive and inquisitive) discourse moves across embedding contexts depends crucially on the *particular* discourse effects associated with the embedded clause, together with highly specific properties of the matrix clause. I return to the question of the role of the matrix clause in the following section.

5 The role of the matrix clause

Following Farkas & Roelofsen (2017), I have distinguished the *conventional* discourse effects associated with declaratives and interrogatives from their more specific *pragmatic* discourse effects (e.g. whether the utterance is intended to be informative, or provide a reminder, clarification, justification, or a promise, etc.), which depend on the particular utterance situation, as illustrated in (58) (see also Farkas 2021):

- (58) Farkas (2021: 1, 9–10)
- a. Let me remind you. You are supposed to pick up the kids at 5.
 - b. I'm your mother, and I know what's best for you.
 - c. A: It's hot outside. / B. Yes, it's hot indeed.
 - d. It's raining. So you should take your umbrella.

On their perspective, the key difference between these different uses is in the contextual assumptions about why the speaker utters the sentences. Thus, default assumptions (e.g. that polar interrogatives are information-seeking and that falling declaratives are informative) may be overridden by the use of marked forms or when unmarked forms are used in non-default contexts; thus resulting in additional pragmatic effects, as in (58). Adding to this picture, the data discussed in Section 2.1 shows us that when the discourse move is represented by embedded content, the context which determines its specific pragmatic effects includes the matrix clause. We thus get clarifications with

matrix clauses like ‘I just meant that’ or ‘I’m just saying that’, cases where the speaker takes issue with the interlocutor’s position with matrix clauses like ‘don’t you get that’ or ‘when will you realize that’, promises with ‘I promise you that’, and reminders with ‘don’t forget that’. I have therefore argued that the main role of the matrix clause is to appropriately *frame* the discourse move represented by the embedded clause, in terms of its more specific pragmatic effects, or in the cases involving a *commitment shift* (Section 2.2), specify a commitment anchor for the assertion represented by the embedded clause.

On this view, then, the restrictions on the type of matrix verb that allow V2-complements are fundamentally pragmatic, rather than lexical or semantic (as reflected in the analysis in Section 4). While these restrictions can result in fairly strong lexical tendencies, as we saw in our review of previous work in Section 1, this is still an essentially ‘soft’ constraint on EV2-licensing. However, given the data discussed in this paper (and see also Julien 2009; 2015 and Caplan & Djärv 2019), this characterization is probably correct. An interesting example highlighting the pragmatic nature of these restrictions is (9-c), repeated in (59).

- (59) **håller med de som tycker** att andra ska inte bli lidande!
agree with those who think that others should not have to suffer!

While the EV2-clause in (59) is embedded under the verb *think*, the *at-issue* content of the sentence is that the speaker agrees that p. As shown in (60), the NP ‘those who think’ can be omitted here without changing the core meaning of the sentence,²⁸ and with V2-order still being acceptable.

- (60) **håller med** att andra ska inte bli lidande!
agree that others should not have to suffer!

This illustrates nicely the observation that what matters for EV2 is not the identity of the embedding verb as such (e.g. whether it reports a speech act, as for Krifka 2014, or entails a belief that p, as for Truckenbrodt 2006), but rather, the extent to which the matrix clause as a whole is able to frame discourse move represented by the embedded clause.

6 Conclusion

This paper has examined the idea that EV2, a well-studied main clause phenomenon, is associated with assertion. I have addressed two central questions in the study of EV2: the precise

²⁸ We can also use negation or questioning as a classic test for (not-)*at-issue* status (e.g. Simons et al. 2010), to the same conclusion: the question in (i) asks whether the addressee agrees with p, and takes for granted that ‘they think p’.

- (i) Håller du med de som tycker det?
Do you agree with those who think that?

interpretation of EV2-clauses, and the role of the matrix predicate in licensing V2-complements. Based on detailed examination of naturally occurring data from Swedish (Section 2), I have shown that at their core, EV2-clauses represent discourse moves whereby the speaker adds the issue represented by the embedded clause to the conversational table as an issue for discussion. In many cases, this is accompanied by the speaker expressing a public commitment to p , as in matrix assertions. However, we have also seen cases that involve a *commitment shift*, where the assertion is anchored not to the speaker, but to a *contextually specified commitment anchor*, which is identified by the matrix clause (but which crucially does not need to correspond to the matrix subject, contrary to previous work). This allows the speaker to raise the issue represented by the embedded clause at the level of the current conversation with the force of an assertion, without themselves committing to the proposal it represents. In addition to these assertive uses, we have seen that EV2-clauses do not always represent assertive discourse moves, but can also function as a type of biased question. Such cases are similar in both function and form to (matrix) rising declaratives, and are problematic for previous theories of EV2-licensing.

Based on these observations, I proposed a formal analysis of the conventional discourse effects of EV2, based on Farkas & Roelofsen's (2017) analysis of matrix declaratives and interrogatives. This proposal has the advantage over previous accounts that it is able to capture both the two types of assertive, as well as the inquisitive uses of EV2-clauses identified here. By distinguishing between the conventional and the pragmatic discourse effects of a sentence, this perspective additionally offers us a nice way of understanding the role of the matrix clause, including the fact that while we observe clear lexical tendencies, these restrictions are fundamentally soft. With respect to the role of the matrix predicate, I have argued that the key role of the matrix clause is to appropriately *frame* the discourse move represented by the embedded clause, in terms of its more specific pragmatic effects. On this perspective, the compatibility of a given verb and a V2-complement depends on the particular nature of the discourse move represented by the embedded clause, together with the interpretation of the matrix clause as a whole.

Two important questions have been left open here: First, a systematic and detailed comparison of EV2 across languages. While the experimental data reviewed in Section 1 suggest that German and Mainland Scandinavian are similar in terms of the distribution of EV2 across H&T's predicate classes, Julien (2015) points to other environments where German and Mainland Scandinavian differ with respect to EV2-licensing. Further comparative investigation of these cases and those identified here is an important next step. Secondly, the potential *interaction* of different types of main clause phenomena. Djärv's (2019) comparative experimental study of main clause phenomena found that EV2 patterns quite differently from English topicalization, in terms of its acceptability across H&T's predicate types. This raises the question of whether subject-initial V2 (discussed here) and topic-initial V2 (fn. 2) differ from each other in terms of their restrictions.

Finally, the following points deserve to be noted: First, note that the kinds of discourse effects identified here for EV2-clauses are not restricted to sentences with overt V-to-C. In at least the majority, if not all cases discussed here, the kinds of discourse effects observed in the Swedish data are also available to their English counterparts. This is not surprising: what would be surprising would be if the kinds of complex discourse moves identified here were restricted to languages that explicitly mark main clause word order in the way that Swedish does. On the current account, EV2-clauses have the kinds of conventional discourse effects they do by virtue of their form; that is, V2-order triggers an obligatory interpretive effect, as described here. Additionally, beyond the question of EV2 and main clause phenomena, this work has consequences for theoretical modelling of clausal embedding more broadly. As discussed in Section 4.4, the data examined here show us that the discourse effects associated with different sentence types, when uttered in isolation, are also able to project to the discourse level when the sentence is embedded in a complex expression. The rising declaratives identified here (*I've heard that p?*) show us that at some point, the embedded content needs to become accessible independently to the matrix predicate for the semantic composition (as an informative proposition) and to the discourse level (potentially as an inquisitive proposition). Here, I have only proposed a brief sketch of what an analysis of this might look like. Finally, a methodological consequence of this paper is that it highlights the benefits of looking at complex and variable linguistic phenomena like main clause syntax through both a large-scale quantitative and a detailed qualitative lens: the former provides us with the birds-eye perspective that allows us to generalize and compare across speakers, languages, and different grammatical and lexical conditions, whereas the latter provides us with the close detail needed to make precise theoretical claims.

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Competing interests

The author has no competing interests to declare.

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