Conversational dynamics of Russian questions with *razve*[1]

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Abstract. Russian questions with the particle *razve* appear to convey negative bias in conflicting-evidence scenarios, thus bearing superficial resemblance to English questions with *really* (cf. Repp and Geist forth.). I argue that *razve*-questions convey a novel type of bias and signal that the speaker is in a situation with belief revision potential, facing a conflict between a prior belief and a current abductive inference. Depending on context, such questions receive (i) an information-seeking interpretation or (ii) what I will call a 'point-making' interpretation. I propose a unified semantics for *razve*, while also showcasing the limitations of current approaches to question bias and making a case for sensitivity to abduction in a novel empirical domain.

Keywords: abduction, belief revision, non-canonical questions, question bias, Russian.

1. Introduction

Razve is a Russian left-periphery particle used in matrix polar questions. Previous descriptions attribute to it a sense of incredulity (Baranov 1986; Bulygina and Shmelev 1987; Shvedova et al. 1980) and analyze it as an equivalent of English *really* (Repp and Geist forth.). I argue for a more nuanced view on *razve*'s contribution and propose that its main function is to signal that the speaker is in a situation with belief revision potential. (1) illustrates.[2]

(1) *Context: Bear decides to be a tree and begins to wave his four paws, while running around the clearing. When asked by Squirrel what he's doing, he says he's swaying his branches.*

a. Ty **razve** derevo? — udivilas' Belka. [...]
you.NOM **RAZVE** tree.NOM.SG wonder.SG.F.PST squirrel.NOM.SG
' "You are a tree?", Squirrel wondered.'

b. **Razve** ty kogda-nibud' videl, chtoby derev'ia begali?
RAZVE you.NOM ever see.SG.M.PST COMP tree.NOM.PL run.PL.PST
' "Have you ever seen trees run?" ' (*That Kind of Tree*, Sergey Kozlov)

(1) features *razve* twice, in (1a) with $p =$ 'that Bear is a tree' (Russian is a null-copula language) and in (1b) with $q =$ 'that you have at some point seen trees run' (likely a generic use of the second person pronoun). Following the literature on question bias and especially existing accounts of English *really* (Romero and Han 2004; Repp 2013), Repp and Geist (forth.) treat *razve* as a marker of conversational denial whose contribution is supposed to be roughly as follows. The speaker (i) has a pre-existing belief that $\neg p$ and (ii) wants to hold on to this belief, (iii) even though there is evidence to the contrary. This analysis incorrectly predicts that Squirrel is against adding p to the common ground (which she would have been had she

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[2]The Library of Congress' transliteration conventions for Cyrillic are used throughout. Glosses: 1,2,3 person, ACC accusative, COMP complementizer, DAT dative, GEN genitive, F feminine, FUT future, INF infinitive, M masculine, N neuter, NEG negation, NOM nominative, PL plural, PRED predicative, PREP prepositional, PRS present, PST past, SG singular.

asked *Are you really a tree?*). I argue that the overall effect in (1) is in fact different—it signals Squirrel's being perplexed. More specifically: (i) Squirrel had prior beliefs that Bear is not a tree ($\neg p$) and that Bear, or anyone else, would not have seen trees run ($\neg q$) (implying that trees don't run); (ii) Bear's words and actions present evidence conflicting with those beliefs ($p \wedge q$); (iii) accepting this new information will result in inconsistent beliefs ($[p \wedge \neg p] \wedge [q \wedge \neg q]$); (iv) Squirrel asks genuine questions to resolve the conflict. *Razve* is different from *really* or other previously described markers of bias, and this paper develops an analysis for it.

I argue that *razve* conveys a special type of question bias associated with belief revision potential and the speaker's private epistemic crisis. I develop a semantics that captures this core meaning and accommodates two related uses of *razve*-questions that are sometimes hard to distinguish: (i) as information-seeking questions, in cases when the speaker gives up their prior belief, and (ii) as what I will call 'point-making' questions, in cases when the speaker is reluctant to let go of a prior belief (this use is similar, but not identical, to classic rhetorical questions). The paper is structured as follows. Section 2 provides background on polar interrogatives in Russian. Section 3 focuses on information-seeking uses of *razve*-questions and shows why they do not fully fit into the existing typology of question bias. Section 4 introduces point-making uses and lays out the proposal that unifies the two uses. Section 5 concludes.

Before I proceed, two caveats on the empirical scope of the paper. First, I only discuss cases when *razve* combines with the positive content proposition to isolate its core meaning. It is likely that the contribution of clausal negation, when it is present, is fully compositional (see Repp and Geist (forth.), Zanon (2023) for detailed discussion of negated questions). Second, I focus on *razve* in interrogatives. It has another life in nominal exceptives (≈'except for') and exceptive conditionals (≈'except if'). I leave it to future research to see if the interrogative and the exceptive use can be attributed a unified synchronic semantics.

2. Background on polar interrogatives in Russian

Setting alternative questions aside, Russian has two types of polar questions (Comrie 1984; Shvedova et al. 1980): (i) questions with the particle *li* (often perceived as more formal; Schwabe, 2004) and (ii) declarative string questions formed by intonation. Both types of questions—and only those types of questions—can be used in neutral contexts where the speaker has no prior expectations, or contextual indications, regarding the answer (2 and 5).

(2) *Adapted from a visa application form:*

Imeete	**li**	vy	rodstvennikov	v	Rossiiskoi	Federatsii?
have.2PL.PRS	**LI**	you.NOM	relative.ACC.PL	in	Russian.F.PREP.SG	federation.PREP.SG

'Do you (formal) have any relatives in Russian Federation?'

Li is a second-position clitic (Franks and King 2000: 349-357) whose host—main predicate by default—is the focus of the question. *Li* is optional in matrix polar questions, obligatory in embedded polar questions (7a) and banned in *wh*-questions (3).

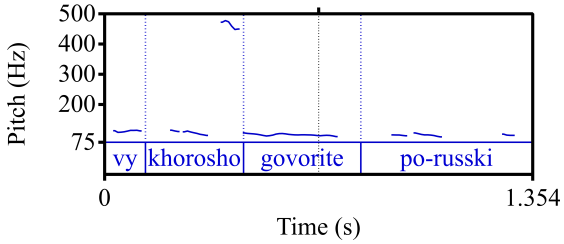
(3) Gde (*li) ty (*li) byla (*li)? [**li*-Q + *wh*-Q]
where LI you.SG LI be.SG.F.PST LI
'Where have you been?'

Li has been analyzed as a complementizer (King 1994; Schwabe 2004), which would explain

the ungrammaticality of (3) as a ban on the doubly-filled COMP. However, from a semantic standpoint, *li* is likely not a clause-typing element but a quantifier particle (Szabolcsi 2015), as it occurs precisely in those environments where such particles are expected: interrogatives, disjunctions (e.g., the alternation disjunction *to li X, to li Y* 'now X now Y'), modals (e.g., *edva li* 'hardly', *chutj li* 'almost'). Treating *li* as a complementizer requires us to postulate several *li*'s to explain those other uses (see also Rudnitskaya (2000) for additional evidence against the complementizer view). Not treating *li* as a complementizer allows us to maintain one question operator across different question strategies—with *li* and without, and this is the view I adopt.

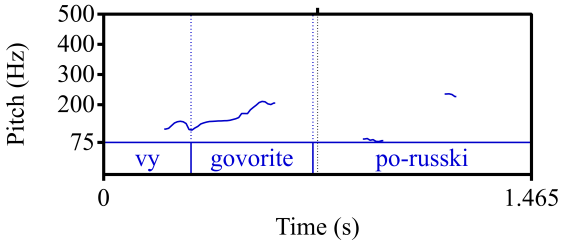
Another question strategy is based off declarative strings with a special intonation that differentiates them from assertions.[3] Declarative string assertions, as in (4), typically have a falling intonation throughout (see discussion and references in Jasinskaja 2014).[4]

(4) Vy khorosho govorite
you.NOM well speak.2PL.PRS
po-russki.
Russian
'You (formal) speak Russian well.'
(*It Was in May*; 1970)

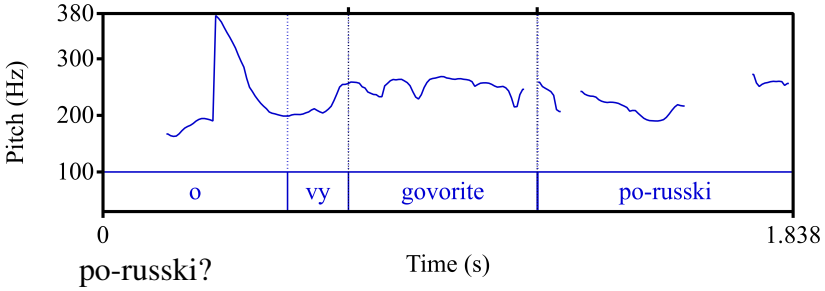


Declarative string questions in Russian have two distinct intonational patterns (Esipova 2022), illustrated by the near-minimal pair in (5) and (6). Neutral questions (5) are characterized by falling intonation and a sharp rise typically on the main predicate (see detailed discussion in Meyer and Mleinek 2006). The same string with a final rise, as in (6), is also a question, but not a neutral one. Dubbed explanation-seeking in Esipova and Romero (2023), such questions carry an evidential bias (see Section 3.2) and are infelicitous out of the blue.

(5) *Neutral context: Gérard Simon is interviewing a prospective secretary Marie, asking her whether she understands her duties. He says:*
Vy govorite po-russki?
you.NOM speak.2PL.PRS Russian
'Do you (formal) speak Russian?'
(*Teheran 43*; 1981)



(6) *Non-neutral context: Mary Stuart hears an Arab sheikh to be using Russian swearwords. She says:*
O, vy govorite po-russki?
oh you.NOM speak.2PL.PRS Russian
'Oh, you (formal) speak Russian?'
(*Weather Is Good on Deribasovskaya, It Rains Again on Brighton Beach*; 1992)



[3]The default word order is SVO, with other options possible based on information structure (Jasinskaja 2014).
[4]Unless indicated otherwise, sound files were extracted from the multimedia corpus within the Russian National Corpus, with the film's name and year in parentheses. Pitch contours and text annotations were generated in Praat.

Importantly, there is a mapping between intonation and meaning. The final rise contour, as in (6), will be inappropriate in the unbiased-inquiry context of (5). And the contour with the sharp rise on the predicate, as in (5), will be infelicitous in the explanation-seeking context of (6).

One final fact to conclude this discussion with. *Li* is obligatory in embedded polar interrogatives (Schwabe 2004) regardless of the embedding environment (7a).[5] Declarative string questions, on the other hand, are limited to matrix clauses (7b) ('ask' allows a quotation interpretation), as is common—if not universal—for question strategies that are formed exclusively by intonation.

(7) a. Masha sprashivaet / somnevaetsja, [embedded *li*-Q]
masha.NOM ask.3SG.PRS / doubt.3SG.PRS

govorite **li** vy po-russki.
speak.2PL.PRS **LI** you.NOM Russian
'Masha asks / doubts whether you (formal) speak Russian'.

b. *Masha sprashivaet / somnevaetsia, [*embedded declarative string Q]
masha.NOM ask.3SG.PRS / doubt.3SG.PRS

vy govorite po-russki.
you.NOM speak.2PL.PRS Russian
Intended: 'Masha asks / doubts whether you (formal) speak Russian'.

3. *Razve*-questions: core data

Unlike *li*-questions (2) or declarative string questions with a sharp rise (5), *razve*-questions are not neutral and are inappropriate, even rude, in scenarios intended as unbiased inquiries (8).

(8) *Question during a job interview:*
#**Razve** vy govorite po-russki? [well-formed on its own]
RAZVE you.NOM speak.2PL.PRS Russian
'Do you (formal) speak Russian? (I thought you didn't).'

3.1. Distribution

Razve is a left periphery particle typically occupying a clause-initial position (1b, 8), though sometimes material scrambles to its left (1a).[6] *Razve* is incompatible with *wh*-questions (9a), which are formed by the obligatory *wh*-fronting, but licenses non-fronted *wh*-pronouns interpreted as indefinites (9b) (cf. Tretyakova 2009: 52).

(9) a. ***Razve** gde ty byla? [**razve* + *wh*-Q]
RAZVE where you.NOM be.F.SG.PST

b. **Razve** ty gde byla? [*razve* + *wh*-indefinite]
RAZVE you.NOM where be.F.SG.PST
'Have you been anywhere? (I thought you hadn't).'

[5] *Li* can be absent in embedded alternative questions with the disjunction *ili* (> *i* 'and' + *li*), supporting a separate treatment of alternative questions as a class (Biezma and Rawlins 2012). I thank Masha Esipova for the pointer.
[6] *Razve* can be used on its own, without a full clause, as a reaction to a previous assertion (so it is a likely case of ellipsis). With negation, it is also used after declarative hosts as a reverse-polarity tag, e.g., *Razve net?* 'Is this not so?' (RAZVE be.PRS.NEG). I leave those uses aside and concentrate on stand-alone *razve*-clauses in this paper.

Razve is also incompatible with *li*-questions (10) as well as with alternative questions. Importantly, embedded *razve* is always bad, regardless of the semantic subtleties of the embedding environment. Since *li* is obligatory in embedded polar non-alternative interrogatives, the ungrammaticality of (10b) can be also driven by the incompatibility with *li*.

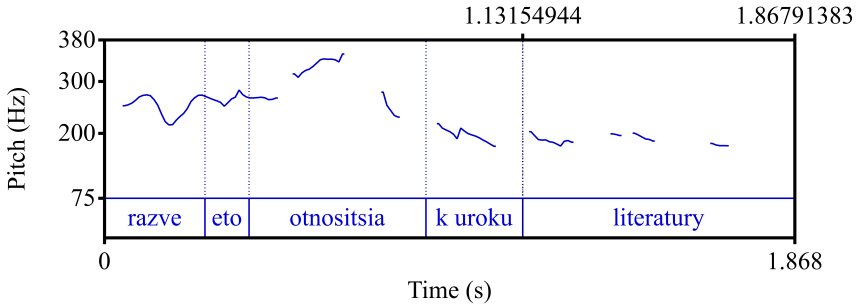
(10) a. **Razve** (***li**) vy (***li**) govorite po-russki? [**razve* + *li*-Q]
RAZVE LI you.NOM LI speak.2PL.PRS Russian
= (8) 'Do you (formal) speak Russian? (I thought you didn't).'

b. *Masha sprashivaet / somnevaetsia [*embedded *razve*]
Masha ask.3SG.PRS / doubt.3SG.PRS
/ ne znaet, **razve** vy govorite po-russki.
/ NEG know.3SG.PRS RAZVE you.NOM speak.2PL.PRS Russian
Intended: 'Masha asks / doubts / doesn't know if you (formal) speak Russian.'

	Polar Qs		Wh-Qs	
	root	embed	root	embed
li-Qs	✓	✓	*	*
decl-Qs	✓	*	N/A	N/A
razve	✓	*	*	*

The distribution of *razve*-clauses mirrors that of declarative string questions. But we have yet to show that *razve*-clauses are in fact interrogatives. There are two pieces of evidence in support of this: licensing of indefinite pronouns, and intonation. First, *razve*-clauses license *nibud'*-indefinites (1b) and *wh*-indefinites (9b). Those pronouns are banned in unmodified matrix declaratives and require the presence of certain operators, such as the question operator, some modals and quantifiers (Tretyakova 2009; Yanovich 2005). This shows that *razve*-clauses can be interpreted as questions, but not that they have to. The second, and conclusive, piece of evidence comes from intonation. *Razve*-clauses have the same intonation as neutral declarative string questions. (11) is a clear example of the pattern, with the sharp rise on the main predicate *otnositsia* and falling intonation elsewhere. Sometimes we can see focus on other constituents (cf. 12) or the final rise if the sentence actually ends with the predicate. Crucially, as discussed in Section 2, declarative string assertions have a different prosody.

(11) *Context: Tania, a highschool student, is instructed by the teacher to pay more attention to another student's presentation. She says:*
Razve eto otnositsia k uroku literatury?
RAZVE this.N.NOM.SG belong.3SG.PRS to lesson.DAT.SG literature.GEN.SG
'Does it have to do with the literature class? (I thought it didn't.)'
(*Wild Dog Dingo*; 1962)



To sum up, *razve* only occurs in matrix polar interrogatives, thus fitting well into the cross-linguistic picture. Expressions of bias normally do not occur in alternative questions, *wh*-

questions, or embedded questions (this latter fact sometimes attributed to the syntactic height of bias; Dayal 2021). Borrowing Bhatt and Dayal's (2020) idea on Hindi/Urdu *kya* (argued to be incorrect for the Hindi/Urdu data; Biezma et al. 2022), I propose in Section 4.3 that *razve* places a singleton constraint on its complement, which makes it semantically incompatible with all but matrix polar questions.

3.2. *Razve* and current typology of question bias

Canonical information-seeking questions are naive inquiries for information, with the speaker genuinely agnostic about the answer and expecting the addressee to be able to provide it. Non-canonical questions comprise a large class of interrogative strategies that diverge from this standard in various ways. In particular, question bias is typically understood as the speaker's attitude towards the truth or likelihood of the content proposition (Goodhue; Romero, 2022; 2020, a.o.). It is clear that *razve*-questions are not neutral and can be treated as conveying some type of bias. Thus, Shvedova et al. (1980: 388) attribute to *razve* a sense of incredulity or confusion. In this section, I show why *razve* does not quite fit into the existing typology, focusing on its information-seeking uses (its point-making uses are discussed in Section 4.2).

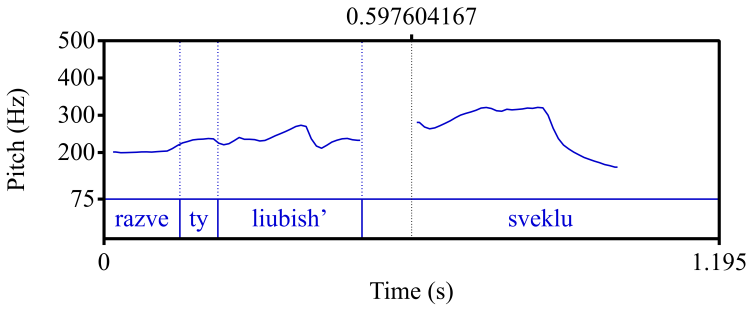
Question bias is commonly parameterized as follows (see especially Domaneschi et al. 2017):

— **Epistemic bias**: speaker's belief about p prior to conversation (Romero and Han 2004).
— **Contextual bias:** mutual evidence about p during conversation (Büring and Gunlogson 2000; Sudo 2013; this literature does not discuss evidence type, see Section 3.3).
— **Polarity:** positive (belief/evidence for p), negative (belief/evidence for $\neg p$), neutral.

At first blush, *razve* seems to squarely fit into the above taxonomy, as it only occurs in scenarios with (i) negative epistemic bias, i.e., prior belief that $\neg p$; and (ii) positive contextual bias, i.e., mutual evidence that p (cf. Baranov 1986; Bulygina and Shmelev 1987; Comrie 1984). Importantly, *razve*-questions have the intonation of neutral declarative string questions, such as (5). Unlike the contour of explanation-seeking questions (6), this contour is not on its own associated with any type of bias. The intonational pairing between *razve* and the 'neutral' contour demonstrates that the bias requirements of *razve*-questions come from the presence of *razve* itself.[7]

(12) is the target sentence, with the prosody of a neutral question: falling intonation and a sharp rise on the direct object.[8]

(12) **Razve** ty
RAZVE you.NOM
liubish' sveklu?
love.2SG.PRS beet.ACC.SG
'Do you like beets? (I thought you didn't.)'



[7]These data corroborate the findings in Repp and Geist (forth.) though I would like to make a methodological remark here. Repp and Geist do not look at intonation, and focus on negative questions, with and without *razve*. This may introduce additional confounds, and I maintain that it is more helpful to start with *razve* on its own.
[8]The sentence has been recorded by an adult native speaker living in Russia and analyzed in Praat.

(13)-(15) present scenarios that manipulate different parameters of bias.

(13) **Neutral epistemic:** I meet you for the first time, we go out for lunch.
   a. **Neutral contextual:** I order for both us and check with you beforehand.
   b. **Positive contextual:** You order beetroot hummus.
   c. **Negative contextual:** You avoid all beet mezzes.

(14) **Positive epistemic:** Based on what I know about you, I was sure you like beets.
   a. **Neutral contextual:** I invite you over and double-check before cooking.
   b. **Positive contextual:** We go out for lunch and you order beetroot hummus.
   c. **Negative contextual:** We go out for lunch and you avoid all beet mezzes.

(15) **Negative epistemic:** Based on what I know about you, I was sure you hate beets.
   a. **Neutral contextual:** I invite you over and double-check before cooking.
   b. **Positive contextual:** We go out for lunch and you order beetroot hummus.
   c. **Negative contextual:** We go out for lunch and you avoid all beet mezzes.

	Cont: neut	Cont: p	Cont: $\neg p$
Epi: neut	# (13a)	# (13b)	# (13c)
Epi: p	# (13a)	# (13b)	# (13c)
Epi: $\neg p$	# (15a)	✓**(15b)**	# (15c)

Of the scenarios above, the *razve*-question in (12) is only licensed in (15b): (i) a pre-existing belief that the addressee does not like beets in the face of (ii) contextual evidence to the contrary. These data suggest a family resemblance between *razve* and other markers of negative epistemic bias, such as English *really* (Romero and Han 2004), Italian *mica* (Frana and Rawlins 2019) and German *etwa* (Xu 2017). To this end, Repp and Geist (forth.) analyze *razve* precisely as a Russian counterpart of *really*. I show that the resemblance is only superficial.

Expressions associated with bias are typically viewed as a means of conversation negotiation (see especially Goodhue 2022). They have been analyzed as (i) operators updating discourse commitments of the interlocutors (Gunlogson 2003; Malamud and Stephenson 2015; Xu 2017), or as (ii) operators that allow the speaker to mediate, and possibly manipulate, the common ground (Repp 2013; Romero and Han 2004; Silk 2019). Expressions of negative epistemic bias have been argued to signal a conversational crisis and, under many analyses, to express the speaker's denial to accept some information or actions. By Repp and Geist's lights, this should be the sole function of *razve*-questions as well—to indicate that the content proposition is not part of the common ground in all worlds compatible with the speaker's conversational goals. I argue against this view.

First, *razve* signals not a conversational crisis but the speaker's private crisis, a tension between their prior beliefs and current conflicting evidence. Unlike *really*, *razve* is natural in (16)–(17). It does not express doubt, but conveys the speaker's willingness to reconsider their prior belief.

(16) *Context: My spouse brought strawberries from the market.*
   Razve v avguste eshche est' klubnika?
   RAZVE in august.SG.PREP still be.PRS strawberry.NOM.SG
   'Do they still have strawberries in August? (I thought they didn't).'
   ≉ 'Do they really have strawberries in August?'

(17) *Context: I overhear a friend thanking the waiter in Turkish at a coffee shop.*

Razve ty govorish po-turetski?
RAZVE you.NOM speak.2SG.PRS Turkish
'Do you speak Turkish? (I thought you didn't.)'
≉ 'Do you really speak Turkish?'

Second, *razve* may void the speaker's commitment entirely, as follow-ups in (18) show:

(18) *Context: I see infrared pictures of wolves on the slopes of a nearby mountain.*

Razve v Al'pax est' volki?
RAZVE in Alps.PREP.PL be.PRS wolf.NOM.PL
'Are there wolves in the Alps? (I thought there weren't.)'

a. Mne ✓kazalos' / ??kazhetsja, chto net.
I.DAT seem.N.SG.PST seem.PRS COMP be.PRS.NEG
'It seemed to me / (??) seems to me there aren't.'

b. Ja ✓nadeius' / ✓dumala / ??dumaiu, chto net.
I.NOM hope.1SG.PRS think.F.SG.PST think.1SG.PRS COMP be.PRS.NEG
'I hope / thought / (??) think there aren't.'

c. ✓Ja somnevaius'.
I.NOM doubt.1SG.PRS
'I doubt it.'

Epistemic bias is typically analyzed as a belief acquired prior to, and held during, the conversation. The speaker is predicted to be committed to p or $\neg p$ at least weakly (cf. Malamud and Stephenson 2015). The data on *razve* in (18) paint a different picture, as the speaker may have no current belief. As I argue in Section 4, with information-seeking uses of *razve* belief revision is in progress, which is why the present-tense 'seem' (18a) and 'think' (18b) are degraded compared to the perfectly acceptable past-tense variants. Follow-ups with 'hope' (18b) and 'doubt' (18c) are also telling, as they signal that the agent's doxastic state is undecided.

To recapitulate, *razve* may look at first like a vanilla marker of negative epistemic bias that also carries positive evidential bias. Intonation data prove that the bias component comes from *razve*, as *razve*-questions have a neutral contour that is not associated with bias on its own. A closer look reveals that taking an off-the-shelf analysis makes wrong predictions (pace Repp and Geist forth.). *Razve*, unless used to make a point, signals the speaker's perplexity and as such does not require the speaker to be committed to their prior belief. This is in contrast with its putative cousin *really* that signals disagreement rooted in strong conviction. I argue that *razve* represents a novel type of bias and current approaches, often designed for *really*, are not fine-grained enough to capture it. Crucially, my claim goes beyond two specific particles. My goal is to expose the limitations of the widespread view wherein the phenomenon of question bias is understood almost exclusively as a means of carrying out a certain conversational agenda, such as the agenda of disbelief in case of negative epistemic bias.

3.3. Evidence, inference, abduction

In this section, I refine the notion of 'evidence' associated with *razve*-questions and show that they require the presence of an abductive inference, thus making a case for sensitivity to ab-

duction in a novel empirical domain. First, as is common for expressions of contextual bias (Büring and Gunlogson 2000; Sudo 2013), *razve* requires contextual evidence to be mutual:[9]

(19) *We're at a bar in New York where I thought indoor smoking was banned.*

✓**Context 1, mutual**: *Another guest lights a cigarette.*
#Context 2, non-mutual: *While you were at the counter, another guest lit a cigarette.*

Razve zdes' mozhno kurit'?
RAZVE here can.PRED smoke.INF
'Is it allowed to smoke here? (I thought it wasn't.)'

Mutual availability is not the only constraint on evidence placed by *razve*—strength and type of evidence also play a role, as is the case with evidential restrictions elsewhere in the grammar (Matthewson 2020). The evidence must be strong enough to have the potential to cause belief revision. If a piece of evidence is too weak, the speaker has no reason to change their pre-existing belief. And if it is too strong, there is no point in asking an information-seeking question (see Section 4.2 for another interpretation). (20) illustrates.

(20) *We're hiking above the tree line on what was supposed to be a fine day.*

#/??**Context 1, weak**: *Cumulus clouds start forming in the distance.*
✓**Context 2**: *My companion is donning raingear / says that they will put raingear on.*
#Context 3, too strong: *Large rain drops are falling with an increasing speed.*

Razve budet dozhd'?
RAZVE be.3SG.FUT rain.NOM.SG
'Will there be rain? (I thought there wouldn't be).'

Cumulus (puffy, cauliflower-shaped) clouds typically indicate a thunderstorm, but not rain as such, so a *razve*-question in Context 1 sounds odd. Context 3, on the other hand, entails the truth of the content proposition under normal circumstances. It is clear that there will be rain in a matter of minutes, so a question (with or without *razve*) cannot be sincere. Finally, Context 2 naturally supports a *razve*-question: putting raingear on suggests the possibility of rain (in the mind of my hiking partner, whose judgment I trust) but it can have other reasons, e.g., wind protection or warmth, so the question about rain is genuine.

Finally, *razve*-questions require public evidence that supports a mutual abductive inference. Abductive inference is also called an inference to the best explanation, and refers to reasoning from an observed effect to the most plausible explanation thereof (Douven 2021). If I see that everything is wet in the morning (effect) I'm entitled to make an abductive inference that it rained the night before (explanation, and, in this case, likely cause). A cause-to-effect inference that the ground will be wet tomorrow because it is raining tonight may be valid, but it is not abductive. (21)-(24) demonstrate that abduction plays a role in the licensing of *razve*.

(21) *Context: I am over at your house in the country and see a mouse. I ask:*

Razve u vas net kota?
RAZVE by you.PL.DAT be.PRS.NEG cat.GEN.SG
'Do you guys not have a cat? (I thought you would, like every village house.)'
Background assumption (likely mutual), effect-to-cause:
The absence of cats is a very plausible explanation for the presence of mice.

[9]This is in contrast with bona fide evidentials, which do not require shared evidence (Korotkova 2016).

(22) *Context: I am over at your house in the country and ask where your cat is. You tell me you don't have one. My next question is:*

#**Razve** u vas net myshei?
RAZVE by you.PL.DAT be.PRS.NEG mouse.GEN.PL
'Do you guys not have mice? (I thought you would, like every village house.)'
Background assumption (unlikely mutual), effect-to-explanation:
The absence of mice is a very plausible explanation for the absence of cats.

(23) *Context: You say that Masha got sick with Covid-19. Her test yesterday was negative.*

Razve u nee polozhitel'nyi test?
RAZVE by she.DAT positive.M.NOM.SG test.NOM.SG
'Does she have a positive test? (I thought she would be still negative.)'
Background assumption (likely mutual), effect-to-explanation:
Masha's having tested positive is a very plausible explanation for your assertion.

(24) *Context: Venice banned passengers of cruise ships from disembarking on weekdays. It's Monday and I see a huge ship stopping.*

#**Razve** segodnia snova budut tolpy liudei?
RAZVE today again be.3PL.FUT crowd.NOM.PL people:PL.GEN
'Will there will be crowds again today? (I thought there would be none.)'
Background assumption (likely mutual), cause-to-effect: Ships cause crowds.

Razve-questions are licensed in situations when a mutually available observation can be explained by a shared abductive inference that p, as in (21) where the speaker reasons from the presence of mice (effect) to the absence of cats (explanation). Abduction is not limited to causation (Kment 2014), and *razve* is licensed in a non-causal scenario in (23) where the speaker reasons from a statement that Masha is sick (effect) to Masha's having tested positive (explanation). A non-trivial, and likely non-shared, inference that the absence of cats is plausibly explained by the absence of mice does not support *razve* (22). Finally, non-abductive inferences, even when shared, do not provide necessary grounds for a *razve*-question (24).

Such restrictions have not been discussed before in the context of bias. However, they are only expected if question bias is to be understood as a modal notion, given that abduction plays a role in the semantics of various modal operators.

4. Proposal

To recapitulate, *razve*-questions differ from ordinary polar questions in that they conventionally encode two types of bias: speaker's prior belief that $\neg p$ and mutual evidence that p. I propose that *razve* is an operator that places a singleton constraint on its prejacent and makes two not-at-issue contributions responsible for the biases. I further argue that *razve*-questions signal that the speaker is in a situation with belief revision potential caused by the tension between those two biases. Lest they end up with inconsistent beliefs, the speaker cannot both hold on to their prior belief and accept new evidence to the contrary. Depending on how the speaker prefers to resolve this tension, *razve*-questions can receive (i) an information-seeking interpretation (the speaker willing to give up their prior belief), or (ii) a point-making interpretation (the speaker unwilling to accept new evidence). I argue that both interpretations can be captured by a unified semantics, the actual interpretation being determined by context.

4.1. Two inferences: epistemic bias, evidential bias

Both inferences are a type of not-at-issue entailment: they are hard-wired and they are not part of the at-issue content of a *razve*-question. To this end, consider the question in (25).

(25) **Razve** slonopotamy zhivut v lesu?
RAZVE heffalump.NOM.PL live.3PL.PRS in wood.SG.PREP
'Do heffalumps live in the woods? (I thought they didn't.)'

First, none of the sentences in (26) is a felicitous follow-up to (25). The speaker cannot void their own epistemic bias in a *razve*-question (26a) or the presence of mutual evidence (26b). This shows that those inferences are part of the semantic content and not, say, implicatures.

(26) Follow-ups to *Do heffalumps live in the woods*? (=25):
a. #Ja nikogda ob etom ne zadumyvalas'.
I.NOM never about this.N.SG.PREP NEG think.F.SG.PST
'I've never considered this issue.'
b. #U nas sovsem net prichin tak dumat'.
by we.GEN completely be.NEG.PRS reason.GEN.PL so think.INF
'We have no reasons whatsoever to think this way.'

Second, responses to a *razve*-question only target the content proposition, but not the speaker's prior belief or mutual evidence (27). In other words, neither of the biases can be directly replied to, a pattern that characterizes not-at-issue content in questions across the board.[10]

(27) Responses to *Do heffalumps live in the woods*? (=25):
a. Da. 'Yes'.
= 'They live in the woods.'
≠ 'You thought they didn't'.
≠ 'We have reasons to think so.'
b. Net. 'No'.
= 'They don't live in the woods.'
≠ 'You didn't think they didn't'.
≠ 'We have no reasons to think so.'

To sum up, both biases are conventionally encoded by *razve* and constitute a type of not-at-issue content, though of different sorts. The evidential bias has the signature behavior of presuppositions: it is a constraint on the input context (Tonhauser et al. 2013). Consider the contexts in (28). (25) is felicitous in Context 1, where the presence of evidence is part of mutual knowledge, and infelicitous in Context 2, where it isn't; see also (19).

(28) ✓*Context 1: In a forest, we come across the tracks resembling those of heffalumps.*
#*Context 2: In a magazine, I come across the claim that forest is a heffalump habitat.*
Razve slonopotamy zhivut v lesu? 'Do heffalumps live in the woods?' (=25)

The infelicity in Context 2 can be easily repaired by an accommodating addressee who may say something along the lines of *Net, a chto?* 'No, why?'. But a simple *yes/no* reply will be odd in a context where the availability of evidence is not established as part of the common ground.

The inference about the speaker's prior belief behaves differently. *Razve*-questions are perfectly felicitous even when the addressee knows nothing about the speaker's epistemic state with respect to the issue raised by the question. For example, the question in (20), *Razve budet dozhd'?* 'Will there be rain? (I thought there wouldn't be.)', is fine as a conversation starter between

[10]The answering pattern is the best diagnostic of not-at-issueness in this case, since other tests, e.g., projection, are not available given that *razve* is limited exclusively to matrix polar interrogatives.

strangers in a hallway, provided that the context establishes evidence for possible rain, e.g., one of the interlocutors is carrying an umbrella. Such data show that the speaker's bias inference contributes new information and therefore is not a presupposition (unless it as a presupposition that is always accommodated). I will analyze this inference as a type of parenthetical meaning—novel, by-the-way information the speaker conveys when asking a *razve*-question.

4.2. Belief revision and two interpretations: information-seeking, point-making

In the cases discussed so far, *razve*-questions receive an information-seeking interpretation such that the speaker is genuinely perplexed about the state of affairs with respect to p and expects the addressee to be in a better position to provide an answer. However, *razve*-questions also have another use that I will call 'point-making'. Those are cases when the speaker not only had a prior belief that $\neg p$, but wants to hold on to it and makes a point of it. (29) and (30) illustrate.

(29) *Context: To yet another young person in a war zone:*
Razve mozhno detej na vojnu posylatj.
RAZVE can.PRED child.ACC.PL to war.ACC.SG send.INF
≈ 'How can one even send kids to war?' (*Life and Fate*, Vasily Grossman)

(30) *Context: Amid pleas to somehow counteract the Red Terror during the Stalin years.*
a. **Razve** moi golos ostanovit rasstrely?
RAZVE my voice.NOM.SG stop.3SG.PRS shooting.ACC.PL
'Will my voice stop mass shootings?
b. Kto menia poslushaet.
who.NOM I.ACC listen.3SG.PRS
'Who will even listen to me.' (*Memoirs*, Nadezhda Mandelstam)

The context makes it clear that *razve* is not information-seeking in the examples above. In (29), the speaker believes that kids should not be sent to war. In (30a), the speaker is convinced that their voice will not stop mass shootings. In this respect, point-making uses are similar to rhetorical questions, which are often used to make a point and elicit a commitment from the addressee. The difference is that with rhetorical questions, either the answer is already known/obvious or the question is unanswerable (Biezma and Rawlins 2017; Farkas 2023; Rohde 2006). (30b) is a textbook rhetorical question, with the obvious answer *nobody*. *Razve*-questions, on the other hand, do not necessarily suggest, though they may, that the answer is in fact known and have an overall different discourse function.

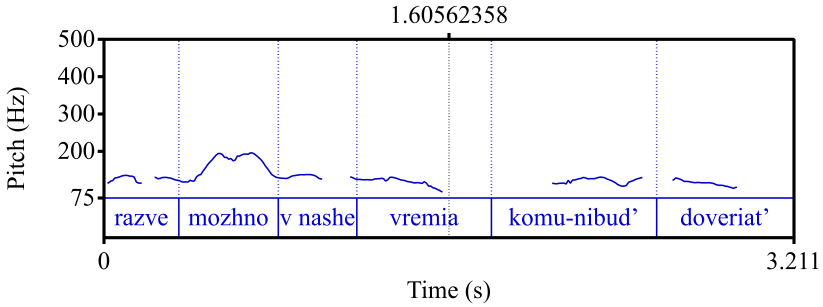
Just like information-seeking uses of *razve*-questions, point-making uses also require the presence of evidential bias that may support p. In (29), the presence of a young person at war may be taken to support the idea that it is okay to send kids to war. In (30), pleas to counteract the terror may be taken to support the idea that one's voice may stop mass shootings. However, evidence is inconclusive in each case and the function of a *razve*-question is to indicate that the speaker would like the addressee to get on board with what they themselves think the answer—and the world—should be.[11] If nothing else, it is a protest. Common with normative claims, such uses often appear in political discourse and other situations of taking a public stance. I am not aware of previous descriptions of such questions and will use the term 'point-making'.

[11] Not the same as quiz questions, in which the speaker (instructor/quiz master) checks the addressee's knowledge.

Importantly, point-making uses of *razve*-questions have the same general properties as the information-seeking uses. First, they, too, require the presence of the epistemic and evidential biases. Second, *razve*-questions have the same intonational contour across the board: that of neutral declarative-string questions, with a sharp rise typically on the main predicate (see Section 2). Information-seeking interpretations were discussed in Section 3.1, and (31) illustrates it for point-making questions.

(31) *Context (point-making, not information-seeking): Followed up by the speaker's assertion that nobody is to be trusted.*

Razve mozhno v nashe vremia komu-nibud' doveriat'?
RAZVE can.PRED in our.N.SG.ACC time.ACC.SG anyone.ACC trust.INF
'Can one trust anyone nowadays?' (*A Cruel Romance*; 1984)



The data above suggest that the two interpretations of *razve*-questions, information-seeking and point-making, do not differ semantically or syntactically, but arise pragmatically. Below, I argue that the interpretation in a given context depends on how the speaker chooses to resolve the belief revision problem created by the two biases.

Consider the following idealized maxims that govern belief change of rational agents (formulation adapted from Roberts 2019; see extensive discussion and references in Hansson 2022):

- CONSISTENCY: Do not have inconsistent beliefs.
- CONSERVATION: Do not revise existing beliefs.
- JUSTIFICATION: Do believe that for which you have good evidence.

Recall that *razve*-questions always carry two biases: (i) the speaker's prior belief that $\neg p$ and (ii) mutual observation supporting an abductive inference that p. Together, those inferences create an epistemic conflict. If evidence for p is good enough, then, by JUSTIFICATION, the speaker is pressed to believe p. But if the speaker comes to believe that p and keeps their prior belief that $\neg p$, they end up with an inconsistent epistemic state, thus violating CONSISTENCY. Assuming that rational agents strive to be consistent, the conflict can be resolved in at least two ways—depending on the strength of the speaker's conviction that $\neg p$.

If the speaker accepts new evidence as valid, they may be willing to give up their prior belief (JUSTIFICATION $\simeq$ CONSERVATION). Given that the evidence can't be too strong (Section 3.3), there is still room for doubt, so the speaker asks a question. This is the information-seeking interpretation of *razve*—roughly, "Belief revision in progress, help me decide on an answer".

If the speaker is unwilling to give up their prior belief, they may not accept new evidence as valid (CONSERVATION $>$ JUSTIFICATION). This is the point-making interpretation of *razve*—

roughly, "I won't revise my beliefs based on this, and neither should you". Without this explicit challenge, p might be accepted by the interlocutors, and the speaker is against this.[12]

There is yet another option: the speaker goes along with new evidence, accepts p and gives up $\neg p$ (JUSTIFICATION > CONSERVATION; cf. English *can't believe*, Roberts 2019). I propose that *razve*-questions do not give rise to this interpretation due to a pragmatic competition with another particle, *neuzheli* (discussed in Baranov 1986; Bulygina and Shmelev 1987; Repp and Geist forth.). While for reasons of space I cannot delve into details in this paper, the core idea is as follows. *Neuzheli* is a veridical marker of violated expectations—roughly, "Belief revision completed, I was wrong in my assumptions". And while nothing in my proposed semantics for *razve* excludes *razve*-clauses from having this very interpretation, the existence of a dedicated expression just with this meaning makes it unlikely that *razve* will be chosen to convey it.

4.3. Formal implementation

I will assume that interrogative clauses have a question operator in C and that ordinary polar questions denote singletons, as in (32) (adapted from Biezma and Rawlins 2012: 392).

(32) $[\![[_{\text{CP}}\ Q\ [p]]]\!]^c = \{\lambda w.p(w)\}$,
defined iff (i) $\{\lambda p.p(w)\} \subseteq$ ALTS(c) or ALTS(c) $= \emptyset$, and
(ii) $|\ \{\lambda p.p(w)\} \cup$ ALTS(c) $| > 1$.
(where ALTS(c) is a set of salient propositions that are possible answers to the QUD.)

One important thing about (32) is that the content proposition must be one of the salient alternatives—in other words, a question must address the QUD. Note that the treatment in (32) diverges from the standard Hamblin semantics wherein polar questions denote non-singletons; see discussion and references in Biezma and Rawlins (2012); Roelofsen and Farkas (2015).

Turning back to Russian, recall that one of the ways to form a neutral polar question is by using a dedicated intonational contour with a sharp rise on the main predicate (Section 2). For a declarative string to be interpreted as a question, this intonation is obligatory. To this end, I will assume a one-to-one mapping between form and meaning, and will treat this intonation as a Q-morpheme with the interpretation in (32). On this account, assertions have a different interpretation as they lack the question intonation.[13] (33b) is the derivation for the ordinary polar question in (33a).

(33) a. Ty derevo?
you.NOM tree.NOM.SG
'Are you a tree?'

b. $[\![$ (33a) $]\!]^c = [\![[_{\text{CP}}\ Q\ [$you are a tree$]\ ]]\!]^c = \{\lambda w.$you are a tree in $w\} = \{$you are a tree$\}$,
defined iff (i) $\{$you are a tree$\} \subseteq$ ALTS(c) or ALTS(c) $= \emptyset$, and
(ii) $|\ \{$you are a tree$\} \cup$ ALTS(c) $| > 1$.

I propose that *razve* is a left-periphery operator that selects for questions with singleton denotations and makes two non-at-issue contributions, one responsible for the speaker's epistemic bias

[12] This interpretation comes closer to the effect of conversational denial and is in line with Repp and Geist's (forth.) analysis of *razve*. However, they don't discuss such uses, and their analysis in fact makes wrong predictions for information-seeking uses (Section 3.2).

[13] I sidestep the unexplored issue of whether the intonational pattern in (5) can have a non-question interpretation.

and the other responsible for mutual evidence. This account aims at spelling out the semantics of the particle and at explaining its distribution. Let's start with the latter.

Distribution: *Razve* only occurs in matrix polar interrogatives formed from declarative strings with the neutral question intonation (Section 3.1). It does not co-occur with *li*, is not embeddable (regardless of the embedder) and is banned in *wh*-questions and alternative questions. I propose that all of those environments have in common that they denote non-singleton sets, and that the distribution of *razve* can be captured by the preliminary lexical entry in (34). In words, *razve* selects for questions, but only of a certain type:[14]

(34) ***Razve*, the first pass**:
$[\![\textit{razve } [_{\text{CP}}\ Q\ [p]]]\!]^c = [\![[_{\text{CP}}\ Q\ [p]]]\!]^c$, defined iff $|\ [\![[_{\text{CP}}\ Q\ [p]]]\!]^c\ | \leq 1$.

Let me unpack. It is standard to assume that (a) most, if not all, embedded polar questions and that (b) all *wh*-questions and alternative questions, matrix and embedded, have an anti-singleton constraint. (34) then takes care of this part of the distributional puzzle. What about *li*-questions? And what about those question embedders that take both declarative and interrogative complements (*doubt, don't know*), a selection problem that has been sometimes explained by invoking a singleton constraint? I propose, though I cannot argue for it in detail here, that *li*, as a focus particle, generates its own alternatives and therefore polar *li*-questions denote non-singletons, much like alternative questions. Furthermore, recall that *li* is obligatory in embedded polar questions (except for embedded alternative questions). If my hypothesis about *li* is on the right track, it means that all embedded polar questions in Russian denote non-singletons,[15] thus being incompatible with *razve*.

The idea of *razve*'s imposing a singleton constraint is inspired by Bhatt and Dayal's (2020) treatment of Hindi/Urdu *kya* (argued against in Biezma et al. 2022), though there is a major difference. Bhatt and Dayal (see also Dayal 2021) argue that *kya* is too high on the clausal spine to be embeddable under all but rogative predicates, in line with 'size' approaches to root phenomena (Aelbrecht et al. 2012). I propose instead that the non-embeddability of *razve* is semantic, while the benign syntax in (34) is not meant to exclude embedding wholesale.

Semantics: (35) spells out the semantics of *razve* and (37) is the derivation for (36).

(35) ***Razve*, the final version**:
$[\![\textit{razve } [_{\text{CP}}\ Q\ [p]]]\!]^c = [\![[_{\text{CP}}\ Q\ [p]]]\!]^c$,
defined iff (i) $|\ [\![[_{\text{CP}}\ Q\ [p]]]\!]^c\ | \leq 1$,
(ii) $[\exists q$ such that $[\ Pr(K_{(Sp+Ad,w,t)} \cup q) | p > Pr(K_{(Sp+Ad,w,t)} \cup q) | \neg p\ ]] \wedge$
$[\neg\exists r$ such that $[\ Pr(K_{(Sp+Ad,w,t)} \cup q)\ |\ r \geq Pr(K_{(Sp+Ad,w,t)} \cup q)\ |\ p\ ]]$,
felicitous iff (iii) $\exists t'.[\ t' < t \wedge DOX_{(Sp,w,t')} \subseteq \neg p\ ]$.
(where Pr is a probability measure, $K_{(Sp+Ad,w,t)}$ is a set of propositions jointly known to the speaker and the addressee at the time of utterance t, and $DOX_{(Sp,w,t')}$ is the set of worlds compatible with what the speaker believes in w at t'.)

[14] An alternative would be to treat *razve* and *li* as complementizers (which cannot co-occur), explaining *razve*'s incompatibility with *wh*-questions as a ban on the doubly-filled COMP. This solution is problematic for *li* alone (Section 2). It also requires multiple question operators, a problem avoided under the semantic account I propose.
[15] This is not inconsequential for how we think about question embedding more generally, but I will not explore those consequences here. They largely depend on a full semantic account of *li*, a matter I leave for future research.

In words, a question with *razve* is a question that denotes a singleton and conveys two epistemic inferences (Section 4.1). The presupposition in (35.ii) states that there is a salient observation q such that p is a good-fit explanation for q in light of our joint knowledge and there is no other equally good alternative explanation for q. This specific formalization of abduction is adopted from Krawczyk (2012), but nothing hinges on it (see Bjorndahl and Snider (2015); Cumming and Winans (2021) for other options). The inference in (35.iii) states that at some prior time the speaker had a belief that $\neg p$. In this paper, I abstract away from how to model this not-at-issue contribution more precisely and will treat it as a kind of felicity condition whose effect is to shrink the context set to those worlds where the speaker had this particular prior belief.

(36) *Context: Bear decides to be a tree and begins to wave his four paws. When asked by Squirrel what he's doing, he says he's swaying his branches. Squirrel asks:*

Ty **razve** derevo? (=1a)
you.NOM **RAZVE** tree.NOM.SG
'You are a tree? (I thought you weren't).'

(37) $[\![(36)]\!]^c = [\![\textit{razve} \; [_{\text{CP}} \; Q \; [\text{you are a tree}] \;]]\!]^c$
$= [\![\; [_{\text{CP}} \; Q \; [\text{you are a tree}] \;]]\!]^c = \{\lambda w.\text{you are a tree in } w\} = \{\text{you are a tree}\}$,
defined iff (i) $|\{\text{you are a tree}\}| \leq 1$,
(ii) $\{\text{you are a tree}\} \subseteq \text{ALTS(c)}$ or $\text{ALTS(c)} = \emptyset$,
(iii) $|\{\text{you are a tree}\} \cup \text{ALTS(c)}| > 1$,
(iv) $[\exists q[Pr(K \cup q)|p > Pr(K \cup q)|\neg p]] \wedge [\neg\exists r[\, Pr(K \cup q)|r \geq Pr(K \cup q)|p]]$,
($q =$ 'that Bear says that he is swaying his branches in w')
felicitous iff (v) $\exists t'.t' < t \wedge DOX_{(Sp,w,t')} \subseteq \neg p$.

(36), repeated from (1a), signals that (i) prior to conversation, Squirrel had a belief $\neg p =$ 'that Bear is not a tree' and that (ii) during conversation, there is a mutual observation supporting an abductive inference $p =$ 'that Bear is a tree'. This observation—Bear's saying that his paw-waving is in fact branch-swaying—is strong enough for Squirrel to possibly revise the initial belief but not too strong as to entail p. What (36) ultimately means is a matter of pragmatics.

As I have argued in Section 4.2, *razve*-questions can have an information-seeking or a point-making interpretation. The semantics in (35) does not distinguish between the two interpretations: this is the job of the context in which a *razve*-question is uttered. In (36) and the general context of the story it is taken from, the question asked by Squirrel is a genuine one. Being faced by the conflict between what she thought the world was like and what the world seems to be like, she asks a series of questions that aim at establishing what the world actually is like (=the ultimate QUD). Things could have been otherwise. The question in (36) could have had a point-making interpretation. For example, in a context where for some reason Bear's not being a tree were of public importance and where Squirrel were convinced that he is a not a tree, Squirrel's goal in uttering (36) would be to elicit the corresponding commitment from Bear.

Overall, my proposal predicts that the actual interpretation of any *razve*-question is determined by contextual factors such as the speaker's conviction and the importance of the issue, hence the speaker's desire to make a point. As far as semantics proper goes, there is no difference between information-seeking and point-making uses. There are, of course, differences at the level of conversational moves, but I will not attempt to articulate them in this paper (see, e.g., Farkas and Roelofsen (2017) for assumptions about the division of labor in similar cases).

5. Outlook

Previous work has characterized Russian *razve*-questions as non-neutral because they convey an attitude on part of the speaker. The main task this paper set out to accomplish was to refine the exact type of non-neutrality in a broader context of research on non-canonical questions.

I have argued that *razve* conveys a special type of bias associated with belief revision potential, a conflict driven by the incompatibility of (i) negative bias, the speaker's prior (but not necessarily current) belief that $\neg p$, and (ii) positive contextual bias, mutual evidence that p. Based on how this conflict can be resolved, *razve*-questions receive different interpretations. This is not accounted for by existing approaches, as they focus primarily on the conversational crisis signaled by expressions of negative bias and therefore do not pay attention to the speaker's private epistemic crisis. By examining the evidential requirements of *razve*, I have also made a case for sensitivity to abduction in a novel empirical domain. To the best of my knowledge, this is the first explicit connection between question bias and research on evidence in language.[16]

One of the overarching goals of this paper was to show how one particle can broaden our understanding of the phenomenon of question bias. Needless to say, many questions about the typology of bias remain open, and I hope that they will be addressed in future work.

— To what extent can the singleton denotation explain the limited distribution of markers of bias across languages? Does it matter that they do not all have the same distribution and that some, unlike *razve*, can also appear in assertions (e.g., English *really*, Italian *mica*)?

— To what extent does the system of question particles influence the interpretation of each of them, in Russian or other languages? I briefly touched upon *razve*'s pragmatic competition with *neuzheli* (Section 4.2), and it is likely that there is more to the story.

— To what extent is the behavior of *razve* unique? Are there other expressions that signal belief revision potential and have more than one interpretation as a result? One tentative cousin is Bulgarian *nima* (Tisheva 2001), whose behavior resembles that of *razve*.

— To what extent does abductive inference play a role in contextual bias across languages?

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