

Manuscript title:
Mirative and reflective Wh+li in South Slavic: microvariation in non-standard content questions

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1 Introduction

This paper presents a South Slavic construction, descriptively labelled *WH+li*, which combines the morphological elements of standard polar questions (the focus/question particle *li*) and standard content questions (*WH*); the resulting string is neither a canonical polar question, nor a canonical *WH*-question, nor does it squarely fit with any of the well-known types of non-canonical questions, such as biased, tag, or rhetorical questions. The meaning falls into different semantic profiles, which I identify as a *MIRATIVE* in the sense of DeLancey (1997) (roughly, expressing surprise) and a *REFLECTIVE* reading in the sense of Giannakidou & Mari (2019) (roughly, expressing ‘I wonder...’), as defined in §2.

The languages surveyed are Bosnian, Croatian, Serbian, Bulgarian, and Macedonian.¹ Bulgarian, Serbian, and Bosnian have only the reflective reading, and the rest of the languages allow both readings. The data representing the two phenomena are mainly from Croatian and Bulgarian.

Capitalizing on the standard treatment of (South Slavic) *li* as a focus particle and following a line of work according to which the syntactic roles of the speaker and addressee are represented in the syntax, in §3 I develop a focus-based syntax-semantics account for each reading: the mirative reading is achieved when *li* is interpreted in a syntactic layer expressing the speaker’s emotional attitude, and in the reflective one *li* is interpreted in a layer expressing the expectations of the speaker towards the addressee. In §4 I explore the implications of the findings for the broader cross-linguistic landscape beyond Slavic.

2 The phenomenon

In a number of South Slavic languages, standard (information seeking) polar questions are formed with the particle *li*, example (1), and standard content questions are formed with a *Wh*-phrase and without *li*, (2):

- (1) Standard polar question: ‘Is it raining?’
- a. Pada **li** kiša? (Bosnian, Croatian)
fall.3SG li rain

¹The data were obtained from consultations with individual native speakers of the respective languages. Interspeaker or dialectal variation is outside the scope of this paper.

- 1 b. {Je-I / Da li} pada kiša? (Serbian)
is-li da li fall.3SG rain
- 2 c. Vali li? (Bulgarian)
rain.3SG li
- 3
- 4 d. **Dali** vrne? (Macedonian)
da+li rain
- 5 (2) Standard WH-question: ‘What did Ivan buy?’
- 6 a. Što/Šta je Ivan kupio?
what is Ivan buy.PP
7 ‘What did Ivan buy?’ (Croatian, Bosnian, Serbian)
- 8 b. Što kupil Ivan?
what buy.PP Ivan
9 ‘What did Ivan buy?’ (Macedonian)
- 10 c. Kakvo e kupil Ivan?
what is buy.PP Ivan
11 ‘What did Ivan buy?’ (Bulgarian)

12 The phenomenon of interest in this paper is that in South Slavic, *li* can optionally be
13 used in a WH-question, resulting in a non-canonical meaning.²

- 14 (4) Non-standard, WH+*li* questions:
- 15 a. Što/Šta li je Ivan kupio? (Croatian, Bosnian, Serbian)
what li is Ivan buy.PP
- 16 b. Što li kupil Ivan? (Macedonian)
what li buy.PP Ivan
- 17 c. Kakvo li e kupil Ivan? (Bulgarian)
what li is buy.PP Ivan
18 ‘What+*li* did Ivan buy?’

19 The construction WH+*li* has been mentioned in the syntax literature, e.g. Bošković
20 (2001); Rudin (1993, 1997); Franks (2006), but there is no detailed description of the
21 meaning of the construction or its use in context – within a language or in cross-
22 linguistic comparison. This paper investigates the semantic microvariation of the con-

²This seems to be a Balkanism – other Slavic languages, such as Russian, Belarussian, Ukrainian, Polish, Czech, do not allow WH+*li*, cf. the data set below from Russian:

- (3) a. Kupila li Maša knigu?
bought li Maša book.ACC
‘Did Masha buy a book?’
- b. **Kakuju** knigu mne podariš’?
which book me.DAT give.2SG
‘Which book will you give me?’
- c. ***Kakuju li** knigu mne podariš’?
which+li book me.DAT give.2SG
n/a (Russian)

struction, identifying two types of meaning with different properties (the rest of this section), provides an interface account for it (§3), and concludes by discussing the broader theoretical significance of the findings for similar phenomena beyond Slavic (§4).

2.1 Mirative Wh+li

What I call mirative WH+li is the reading most often mentioned in the syntax literature on BSC (Bosnian-Serbian-Croatian): Bošković (2001) calls it ‘emphatic questions’ and translates it roughly with ‘on Earth’ (p. 26) (also in Franks, 2006); Bošković (2002): fn. [10] mentions that WH+li are ‘not a “neutral” question semantically’), but there is no dedicated discussion of the meaning. Here we delve deeper into the use of this construction.

(5) Što li je Ivan kupio?
 what li AUX.3SG Ivan bought
 ‘What+li did Ivan buy?!?’ (Croatian)

One important property of this reading that it expresses a counterexpectation to the question’s presupposition: the sentence in (5) is used when the speaker had expected Ivan to not buy anything. This is confirmed by the infelicity of the next example – a use that already demonstrates a difference with standard questions, which would be felicitous in this context.

(6) I expected Ivan to buy something. #(5)

The second component of mirative WH+li is evaluative: it conveys a strong emotion, which can be positive or negative. Sentence (5) can be uttered in either context below.

(7) Negative context:

I had told Ivan to not buy anything for a while because we’re saving money. Then our friend tells me that she saw him at the mall carrying large shopping bags.

(8) Positive context:

Ivan was tasked with buying a joint gift for a friend’s birthday, but he is forgetful and unreliable. To my relief, he arrives bringing something wrapped.

The emotive component is further evidenced by the fact that mirative WH+li can co-occur with the lexical expression ‘the hell’ resulting in a semantic concord reading in the generalized sense of Geurts & Huitink (2006); Huitink (2012); van Wijnbergen-

1 Huitink (2020):³ the two elements contribute roughly the same meaning, or at least
 2 similar enough that they emphasize each other (rather than, say, scope over each other),
 3 and removing one of them does not change the meaning of the utterance significantly
 4 (recall that Bošković (2001) translates the WH+*li* construction in BSC as ‘on Earth’).⁴

5 (9) Što li e dovruga Ivan kupio?
 what li is hell Ivan bought
 6 ‘What the hell did Ivan buy?!’ (Croatian)

7 I call this reading of WH+*li* mirative because surprise (counterexpectation) and evalu-
 8 ativity are the two hallmark properties of mirative expressions crosslinguistically (De-
 9 Lancey, 1997; Aikhenvald, 2012).⁵

10 For example, the following mirative examples from Turkish express surprise and
 11 are associated with either positive or negative attitude.

12 (10) a. Kız-ı-mz çok iyi piyano çal-lyor-**muş**
 daughter-2PL.POSS. very good piano play-PRES-**mİş**
 13 ‘Your daughter plays [-mİş] the piano very well’ (compliment)
 14 b. Her gün koş-uyor-**muş**
 every day run-PRES-**mİş**
 15 ‘He jogs every day!?’ (of an exercise hater)
 16 (Turkish), Aksu-Koç & Slobin (1986): (9), (7)

17 Unlike canonical information seeking questions, mirative WH+*li* are felicitous without
 18 an addressee, e.g. (8) can be uttered to oneself. They do not require an answer either.
 19 They can be answered, but since they serve to *express* the counterexpectation, this is
 20 what is most naturally targeted by the addressee:

21 (11) Person A: Što li je Ivan kupio?
 22 Person B: Why are you surprised? He has a shopping addiction...

23 Finally, WH+*li* cannot be used as an echo question:

24 (12) A Ivan bought 300EUR shoes
 25 B’ [OK] ŠTA je Ivan kupio?
 26 B’’ #ŠTA li je Ivan kupio?

³While the above cited works are on ‘modal concord’, i.e. the co-occurrence of a modal verb and a modal adverb (e.g. ‘you may possibly have read...’ or ‘all employees must necessarily...’), called also ‘modal spread’ in Giannakidou & Mari (2008), or a modal attitude verb and a modal in the embedded clause (called also ‘harmonic’ by Lyons, 1977, see recently Kratzer, 2016), concord phenomena more broadly can occur also between other elements, such as evidentials, cf. Schenner (2010).

⁴That the meaning is roughly the same as a general property of concord is not trivial and remains to be seriously explored across constructions, see discussion and alternative views by Huitink (2012), Anand & Brasoveanu (2010), and Giannakidou & Mari (2008).

⁵‘Mirativity’ is a somewhat controversial term, as there is an older term, ‘admirativity’ – see an overview of the two terms in Friedman (2012). Since ‘mirativity’ is the one widely used in formal linguistics, I stick with it here for convenience, without committing to either side of that discussion.

1 To summarize, the properties of the mirative reading of the *WH+li* construction
 2 presented here show that this construction is neither a canonical information seeking
 3 question, nor one of the typical non-canonical questions, such as biased, rhetorical, or
 4 echo questions.

5 The mirative reading of the *WH+li* construction is attested in Croatian and Macedo-
 6 nian, but not in Bosnian, Serbian, and Bulgarian, whose meaning is explored next.

7 2.2 Reflective *Wh+li*

8 Reflective questions are a special type of non-canonical questions that do “not require
 9 an actual or full answer, and might not even require an addressee” (Giannakidou &
 10 Mari, 2019: 7). They are found with a number of constructions cross-linguistically (see
 11 Giannakidou & Mari, 2019), perhaps most intuitively illustrated with weak epistemic
 12 modals:

13 (13) With the owners and the players on opposite sides philosophically and econom-
 14 ically, **what might** they talk about at the next bargaining session?

15 Hacquard & Wellwood (2012): (12)

16 For *li*, this reading has been noted by Rudin (1997) in a survey of the many uses of
 17 *li* in Bulgarian. She cites Bulgarian scholars who describe the reading as ‘wondering’ or
 18 ‘unanswerable’, expressing ignorance.

19 Of course, canonical information seeking questions also entail the speaker’s igno-
 20 rance (Whitcomb, 2017), so this alone cannot be the defining feature of this construc-
 21 tion.

22 The next arguments clarify the meaning of reflective *WH+li* questions by discussing
 23 the contextual restrictions on the addressee and what elements *WH+li* can semantically
 24 concord with.

25 2.2.1 Epistemic restrictions on the addressee

26 The central difference between canonical questions and reflective *WH+li* questions is
 27 not the ignorance of the speaker, but that of the addressee: in uttering a canonical
 28 question, the speaker expects the addressee to know the answer (Haziza, 2023) – or at
 29 least does not know the addressee to not know the answer, – while with a reflective
 30 *WH+li* question, the speaker does not expect the addressee to have an answer. This is
 31 evidenced by the following example, where a fair election is assumed and therefore a
 32 canonical information seeking question reading is ruled out. Because a *WH*-question

1 without *li* is the canonical question form in Bulgarian, it is infelicitous in this context.⁶
 2 The utterance is only felicitous with *li* in this context, precisely because WH+*li* questions
 3 are not information seeking.⁷

4 (15) Context: A fair election was held between two parties with very close num-
 5 bers of supporters. The voting has just closed, it is impossible to know at this
 6 moment who will win.

7 Koj #(li) shte specheli izborite?
 who li will win elections.DEF
 8 'Who will win the elections, #(I wonder)?' (Bulgarian)

9 Conversely, in a context that forces a canonical information seeking question inter-
 10 pretation, i.e. where it is most naturally expected that the addressee has the information
 11 to answer the question, WH+*li* is infelicitous.

12 (16) #A ti kude (*li) si uchil?
 and you where li AUX.2SG study.PP
 13 'And where did you study?' (e.g. which high-school) (Bulgarian)

14 Reflective questions do not even require an addressee, for example (15) is felicitous as
 15 a self-addressed question.

16 Further support comes from the use of 'actually', which challenges conversational
 17 expectations (Francis, 2021). Applied to the present topic, in a canonical information
 18 seeking question, (17), 'actually' used by the addressee cancels the expectation that she
 19 knows the answer and can't be used to confirm it; crucially, the judgements are reversed
 20 with reflective WH+*li*, (18).

21 (17) *Actually* with a canonical, information-seeking question:

22 Kakvo zakusva vchera?
 what eat.for.breakfast.PST.2SG yesterday
 23 'What did you have for breakfast yesterday?' (Bulgarian)

24 (i) *Actually*, I have no idea.

25 (ii) #*Actually*, I know what.

26 (18) *Actually* with a reflective question, e.g. (15):

27 a. # *Actually*, I have no idea.

28 b. [OK] *Actually*, I know who.

⁶Excluding gods, fortune-tellers, etc. from the list of addressees.

⁷If no reply is needed, what can the addressee even reply with? A sympathetic addressee can confirm not having an answer, e.g. by using a rhetorical question:

(14) Koj znae...
 who knows
 'Who knows...' (Bulgarian)

1 To sum up, reflective $WH+li$ expresses the expectation of the speaker that there is no
2 conversational participant who can answer the question of interest.

3 Recall that mirative $WH+li$ is also felicitous if the addressee does not know the
4 answer (and without an addressee, i.e. when self-addressed). But the reasons are
5 different: the conversational goal of the mirative is to express the speaker's emotion
6 and counterexpectation and not to focus on the ignorance (of either the speaker or the
7 addressee). A reflective utterance such as (15), on the other hand, has precisely the
8 opposite properties. This is further supported below with arguments from semantic
9 concord.

10 2.2.2 Optional semantic concord with modals, not with 'the hell'

11 The next insight into the properties of reflective $WH+li$ comes from what they can en-
12 gage in optional semantic concord with: unlike mirative $WH+li$, which optionally con-
13 cords with overt 'the hell' (shown in (9)), reflective $WH+li$ semantically concurs with a
14 weak modal – recall that *might* gives rise to a prototypical reflective question as in (13)
15 – and not 'the hell', (20).

16 In (19) the modal and *li* used together emphasize the meaning (i.e. they have a
17 mostly quantitative effect), but there is no significant qualitative difference between the
18 three options – they are roughly interchangeable.

- 19 (19) a. Koj **li** go e izpratil?
who li may.3SG da it.ACC is sent.PP
≈ 'I wonder who have sent it'
- 20
- 21 b. Koj **može** da go e izpratil?
who li may.3SG da it.ACC is sent.PP
≈ 'Who could have sent it'
- 22
- 23 c. Koj **li može** da go e izpratil?
who li may.3SG da it.ACC is sent.PP
≈ 'I wonder who could have sent it' (Bulgarian)
- 24

25 These findings also demonstrate the intimate relationship between the reflective
26 $WH+li$ expression and weak epistemic modality, despite the fact that $WH+li$ bears no
27 morphological kinship to modality. I take this as a major clue into the nature of reflec-
28 tive expressions, which will be explored in the following sections.

29 In the case of *the hell*, on the other hand, the three sentences in (20) are not inter-
30 changeable: the sentence without *li* and just $WH+$ 'the hell' (20-a) is equivalent to its
31 English counterpart in (i) and cannot express a reflective meaning (cf. (ii)); the sentence
32 without 'the hell' and just $WH+li$ is also not ambiguous between a 'the hell' and reflec-

1 tive reading but only has the reflective reading. Insofar as the two can co-occur at all,⁸
 2 as in (20-c), they cannot engage in optional semantic concord because the two elements
 3 are not semantically equivalent (or even close). Rather, the only possible meaning is
 4 one of interaction, where the speaker is upset at their ignorance. Even this marginally
 5 possible reading is different from the one we get with mirative WH+*li* discussed in §2.1,
 6 since with miratives, the frustration is about the truth of the proposition presupposed
 7 by the question ('he bought a gift' in example (9)).

- 8 (20) a. Koj **po diavolite** go e izpratil?
 who on devils.DEF it.ACC is sent.PP
 9 (i) felicitous: 'Who the hell sent it?'
 10 (ii) not possible: 'Who could have sent it?'
- 11 b. Koj **li** go e izpratil?
 who li may.3SG da it.ACC is sent.PP
 12 (i) not possible: 'Who the hell sent it?'
 13 (ii) felicitous: 'Who could have sent it?'
- 14 c. ?Koj **li po diavolite** go e izpratil?
 who li on devils.DEF it.ACC is sent.PP
 15 (i) concord 1: not possible: 'Who the hell sent it?'
 16 (ii) concord 2: not possible: 'I wonder who could have sent it'
 17 (iii) interaction: marginally possible: ≈ 'I am upset that I don't know who
 18 (the hell) sent it.' (Bulgarian)

19 To sum up, the optional semantic concord data provide further evidence for the
 20 reflective nature of WH+*li*, as well as how it differs from mirative WH+*li*: because reflec-
 21 tive questions express ignorance, as opposed to discovery in the case of mirativity, they
 22 interact differently with external expressions of emotion such as 'the hell'.

23 3 Formal account

24 The previous section has shown that the same surface construction has two different
 25 readings; this section provides an interface account that captures the similarities and
 26 differences between them. The proposal is rooted in the idea that the relationships
 27 between the speaker and the addressee are syntactically expressed, in the tradition of
 28 Ross (1970); Speas & Tenny (2003) and many others. The central role of explaining
 29 the semantic variation is attributed here to the syntactic layer in which the particle *li*
 30 is interpreted. The semantic ingredients of the two meanings involve focus generated

⁸This meaning is not as productive as the one with modals, for example, there were only 13 Google hits for who+*li*+ 'the hell' and under 30 for what+*li*+ 'the hell', compared to 24,000 and 52,700 for who+*li*+ 'might' and what+*li*+ 'might', respectively. I am grateful to Roumyana Pancheva (p.c.) for bringing this to my attention and to a reviewer for discussion.

1 alternatives (from *li*), expectations (from the syntactic scope of *li*), and – on the mirative
 2 reading – an exclamative/emotive component. Each of these are discussed in turn
 3 below.

4 3.1 The syntax of speaker and addressee

5 The proposal is couched within the long and recently intensifying tradition of encod-
 6 ing the attitudes of discourse participants and their relationships in syntax, e.g. Ross
 7 (1970); Speas & Tenny (2003); Tenny & Speas (2004); Speas (2004); Zanuttini (2008);
 8 Krifka (2014); Wiltschko et al. (2015); Wiltschko & Heim (2016); Woods (2016); Zu (2018);
 9 Portner et al. (2019) to name but a few, see Wiltschko’s 2021 recent monograph for an
 10 overview. The shared conceptual core among all these works is that there is a syntac-
 11 tic layer of functional projections located above what is traditionally taken to be the
 12 CP, which hosts, among others, commitments, honorifics, expectations, authority, inten-
 13 tions, epistemic relations (such as what Speas & Tenny, 2003 call the ‘seat of knowl-
 14 edge’), and various discourse particles. The richness of these projections reflects the
 15 subtlety and diversity of how utterances are used in discourse, going beyond cate-
 16 gorical, canonical speech acts, although the speaker-addressee layer is assumed to be
 17 syntactically realized in every utterance (not just questions and not just non-standard
 18 questions). And, as shown in the previous section, both *WH+li* constructions are non-
 19 canonical – miratives blurring the long debated distinction between exclamatives and
 20 questions (Elliott, 1971; Zanuttini & Portner, 2003), and reflectives blurring the distinc-
 21 tion between questions and assertions (recall the descriptive reading ‘I wonder’ and the
 22 absolution of the addressee of any informative response).

23 For the implementation here I adopt Wiltschko & Heim’s 2016 structure, which in-
 24 cludes a Grounds phrase encoding the attitude of the speaker towards the scope propo-
 25 sition, another Grounds phrase encoding the attitude of the addressee (which is either
 26 contextually known or construed by the speaker), and a Response Phrase encoding the
 27 expectations of the speaker towards the next conversational move of the addressee. For
 28 example, in an assertion of *p*, the speaker assumes that the addressee does not know *p*
 29 (GroundsA) and that she will accept *p* as true (RespP), and in a canonical information
 30 seeking questions, GroundS conveys that the speaker does not know *p*, GroundA con-
 31 veys that the speaker expects the addressee to know *p*, and RespP expresses that the
 32 speaker expects that the addressee will provide the answer in the next conversational
 33 move.

34 (21) [RESP ANS_{adrs} [GROUND_A att-adrs [GROUND_S att-spkr || [CP ...]]]]

1 Here is how this framework applies to the two phenomena at hand in this paper: I
 2 propose that mirativity is realized in the GroundS projection expressing the speaker's
 3 counterexpectation and the resulting emotive attitude, while reflectivity is manifested
 4 in the GroundA projection expressing the speaker's expectation that the addressee does
 5 not know the answer. In both cases the RespP projection is neutral (assuming the de-
 6 fault response move to be non-confrontational, cf. [Farkas & Bruce, 2010](#), the addressee
 7 would be expected to endorse the speaker's feelings or their own ignorance, respec-
 8 tively), not requiring an informative response; this explains the shared properties be-
 9 tween the two constructions.

10 (22) $[\text{RESPP } \emptyset [\text{GROUND}_A [\text{GROUND}_S \text{MIR} \parallel [\text{CP } \dots]]]]$

11 (23) $[\text{RESPP } \emptyset [\text{GROUND}_A \text{REFL} [\text{GROUND}_S \parallel [\text{CP } \dots]]]]$

12 Furthermore, I introduce a refinement of [Wiltschko & Heim \(2016\)](#) with regards to
 13 the conversational status of the information encoded in each of these layers. First, the
 14 information encoded in the speaker-addressee constellation of layers is necessarily non-
 15 truth-conditional (not-at-issue, 'NAI'), represented here visually with the two vertical
 16 lines. Broadly, I assume that it is part of the sincerity conditions of the respective speech
 17 act in the sense of [Faller's 2002](#) richer representation of the structure of speech acts.

18 Note, however, that even NAI information can still be conversationally new (see
 19 [Murray, 2010](#) and [Potts, 2013](#) for discussion of such types of information). I propose
 20 that this is possible at the lower, GroundS layer, which encodes the speaker's attitude,
 21 e.g. the addressee is not assumed to be already aware of the speaker's emotional
 22 state. GroundA, on the other hand, is necessarily shared information, given that it
 23 is contestable as such (see again (17), (18)). With regards to RespP, I take it to be
 24 shared information by definition, since it is part of the general linguistic knowledge of
 25 natural language speakers what conversational moves are expected and acceptable to
 26 any given utterance, together with their consequences (e.g. for non-conforming to the
 27 default move to be recognized as such; see [Farkas & Bruce, 2010](#) for more discussion).

28 3.2 *Li* and alternatives

29 Above the syntactic locus of the two meanings was established, capturing properties
 30 they have in common (the lack of response expected from the addressee) as well as how
 31 they differ. Here the role of *li* in deriving the two readings is discussed. In a nutshell, I
 32 propose that *li*, a focus particle (§3.2.1), can also be interpreted in either of the two high
 33 positions presented above (§3.2.2), where it serves (together with intonation) discourse
 34 functions.

1 3.2.1 Low *li* and focus

2 Recall that *li* participates in canonical polar questions (albeit in slightly varying guises
3 in the various languages, cf. *dali, jel, li* in (1)) while canonical WH-questions do not
4 involve *li* in any of the languages that have it, (2). When used in polar questions, *li*
5 can give rise to either a broad focus question when attached to the verb (or verbal com-
6 plex), as seen in (1) and in (24-a) below, or narrow focus when attached to a (fronted)
7 subpropositional constituent, as exemplified in (24-b) from Rudin (1997).

- 8 (24) a. Ivan kupil li e kafe?
Ivan bought li aux coffee
9 'Did Ivan buy coffee?'
10 b. Ivan [_F KAFE li] e kupil?
Ivan coffee li aux bought
11 'Is it coffee that Ivan bought?' Bulgarian, Rudin (1997): (11)

12 In addition, *li* participates in a number of non-interrogative constructions, surveyed
13 by Rudin (1997), such as concessive free relatives and conditionals, emphatic verb pro-
14 longation (e.g. *piše li piše* 'writes for a very long time'), as well as morphologically com-
15 plex expressions standardly taken to relate to focus, such as disjunctions (*ili*), 'hardly'
16 (*edva li*), 'not even' (*kamo li*), 'as if' (*kato che li*). Due to this large range of functions,
17 together with the behavior of *li* specifically in polar questions giving rise to narrow
18 focus, (24-b), and the fact that *li* does not occur in canonical WH-questions, Rudin (1997)
19 concludes that *li* in Bulgarian is not an interrogative marker, but a focus particle, and
20 specifically a complementizer, see Rivero (1993); Rudin (1993); Izvorski (1995); Izvorski
21 et al. (1997); Rudin et al. (1999). This view is accepted for *li* in other South Slavic lan-
22 guages too, see King (1994, 1996); Cavar (1996); Rudin et al. (1999); Franks et al. (2000);
23 Bošković (2001, 2002); Franks (2006), a.m.o.

24 Based on this, I take *li*'s basic function to be to generate a set of alternatives from its
25 host as a focus operator in the sense of Rooth (1992). In the case of broad focus polar
26 question, (1), (24-a), and more broadly, when its target is propositional, the alternatives
27 are always polar, simply p and $\neg p$.⁹ In the case of narrow focus, as in (24-b), the
28 alternatives are all the contextually salient things that Ivan might have bought. Aimed
29 with the assumptions in §3.1 of a whole range of projections above CP, I call this 'low *li*',
30 as it operates within the propositional layer and the alternatives it generates are derived
31 from lexical material. Next, we turn to the interpretations of *li* above CP.

⁹Since the propositional interpretation of *li* is always polar, it does not suffer from the problem of expo-
nentially large alternative sets identified by Mascarenhas (2021).

1 3.2.2 Two high positions for *li*: mirativity and reflectivity

2 Armed with the understanding that *li*'s function is not specific to questions but more
 3 general as a focus operator that generates a set of alternatives, we can now turn to
 4 its role in WH+*li* questions. Recall that the presence or absence of *li* in WH questions
 5 determines their status as the special expressions described in this paper or canonical
 6 information seeking questions, respectively. Therefore, I take *li* to be an active contribu-
 7 tor to the meaning of the constructions at hand. However, in the case of WH+*li*, the role
 8 of *li* is not to generate alternatives from its phonological, surface host, the WH-word, as
 9 the WH-word itself also generates alternatives. I propose, instead, that *li* is interpreted
 10 higher than its syntactic position, i.e. it undergoes covert movement. Its landing po-
 11 sitions are speaker phrase GroundS and the addressee phrase GroundA discussed in
 12 §3.1, giving rise to mirative and reflective readings, respectively, as schematized below:

13 (25) $[\text{RESPP } \emptyset [\text{GROUND}_A [\text{GROUND}_S \text{ MIR } li \parallel [\text{CP } \text{What did I. buy }]]]]$

14 (26) $[\text{RESPP } \emptyset [\text{GROUND}_A \text{ REFL } li [\text{GROUND}_S \parallel [\text{CP } \text{What did I. buy }]]]]$

15 At those positions, high *li* has the same function as low *li*, it generates alternatives.
 16 The different meaning arises compositionally from the nature of the syntactic positions.
 17 Crucially, both positions encode the speaker's expectations. I propose that *li* is able to
 18 interact with them because of the very nature of expectations as a phenomenon involv-
 19 ing scalar alternatives, an idea conveyed by Zanuttini & Portner (2003) on exclamatives
 20 more broadly, and by Torres Bustamante (2012); Simeonova (2015) on mirativity specif-
 21 ically.

22 In mirative utterances, (25), high *li* is hosted in the GroundS layer and contributes
 23 emotional attitude by ranging over the speaker's expectations about the sentence's pre-
 24 supposition: for example, in (5) 'What+*li* did Ivan buy', the presupposition (arising at
 25 the CP level by the WH-phrase) is that Ivan bought something. In the *li*-less version
 26 of that utterance, a canonical WH-question ('What did I. buy?'), GroundS would triv-
 27 ially express that the presupposition is expected to be shared information among the
 28 conversational participants. *Li*-marked GroundS denotes that the presupposition is less
 29 expected than its alternative (that I. did not buy anything):

30 (27) $E^s = \{ \neg \exists x [\text{I. bought } x], \exists x [\text{I. bought } x] \}$

31 where E^s stands for speaker's expectations

32 The source of the emotional attitude in mirative WH+*li* is the fact that the expectation
 33 that he didn't buy anything is defeated through a clash with the sentence's presupposi-
 34 tion that he did not buy anything, i.e. the preferred or more expected alternative turns

1 out to be false; whether the attitude is positive or negative depends on the intonational
2 contour of the utterance and context cues.¹⁰

3 I assume that emotive expressions such as *dovraga* ‘the hell’ are also interpreted in
4 GroundS, as they express the speaker’s emotive attitude and are not interpreted truth-
5 conditionally. This explains the availability of semantic concord between mirative WH+*li*
6 and such expressions, as discussed in (9).

7 In the case of reflective questions, (26), *li* ranges over the speaker’s expectations
8 about the addressee’s epistemic ability to provide a response. In a canonical informa-
9 tion seeking question, GroundA denotes that the speaker expects the addressee to be
10 able to answer the question, while in reflective questions, *li*-marked GroundA generates
11 scalar alternatives of speaker expectations and denotes that the addressee not having
12 an answer is more expected than the addressee having an answer, capturing the main
13 property of reflective questions described in §2.2. This proposal explains why unlike
14 mirative utterances, a reflective utterance does not express emotional attitude – there
15 is no clash with the sentence’s presupposition (the expression of expectations does not
16 entail that they are defeated).

17 (28) $E^s = \{ \neg[\text{addressee has an answer}], \text{addressee has an answer} \}$

18 where E^s stands for speaker’s expectations

19 The last piece needed for the understanding of reflective questions is how they
20 interact with modals. As Giannakidou & Mari (2019) point out, weak modals generate
21 alternatives partitioning the veridical domain and when used in questions, they are not
22 interpreted canonically, but interact with the question operator.¹¹ I take this to mean
23 that weak modals can be interpreted in GroundA with a result equivalent to that of
24 *li*-marked reflective questions. What is interesting with regards to the phenomenon at
25 hand is that this property of weak modals in questions arises precisely for the same
26 reason that *li* is allowed to be interpreted high and also interact with the question: they
27 give rise to alternatives. This explains why modals and *li* used concurrently give rise to
28 a concord meaning, as described in §2.2.2.

29 The proposal also captures the lack of semantic concord between reflective WH+*li*
30 and ‘the hell’ (also discussed in §2.2.2): because reflective *li* is in GroundA, it scopes
31 over ‘the hell’, which is interpreted in GroundS.

¹⁰Furthermore, the intonation of mirative and reflective utterances differs both between each of them and canonical questions, and between each other.

¹¹Strong epistemic modals, on the other hand, do not interact with questions because they do not generate alternatives.

4 Discussion

This section discusses some of the broader implications of the findings presented above beyond South Slavic, as well as some open questions for future work.

A formal relationship between mirativity and reflectivity Perhaps the most significant theoretical implication of this paper is the established formal relationship between mirativity and reflectivity, which, to my knowledge, has not been explored before. Here I proposed that the two phenomena differ in their syntactic locus and what they interact with, but they share two related ingredients: alternatives and speaker expectations. While expectations have been a key ingredient in some of the formal theories of mirativity, e.g. [Rett & Murray \(2013\)](#); [Simeonova \(2015\)](#), this paper provides a novel angle on their role by taking a comparative approach and identifying the roles that expectations can play in different phenomena. It posits that the use of *WH+li* to express the two different meanings is not an idiosyncratic (or even areal) accident but rather it is made convenient by the shared semantic ingredients involved in each of the phenomena and the fortuitous availability of a marker that expresses part of these ingredients.

This finding opens up a novel question for future research: might we find other languages, beyond South Slavic, where the two phenomena are also morphologically related? This is also intriguing because the morphological relationship between evidentiality and mirativity, on one side, and between evidentiality and reflectivity, on the other, has been of great interest in the literature, since [DeLancey \(1997\)](#) and [Faller \(2002\)](#), [Littell et al. \(2010\)](#), respectively. The findings presented in this paper can shed light on the future explorations of what properties of evidentials make them suitable for use in mirative or reflective utterances (see also more on evidentiality and reflectivity later in this section).

And within South Slavic, it allows us to ask why some of the languages only have one of the two readings, while others have both. This question is left to future work. The first step in such a program is a deeper understanding of the properties of each of the two readings, which the present paper has contributed towards.

A formal relationship between reflectivity and modality The account of the role of *li* in reflective questions offered here provides novel support for [Giannakidou & Mari's 2019](#) treatment of weak epistemic modals as giving rise to alternatives and interacting with questions. Since *li* is not an epistemic modal element, but generates alternatives, this paper presents a simpler case in support of [Giannakidou & Mari's](#) idea and suggests a causal relationship: it is precisely the property of generating alternatives that

1 makes weak epistemic modals suitable for use to give rise to reflective questions.

2 In addition, the novel findings on how reflective *li*-marked questions interact with
3 epistemic modals reported in §2.2.2 elucidate the relationship between reflectivity and
4 modality further by demonstrating that their co-occurrence gives rise to semantic con-
5 cord (and not, say, to a canonical epistemic interpretation of the modal). This also
6 supports Giannakidou & Mari's 2019 proposal that the epistemic modal is interpreted
7 in a different syntactic projection in reflective questions – the present paper makes an
8 explicit commitment about the projection.

9 **The nature of the speech acts of reflective and mirative utterances** While the mor-
10 phology of the two constructions studied here looks superficially interrogative, neither
11 of the two readings are truly interrogative, nor do they fall into any of the known types
12 of non-canonical questions. In fact, both of them are conversationally puzzling since
13 they do not require not only an answer, but any specific reaction from the addressee –
14 their truth-conditional meaning neither contributes new information to the addressee,
15 nor asks for information. This has two implications of note:

16 One, it supports the view, voiced in Wiltschko & Heim (2016) and Giannakidou &
17 Mari (2019), a.o., that speech acts are not as discrete as usually thought, but more of
18 a continuum, as reflective WH+*li* blurs the lines between questions and assertions, and
19 mirative WH+*li* blurs the lines between questions and exclamatives.

20 Two, it informs the nature of mirativity and especially reflectivity and expands the
21 range of their possible morphosyntactic expression. Especially mirativity has – to my
22 knowledge – not been discussed with regards to questions. It is easy to see why once
23 we consider the nature of mirativity as surprise, and the nature of surprise as factive,
24 entailing truth (we can only be surprised about *p* if we know that it holds in the first
25 place). The only part of a WH-question that is entailed is its presupposition, hence the
26 meaning of the mirative being tied to it.¹²

27 **Bias** While bias is usually discussed in polar questions, Sudo (2013) points out that it
28 could also sometimes arise with WH-questions, without going into details. Whether the
29 mirative reading discussed in this section can be construed as biased is an interesting
30 idea to consider in future work. Whether reflective questions, which express ignorance,
31 can be related to bias, also remains to be explored.

32 **Reflective-like questions cross-linguistically** Recently, a whole host of expressions
33 have been identified cross-linguistically, with similar properties and descriptive mean-

¹²This also explains why *li* can give rise to mirative readings only with WH-questions and not with polar questions.

ings, bearing labels such as ‘reflective’ (Giannakidou & Mari, 2019), ‘conjectural’ (Littell et al., 2010), ‘deliberative’ (Truckenbrodt, 2006), ‘non-intrusive’ (Farkas, 2022) questions. The label chosen in this paper is motivated by the intimate relationship between modality and *WH+li* demonstrated in §2.2.2. But the question remains to what extent all these constructions differ and whether any variation is sufficient to label and analyze them as different phenomena.¹³

A case in point are conjectural questions, so called because they were identified in languages with conjectural evidential markers, such as Cuzco Quechua Faller (2002), St’át’imcets (Matthewson et al., 2007), and Gitksan (Littell et al., 2010). When used in declaratives, the conjectural evidential conveys that the utterance is based on conjecture or inference by the speaker, translated with an epistemic modal (and formally analyzed as such in the respective works), as in (29-a). When used in questions, it gives rise to what the authors translate as ‘I wonder’, cf. (29-c) or ‘Who knows’ and describe as ‘a non-interrogative utterance’ and ‘syntactically and semantically questions, but pragmatically they have the force of assertions’ (Littell et al., 2010: 91, 92). Example (29-b) shows a canonical question for reference, showing that the conjectural question contains the morphological ingredients of a canonical question.

- (29) a. *sdin=ima=hl xbiist*
 be.heavy=INFER=CND box
 ‘The box might be heavy.’
- b. *nee=hl sdin=hl xbiist=a*
 YNQ=CND be.heavy=CND box=INTERROG
 ‘Is the box heavy?’
- c. *nee=ima=hl sdin=hl xbiist=a*
 YNQ=INFER=CND be.heavy=CND box=INTERROG
 ‘I wonder if the box is heavy.’ Gitksan, Littell et al. (2010): (6)

This raises the question whether conjectural questions are an evidential phenomenon or, alternatively, can be viewed – in light of the findings of Giannakidou & Mari (2019) and the discussion of modality in §2.2.2 – as another piece of evidence for the modal account of these specific evidentials.¹⁴ This point is also relevant with regards to German *wohl*, which Eckardt (2020) argues to be a conjectural evidential based on its similar properties to conjectural markers in Cuzco Quechua, Gitksan etc., in both declarative and interrogative sentences. The question of whether that meaning differs from that

¹³This question is also discussed by Farkas (2022), who considers five properties of conjectural questions identified by Eckardt (2020) and concludes that Romanian *oare* marked questions lacks three of them and therefore, as a proper subset, they are a sufficiently different phenomenon. Systematic comparison with all the phenomena listed above remains to be carried out.

¹⁴It is possible to analyze just one evidential marker in a paradigm as a modal without assuming that the rest are, as Faller (2002) does for Cuzco Quechua and defended more broadly in Simeonova (2020). This could also explain why not using just any evidential marker in a question gives rise to the reflective reading.

1 of a reflective question with a modal as in (13) remains to be explored, which would
 2 be particularly fruitful to do in a language like German that has many modal markers.
 3 Teasing apart why some weak modals can give rise to reflective/conjectural readings
 4 and others cannot can inform in a novel, finer-grained way both the nature of these
 5 modals and the necessary ingredients of reflectivity.

6 What Farkas (2022) calls non-intrusive questions in Romanian contain the particle
 7 *oare*, which is morphologically a WH-derived element but in questions gives rise to the ‘I
 8 wonder’ flavor and the addressee properties described in §2.2.1 for WH+*li*. Farkas (2022)
 9 provides a pragmatic account of *oare* couched in the Table framework of Farkas & Bruce
 10 (2010), which is in principle not mutually exclusive with the syntax-semantics account
 11 of the present paper. Another reason to go that direction is the similarity between
 12 *oare* questions, discussed in detail for the polar counterparts of reflective questions in
 13 Bulgarian (which are marked with *dali*, not *li*) by Simeonova & Kamali (to appear), who
 14 conclude that the meanings are equivalent with regards to the properties of *oare* marked
 15 questions listed by Farkas (2022).

16 **Intonation** A desideratum for future work is exploring the role of intonation. I sug-
 17 gested informally above that both readings have non-canonical intonation and that it
 18 plays at least two roles: one is in deriving the two meanings, especially in languages
 19 that allow both, where it could serve to disambiguate them (together with contextual in-
 20 formation); the second one is in disambiguating between the positive and the negative
 21 meaning of mirative expressions. Intonation has already been identified as an impor-
 22 tant factor in mirative utterances by Simeonova (2015) and in reflective/non-intrusive
 23 ones by Simeonova & Kamali (to appear). Analyzing it formally will be an important
 24 contribution to the understanding of these expressions.

25 5 Conclusion

26 This paper explored the semantic microvariation of the WH+*li* construction in South
 27 Slavic languages. WH+*li* utterances have two readings, neither of which has been ex-
 28 plored in depth in previous works. Here, one was identified as mirative in the sense of
 29 DeLancey (1997) and the other as a ‘reflective question’ a term proposed by Giannaki-
 30 dou & Mari (2019). I proposed that the common core shared by the two readings of
 31 WH+*li* derives from the well-known role of South Slavic *li* as a focus particle to generate
 32 alternatives. The differences between them were attributed to their syntactic positions
 33 and what material they can interact with at those positions. I proposed that *li* can be
 34 interpreted high, in the syntactic projection cluster encoding the relationship between

1 the speaker and the addressee and their epistemic and emotional attitudes (as well as
 2 possibly other context factors), cf. Wiltschko & Heim (2016). The mirative interpreta-
 3 tion arises when *li* is interpreted in the syntactic layer encoding the speakers emotive
 4 attitude and interacts with the presupposition of the sentence, while the reflective in-
 5 terpretation arises when *li* is interpreted in the layer encoding the expectations of the
 6 speaker towards the addressee. One of the questions that remain open for future work
 7 is what determines which language gets which reading, and why both readings are not
 8 available in all languages.

9 The findings have a number of broader theoretically important implications, dis-
 10 cussed in §4. The most important among them are (i) these constructions provide novel
 11 evidence for the non-discrete nature of speech acts, blurring the lines between interro-
 12 gative and declarative/exclamative speech acts, and (ii) this paper identified a formal
 13 relationship between mirativity and reflectivity, on one hand, and reflectivity and weak
 14 epistemic modality, on the other. The locus of these relationships, alternatives, suggest
 15 that in exploring these phenomena cross-linguistically we need to go granular and look
 16 at their ingredients and how and where they are able to compose in order to gain a
 17 better understanding of their nature and properties.

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