

Simplifying the evidential condition on asking polar questions*

Daniel Goodhue
*Leibniz-Zentrum Allgemeine
Sprachwissenschaft*

Abstract In classic accounts of polar question semantics, positive polar questions like “Did Mo sing?”, low negation questions like “Did Mo not sing?”, and high negation questions like “Didn’t Mo sing?” all denote the same set of answers: *{that Mo sang, that Mo didn’t sing}*. At the same time, it is well known that these three question types have different distributions. In particular, they have different requirements with respect to contextual evidence for the answers, the Evidential Condition on polar questions. Despite widespread discussion of this fact, no universally accepted explanation has emerged. In this paper, I make the novel argument that high negation questions do not have an Evidential Condition, and so only the conditions for positive and low negation questions need to be explained. I then argue that an explanation can be given based on general principles of markedness and information structure, even while maintaining a classic $\{p, \neg p\}$ semantics for both positive and low negation questions. I discuss ramifications for polar question semantics.

Keywords: negative questions, polar questions, biased questions

1 Overview

Polar questions, questions about whether p or *not- p* is the case, can be formed via or contain many different constructions, each producing different effects: Positive polar interrogatives, negative polar interrogatives (in which the negation is either preposed or not preposed), polarity/verum focus, rising declaratives, tag questions, negative alternative questions, A-not-A questions, question particles, NPIs, minimizers, *even*, evidentials, and more.

* For valuable discussion impacting my thinking on these topics, I thank four anonymous SALT 33 reviewers, Anton Benz, Ivano Ciardelli, Ashwini Deo, Rebecca Fishow, Naomi Francis, Michela Ippolito, Mike Tabatowski, Tue Trinh, Becky Woods, Kazuko Yatsushiro, and the audiences at SALT 33 and the International Workshop on the Semantics of Non-Canonical Questions at the University of Toronto, with special thanks to Brian Buccola and Manfred Krifka. The research reported here was supported in part by the ERC Advanced Grant 787929 “Speech Acts in Grammar and Discourse” (SPAGAD). All mistakes are my own.

The existence of so many linguistic devices that differentiate different kinds of polar questions raises several research questions: What are the different felicity conditions on various means of asking polar questions? What accounts for these differences? What are the relevant linguistic forms at play? What are the semantics of the relevant pieces? What are the composed meanings? Which aspects of meaning are due to pragmatics? These questions trace out a broad research program on polar questions. This short paper homes in on a narrow portion of this research program, looking only at the differences between negative and positive polar questions with a special focus on the Evidential Condition on polar questions.

By way of introduction, recall that classic accounts of question semantics argue that possible answers to questions play a fundamental role in their semantics. These classic accounts predict the polar questions in (1) through (3) to all denote the same set of answers in (4) (Hamblin 1973; Groenendijk & Stokhof 1984).

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|--|--|
| (1) <i>Positive polar question</i> (PPQ) | (2) <i>Low negation question</i> (LNQ) |
| Did Mo sing? | Did Mo not sing? |
| (3) <i>High negation question</i> (HNQ) | (4) <i>{that Mo sang, that Mo didn't sing}</i> |
| Didn't Mo sing? | |

This prediction suggests that these questions in some sense all mean the same thing. But these polar question forms exhibit differences in meaning, as I will review below (e.g. Büring & Gunlogson 2000; Sudo 2013; Domaneschi, Romero & Braun 2017). So this raises the question, how do we account for these meaning differences? Do we need to revise the classic semantics?

I have three goals in this paper. The first is to argue that the Evidential Condition does not apply to high negation questions. It only applies to positive polar questions and low negation questions. The second is to show that the simplified Evidential Condition can be explained via general principles of markedness and information structure while retaining a simple $\{p, \neg p\}$ semantics. The third is to ask what implications this has for polar questions semantics.

In section 2, I review the data motivating the Evidential Condition on polar questions. In section 3, I argue against the motivation for including high negation questions. In section 4, I provide an account for the remaining data. In section 5, I discuss the Evidential Condition in embedded contexts. In section 6, I conclude.

2 Review of the Evidential Condition

One of the factors that affects the felicity of a polar question is the contextual evidence for or against its answers.

- (5) *Contextual evidence for p* (based on Büring & Gunlogson 2000; Goodhue & Wagner 2018)
- a. *Contextual evidence*: The evidence is mutually available to the participants in the current discourse situation
 - b. *for p*: The evidence, considered in isolation, would allow participants to infer *p*, or it at least increases the likelihood of inferring *p*
 - i. *considered in isolation*: ignoring beliefs that conflict with/contradict *p*

Positive polar questions (PPQs) appear in contexts with evidence for the positive answer like (6) and (7).

- (6) *Positive evidence*
 A has been a windowless office all day and has no idea what the weather is. B walks in with a wet umbrella and raincoat. A says:
 ✓Is it raining? # Is it not raining? # Isn't it raining?
- (7) *Positive evidence*
 A previously believed that Mo is right-handed. But then A and B see Mo writing very well with her left hand. A says:
 ✓Is Mo left-handed? # Is Mo not left-handed? # Isn't Mo left-handed?

PPQs also appear in evidentially neutral contexts (= no evidence for *p* or for $\neg p$) like (8).

- (8) *Neutral evidence*
 A just got home and is looking for her roommate Mo. She has no idea whether Mo is home or not, but their mutual roommate B is, so A says to B:
 ✓Is Mo home? # Is Mo not home? # Isn't Mo home?

LNQs and HNQs are both acceptable in negative evidence contexts (= evidence for $\neg p$) like (9) and (10).¹

- (9) *Negative evidence (+ Speaker bias for p)*
 A had been pretty sure that Mo's house is blue. Then B says, "Meet me at Mo's house, it's the red one down the street." A says:
 # Is Mo's house blue? ✓Is Mo's house not blue? ✓Isn't Mo's house blue?

¹ HNQs have an independent requirement that the speaker is biased for the prejacent embedded under negation, which I'll return to below.

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(10) *Negative evidence (+ Speaker bias for p)*

A previously believed that Mo is right-handed. But then A and B see Mo writing very well with her left hand. A says:

Is Mo right-handed? ✓Is Mo not right-handed? ✓Isn't Mo right-handed?

(11) shows that HNQs, but not LNQs, are acceptable with neutral contextual evidence.

(11) *Neutral evidence (+ Speaker bias for p)*

B tells A that she is going to see Radiohead in concert. A previously heard that the opening act will be Blur.

A: Oh yeah, I heard about that show.

✓Is Blur opening? # Is Blur not opening? ✓Isn't Blur opening?

The above data can be summarized as follows:

Contextual evidence	Relevant exs.	PPQ	LNQ	HNQ
Positive evidence	(6), (7)	✓	#	#
Neutral evidence	(8), (11)	✓	#	✓
Negative evidence	(9), (10)	#	✓	✓

Table 1 Evidential generalizations for polar questions (Büring & Gunlogson 2000: 11)

The data is widely taken to support the felicity conditions in (12) (Büring & Gunlogson 2000: 12; see also Sudo 2013; Domaneschi et al. 2017; van Rooij & Šafářová 2003; Northrup 2014; Trinh 2014; Krifka 2015; Roelofsen & Farkas 2015; Ander-Bois 2019).

(12) *Evidential Conditions on asking polar questions*

For PPQs, let p be the prejacent/radical of the question

For LNQs and HNQs, let p be the proposition embedded under negation

a. PPQs require there to be no evidence against p (*neutral or positive evidence*)

b. LNQs require there to be evidence against p (*negative evidence*)

c. HNQs require there to be no evidence for p (*neutral or negative evidence*)

Beyond these Evidential Conditions, HNQs also require the speaker to be biased as follows (Sudo 2013; Romero & Han 2004; Frana & Rawlins 2019; Goodhue 2022c)

(13) *Speaker Bias Condition*

For PPQs, let p be the prejacent/radical of the question

For LNQs and HNQs, let p be the proposition embedded under negation

- a. HNQs require the speaker to have a preexisting, potentially private bias for p
- b. PPQs and LNQs don't require speaker bias for p

The HNQ Speaker Bias Condition in (13) is supported by examples like (14), in which A lacks a speaker bias and the HNQ is unacceptable, while the LNQ is acceptable. It also explains why the HNQ was unacceptable in (8), but acceptable in (11).

(14) *Negative evidence + No speaker bias*

A has been in a windowless office for the last eight hours. Given the local climate and the time of year, A has no idea what the weather is. B walks in rubbing their hands together and stamping their feet, and says, "I hate the weather in this town!" A says:

Is it nice out? ✓Is it not nice out? # Isn't it nice out?

I won't give an account of the HNQ Speaker Bias Condition (13) (see accounts of speaker bias in e.g. Romero & Han 2004; Frana & Rawlins 2019; Goodhue 2022c,b; Tabatowski 2022). All that is relevant here is the fact that the Speaker Bias Condition in (13) *exists*.

Despite the widespread discussion of the Evidential Condition in (12), there is no agreed upon explanation (some discussions of it despair of giving an account). In section 3, I make the novel argument that the HNQ Evidential Condition in (12c) dissolves under scrutiny. As a result, only the PPQ Evidential Condition in (12a) and the LNQ Evidential Condition in (12b) will need to be explained.

3 Evidence against the HNQ Evidential Condition

The HNQ Evidential Condition in (12c) was established as follows: (9) & (10) demonstrated that HNQs are compatible with negative evidence (evidence for $\neg p$); (11) demonstrated that HNQs are compatible with neutral evidence; (6) & (7) showed that HNQs are incompatible with positive evidence (evidence for p). My key claim against the HNQ Evidential Condition in this section will be that HNQs are *not* incompatible with positive evidence. From this, I will conclude that the HNQ Evidential Condition in (12c) is false.

3.1 Alternative explanations for HNQ incompatibility with positive evidence

3.1.1 Explanation via Speaker Bias Condition

(15), based on (Sudo 2013: ex. (9)), is an elaborated version of (7). It is supposed to demonstrate HNQ incompatibility with positive contextual evidence.

- (15) (Let *rh* = *that Mo is right handed* and *lh* = *that Mo is left handed*.)
A believes that Mo is right handed (bias for *rh*/ \neg *lh*).
Then A and B see Mo writing with her left hand (evidence for *lh* and against *rh*).
A says to B:
a. # Isn't Mo left handed? (HNQ-*lh*) b. Isn't Mo right handed? (HNQ-*rh*)

There is contextual evidence for (15a)'s prejacent *lh*, and against (15b)'s prejacent *rh*, so the HNQ Evidential Condition in (12c) correctly predicts (15b) to be felicitous, and (15a) to be infelicitous. Therefore, Sudo (2013) claims that such examples support the HNQ Evidential Condition in (12c).

Here is an alternative explanation based on the HNQ Speaker Bias Condition: The speaker is not biased for the propositional prejacent of (15a) *lh*, but is biased for the prejacent of (15b) *rh*. Therefore, the Speaker Bias Condition (13) correctly predicts (15b) to be felicitous, and (15a) to be infelicitous.

Thus (15) can be explained by both the Evidential Condition (12c) and the Speaker Bias Condition (13). Which explanation is the true one? The Speaker Bias Condition (13) is favored by parsimony: (8) and (14) motivate the Speaker Bias Condition (13) independently of the Evidential Condition (12c). Despite that (12c) is met in both (8) and (14), the HNQs are infelicitous. This is because (13) is not met. Thus, the Speaker Bias Condition (13) is independently needed. Therefore, using it instead of the HNQ Evidential Condition (12c) to explain (15) is more parsimonious.

3.1.2 Explanation via question motivation

To independently motivate the HNQ Evidential Condition (12c), evidence for it that cannot be explained by the Speaker Bias Condition (13) must be found. What is required then is a context with both speaker bias for *p* and contextual evidence for *p* in which the HNQ is infelicitous, such as (16).

- (16) A believes Mo is left handed (*lh* bias). Then A and B see Mo writing with her left hand (*lh* evidence). A says:
- a. # Isn't Mo left handed? b. # Is Mo left handed?

(16a) is infelicitous, as predicted by the HNQ Evidential Condition (12c).

However, an alternative explanation based on question motivation can be given: A already believes *lh* and the evidence supports *lh*, so A has no need to ask this question.² This explanation for (16a) is further supported by the infelicity of the PPQ in (16b), a fact that can't be explained by the Evidential Condition (12). The HNQ Evidential Condition (12c) is again rendered superfluous.

My goal in this subsection has been to show that there are alternative explanations available for the examples demonstrating that HNQs are incompatible with positive evidence. The discussions of (15) and (16) provide such alternative explanations, posing a challenge for the motivation for the HNQ Evidential Condition in (12c). However, at SALT, Florian Schwarz raised the following complication for the data point in (16): If we weaken the bias in the context, then the PPQ in (16b) becomes acceptable while the HNQ in (16a) remains unacceptable:

- (17) A has a hunch that Mo is left handed (weak *lh* bias). Then A and B see Mo cutting bread with her left hand (weak *lh* evidence). A says:
- a. # Isn't Mo left handed? b. Is Mo left handed?

Apparently there is enough motivation in the context of (17) to ask the PPQ, and yet the HNQ is unacceptable. The HNQ Evidential Condition in (12c) is well-placed to explain this asymmetry, since it would block the use of the HNQ in (17a). Thus (17) is a challenge for my attempt to show that the HNQ Evidential Condition in (12c) is false.³

However, I suspect that there is an alternative explanation available for the infelicity of the HNQ in (17) that has to do with a lack of contextual relevance for the

² Domaneschi et al. (2017: 8) similarly point out that *p* bias + *p* evidence results in lack of motivation for a question.

³ We might wonder if (17a) is infelicitous for a different reason, namely that the speaker bias is too weak to license the use of the HNQ. But keeping the weak bias and changing the evidence to $\neg lh$, as in (i) results in the HNQ being felicitous, thus showing that the weak bias isn't what causes the infelicity of (17a):

- (i) A has a hunch that Mo is left handed (weak *lh* bias). But B says that A is wrong about this ($\neg lh$ evidence). Then C walks in, and C knows Mo well. A says: Hey C...
- a. Isn't Mo left handed? b. Is Mo left handed?

question. I do not yet understand why this lack of contextual relevance affects only the HNQ and not the PPQ, but even without a full understanding of this asymmetry, I show in the next subsection that the asymmetry between (17a) and (17b) cannot be due to the HNQ Evidential Condition in (12c).

3.2 HNQs can be compatible with positive evidence

The following example contains the exact same bias and evidence profile as (17), but adds a context that provides more motivation for A's questions:

- (18) A and B are two enlightened villagers in colonial Salem, Massachusetts, and they're trying to save their friends from being denounced as witches. The most popular means of identifying witches at this time is left-handedness. Most villagers are illiterate, so people's handedness isn't always so clear. A isn't sure, but thinks and worries that Mo might be left-handed (weak *lh* bias). A and B are observing their various friends from a corner of the communal kitchen, trying to figure out who seems to be left-handed so they can protect them (contextually relevant question: Who is left handed?). As Mo is cutting some bread with her left hand (weak *lh* evidence), A points at her while leaning in toward B, and says:
- a. Isn't Mo left handed? b. Is Mo left handed? c. #Is Mo not l. handed?

Adding the context of (18) to (17) makes the HNQ in (18a) felicitous. The key difference between (17) and (18) is that the question "Who is left handed?" is contextually relevant in (18).

What (18) crucially demonstrates is a case in which there is positive evidence, but the HNQ is *felicitous*. This directly contradicts the HNQ Evidential Condition in (12c). I conclude that (12c) is false.

3.2.1 A few further remarks about (17) and HNQs

Since the HNQ Evidential Condition (12c) is false, it cannot be used to explain the asymmetry in (17).

That said, while it is clear enough that having the HNQ address a contextually relevant WH-question is the key difference between (17) and (18), we still don't fully understand the asymmetry between the HNQ and PPQ in the positive evidence context of (17). I will now show that a similar asymmetry and relationship to contextual relevance can be observed in neutral evidence contexts. This is interesting because such an asymmetry crucially cannot be explained by the Evidential Condition (12), since (12a) and (12c) say that both PPQs and HNQs are compatible with neutral evidence. (19) is due to Ivano Ciardelli (p.c.):

- (19) A knows that B was supposed to take an exam this morning (*e* bias). A sees B in the early afternoon (neutral *e* evidence). A says: Hey B. . .
- a. # Didn't you take the exam? b. Did you take the exam? c. # Did you not take the exam?

The asymmetry between the HNQ and the PPQ in (19) is parallel to (17). The infelicity of (19a) is *not* predicted by the Evidential Condition (12c) since HNQs are said to be compatible with neutral evidence. There must be some other explanation.

Now consider my revision of (19) in (20), in which the HNQ becomes felicitous:

- (20) A knows that B was supposed to take an exam this morning (*e* bias). Then A and a group of people are looking for someone who took the exam because they want to find out how hard it was (contextually relevant question: Who took the exam?). A sees B (neutral *e* evidence), and says: Hey B. . .
- a. Didn't you take the exam? b. Did you take the exam? c. # Did you not take the exam?

The addition of a contextually relevant question “Who took the exam?” renders the HNQ felicitous, thus making (20) parallel to (18). Thus, (19) relates to (20) in much the same way that (17) relates to (18).

We learn two things here: First, there is something affecting the felicity of HNQs beyond the Speaker Bias Condition (13). It seems to have something to do with the relevance of the HNQ bias proposition to a salient issue the speaker and others are trying to resolve. Such an issue is absent in (17) and (19), making the HNQ infelicitous in both. I have to leave an explanation of this effect to future work. Second, and most important for the topic of this paper, the asymmetries across the positive evidence contexts in (17) & (18), and the neutral evidence contexts in (19) & (20) show that whatever explains the felicitousness of HNQs in these examples, it cannot be the purported HNQ Evidential Condition (12c), which incorrectly predicts the HNQ in (18a) to be infelicitous, and fails to predict the infelicity of the HNQ in (19a).

3.3 Revising the Evidential Condition on polar questions

To recap, we have seen that (15) and (16) can be explained independently of the HNQ Evidential Condition (12c). (18) contravenes the HNQ Evidential Condition, showing that HNQs don't necessarily reject evidence for *p*. Thus the HNQ Evidential Condition in (12c) can be discarded—there is no HNQ Evidential Condition.

Contextual evidence	Relevant exs.	PPQ	LNQ
Positive evidence	(6), (7)	✓	#
Neutral evidence	(8), (11)	✓	#
Negative evidence	(9), (10)	#	✓

Table 2 Revised evidential generalizations for polar questions(12) *Revised Evidential Conditions on asking polar questions*For PPQs, let p be the prejacent/radical of the questionFor LNQs, let p be the proposition embedded under negationa. *PPQ condition*PPQs require there to be no evidence against p *(neutral or positive evidence)*b. *LNQ condition*LNQs require there to be evidence against p *(negative evidence)*

This dissolves a puzzle raised by Büring & Gunlogson (2000) and echoed by Sudo (2013): They seek—but by their own admission fail to find—a satisfying unified account of the Evidential Conditions on PPQs, LNQs, and HNQs. If my line of argument is correct, the search for a unified account that includes HNQs can be abandoned. This is good news for those who have sought to explain the Evidential Condition, and have either ignored HNQs outright, or treated them identically to LNQs (Northrup 2014; Trinh 2014; Roelofsen & Farkas 2015; Tabatowski 2022).

4 Giving an account with a simple $\{p, \neg p\}$ semantics**4.1 Two choice points for polar question semantics**

To give an explanation for the Evidential Condition, we need to figure out the roles of semantics and pragmatics, which includes settling on a semantics for polar questions. Here are two key choice points (this division is inspired in part by discussion in Tabatowski 2022).

(21) *Symmetry*

a. A *symmetrical* semantics is one in which PPQs and LNQs have identical denotations, e.g. $\text{PPQ} = \text{LNQ} = \{p, \neg p\}$

b. In an *asymmetrical* semantics, they have different denotations, e.g. $\text{PPQ} = \{p\} \neq \text{LNQ} = \{\neg p\}$

(22) *Weight*

- a. A *heavy* semantics includes semantically encoded pragmatic operators, e.g. speech act operators, conversational/doxastic modals, attitude predicates
- b. A *light* semantics lacks such operators, e.g. sets of propositions, partitions, functions from answers to truth values

Crossing these two factors produces four possible kinds of theories: light-symmetrical, light-asymmetrical, heavy-symmetrical, and heavy-asymmetrical. There are many reasons that a theorist might choose to pursue an account in each of these four cells. In Goodhue 2022c,b, I propose a heavy-symmetrical semantics for polar questions because it enables an explanation of the Speaker Bias Condition in (13) that depends crucially on a syntactically high negation to produce the bias inference. Roelofsen (2019: fn. 4) argues against an asymmetrical semantics for polar questions on the conceptual grounds that p and $\neg p$ are each equally good answers to both a PPQ and its corresponding LNQ, and so both should be included in the answer sets representing each kind of polar question. However, returning to the empirical focus of this paper, some theorists have argued that a heavy-asymmetrical semantics is needed in order to explain the Evidential Condition (Krifka 2015, 2021; Tabatowski 2022).

In this section, I argue that it is in fact *possible* to account for the Evidential Condition while maintaining a light-symmetrical semantics by treating it as an information structural phenomenon. Then in section 5, I'll return to the question of which kind of semantics we *should* pursue, by bringing in further evidence from embedded polar interrogatives.

4.2 Account

I start with a symmetrical answer set approach to question meaning in which a PPQ $?p$ and its corresponding LNQ $?¬p$ have identical denotations as follows:

- (23) a. $\llbracket p \rrbracket = p_{\langle s,t \rangle}$
 b. $\llbracket ? \rrbracket = \lambda r_{\langle s,t \rangle} . \lambda q_{\langle s,t \rangle} . [q = r \vee q = \neg r]$
 c. $\llbracket ?p \rrbracket = \llbracket ?¬p \rrbracket = \{p, \neg p\}$

Here is how (23a) and (23b) result in (23c):

$$\begin{aligned}
 (24) \quad \llbracket ?\phi \rrbracket &= \llbracket ? \rrbracket(\llbracket \phi \rrbracket) = & (25) \quad \llbracket ?\neg\phi \rrbracket &= \llbracket ? \rrbracket(\llbracket \neg\phi \rrbracket) = \\
 \lambda r_{\langle s,t \rangle} \cdot \lambda q_{\langle s,t \rangle} \cdot [q = r \vee q = \neg r] (p) & & \lambda r_{\langle s,t \rangle} \cdot \lambda q_{\langle s,t \rangle} \cdot [q = r \vee q = \neg r] & \\
 = & & (\neg p) = & \\
 \lambda q_{\langle s,t \rangle} \cdot [q = p \vee q = \neg p] = & & \lambda q_{\langle s,t \rangle} \cdot [q = \neg p \vee q = \neg\neg p] = & \\
 \{p, \neg p\} & & \{\neg p, \neg\neg p\} = \{p, \neg p\} &
 \end{aligned}$$

Using this semantics, the revised Evidential Condition on polar questions in (12a) + (12b) can be explained by addressing two questions: (i) Why are PPQs preferred when there is a lack of contextual evidence? (section 4.2.1) (ii) Why does contextual evidence for p or for $\neg p$ force the use of PPQs or LNQs respectively? (section 4.2.2)

4.2.1 Explaining why a lack of contextual evidence forces the use of PPQ

The answer to question (i) is straightforward, short, and not original. LNQs are morphosyntactically more complex than PPQs. A preference for less complex expressions makes PPQs preferred to LNQs, all other things being equal. All other things are equal in evidentially neutral contexts. This preference for simplicity likely derives from the maxim of manner. Similar ideas have already been suggested by both [Trinh \(2014\)](#) and [Roelofsen & Farkas \(2015\)](#).

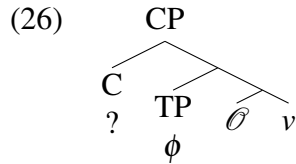
4.2.2 Explaining why contextual evidence for p or for $\neg p$ forces the use of PPQs or LNQs respectively

The answer to question (ii) is less straightforward and more original. Here is the idea in a nutshell: Contextual evidence raises a proposition p to salience. The speaker wants to ask the polar question $\{p, \neg p\}$. There's pragmatic pressure to formulate the question so that it acknowledges the salience of p by building the prejacent of the question from that salient p . In other words then, the form that polar questions take depends on prior context.

But why is there pragmatic pressure to align the prejacent of a question with the most salient answer (when one of the answers is salient)? I take this to be a specific instantiation of a general information structural pressure for speakers to maximize relations between what they say and the context ([Büring 2016](#)). This is why speakers replace full referring expressions with pronouns in subsequent discourse, why they maximize presuppositions (e.g. [Heim 1991](#); [Percus 2006](#); [Sauerland 2008](#); [Schlenker 2012](#)), and why they produce the strongest focus markings possible (e.g. [Williams 1997](#); [Schwarzschild 1999](#); [Wagner 2006](#)). The force that contextual evidence exerts on the form of polar questions is a corollary.

I take contextual evidence for a proposition p to make p more salient than $\neg p$. I capture this by saying that evidence for p introduces a propositional discourse

referent for p . Polar questions are anaphoric to these discourse referents (cf. other propositional anaphora *that, so, yes/no* as discussed by e.g. Krifka 2013). Formally, I handle this anaphoricity analogously to Rooth's (1992) ~ analysis of focus: An operator \mathcal{O} and a variable v can be adjoined to the TP of a polar question.



v is a propositional anaphor that picks up the discourse referent corresponding to the most salient proposition produced by contextual evidence. \mathcal{O} imposes a presupposition:

(27) $\llbracket \phi \mathcal{O} v \rrbracket$ is felicitous only if v entails $\llbracket \phi \rrbracket$

Besides the presupposition in (27), the adjunction of $\mathcal{O} v$ in (26) has no effect on the light, symmetrical semantics of polar questions adopted in (24) and (25), thus this proposal does not result in a heavy semantics.⁴

To see how this works, reconsider (6):

(6) *Positive evidence*

A has been a windowless office all day and has no idea what the weather is.

B walks in with a wet umbrella and raincoat. (\rightsquigarrow *that it's raining*)

A says:

a. Is it raining?

b. # Is it not raining?

The context in (6) provides evidence for the proposition *that it's raining*, which produces a discourse referent picked up by v . v entails the TP proposition of the PPQ as is required by \mathcal{O} , but it doesn't entail the TP proposition of the LNQ, so the observed asymmetry is predicted.

Now, reconsider (9), which shows why the requirement imposed by \mathcal{O} in (27) is entailment rather than identity:

⁴ Thanks to Kyle Rawlins for discussion on this point.

(9) *Negative evidence*

A had been pretty sure that Mo's house is blue. Then B says, "Meet me at Mo's house, it's the red one down the street." (\rightsquigarrow *that Mo's house is red*)

A says:

a. # Is Mo's house blue?

b. Is Mo's house not blue?

The evidential proposition *that Mo's house is red* is not identical to the TP proposition of the LNQ *that Mo's house is not blue*, it merely (contextually) entails it. The account successfully predicts the observed asymmetry.

So, in answer to question (ii), contextual evidence forces the use of a PPQ or LNQ, despite their semantic identity, because \mathcal{O} requires the TP to align with the proposition made salient by contextual evidence. \mathcal{O} is a specific instantiation of the more general requirement to maximize contextual relations.⁵

Finally, note that the requirement to maximize contextual relations is apparently more important than the requirement to use less complex expressions, otherwise, LNQs would never be used. This can be represented as a ranking of pragmatic principles:

(28) Maximize Contextual Relations > Less Complex/Maxim of Manner

4.3 On what it takes to use a LNQ containing a complementary predicate

Evidence for *that B won* is also evidence *that B did not lose*. So, the PPQ and LNQ in (29) identically respect the presupposition of \mathcal{O} . Since both respect \mathcal{O} , the Maxim of manner can still be operative. It forces the simplest of the two to be used. (29a) is simpler than (29b), which explains the asymmetry in (29).

(29) B has just come home after playing a tennis match. Neither A nor B had strong expectations beforehand about whether B would win or lose. B looks happy. (\rightsquigarrow *that B won*) A says:

a. Did you win?

b. # Did you not lose?

Interestingly, if we make the predicate *lose* given, the LNQ improves. It seems that when there is evidence to satisfy \mathcal{O} for either the PPQ or the LNQ, the givenness of *lose* obviates the maxim of manner, allowing the LNQ to be used.

⁵ There are some similarities between this account and that in Trinh 2014. However, while this is an informational structural account, Trinh proposes an evidential morpheme *E* with a modal semantics. Moreover, Trinh makes empirical claims that diverge from those I have argued for above in section 3.

- (31) A wants to ask B if B is coming to the party. A approaches B and says:
- a. Are you coming to the party?
 - b. # Are you coming to the party or not?
- (32) A: Are you coming to the party later?
B: Well, I do like parties...
A: Good, so you're coming then.
B: But I have a lot of work to do, and I have an early morning tomorrow...
A: So you're not coming?
B: But I made a resolution to do more social things...
A: Are you coming or not? (based on examples in Biezma 2009; Beltrama et al. 2020)

5 Polar question semantics: Evidence from embedding

As I said in section 4.1, one motivation for going heavy-asymmetrical was because it seemed unclear how to account for the Evidential Condition otherwise (Krifka 2015, 2021; Tabatowski 2022). The account I have given via \mathcal{O} maintains a light-symmetrical semantics, and so makes this motivation for a heavy-asymmetrical semantics less pressing.

Still, while we *can* have a light-symmetrical semantics for polar questions, the question remains, *should* we?

Another way to probe the pros and cons of these options is to investigate the relationship between matrix and embedded polar questions. Heavy accounts are only intended to account for matrix polar questions (Krifka 2021; Tabatowski p.c.). For polar interrogatives embedded under responsive predicates like *know*, the intention is to maintain a light semantics like $\{p, \neg p\}$ for composition with the embedding verb.⁶

A question we can ask then is, do embedded polar interrogatives exhibit sensitivity to the Evidential Condition? If embedded LNQs are licensed by negative evidence (evidence for $\neg p$), then the answer is yes. This would suggest the need for an account of the Evidential Condition that is compatible with a light semantics.⁷

I start with positive evidence to establish a baseline:

⁶ I restrict attention to responsives like *know* rather than rogatives like e.g. *wonder* or *ask* because the latter may embed larger structures, i.e. root phenomena, Manfred Krifka p.c., Becky Woods p.c., Woods 2016; Dayal 2020.

⁷ Evidence from embedding only bears on the light vs. heavy distinction, and not the symmetrical vs. asymmetrical distinction, since it is well known how to combine responsives like *know* with a (light-)asymmetrical semantics for polar interrogatives (von Stechow & Heim 1997-2021: ch. 8).

(33) *Positive evidence*

A: We need to find someone who knows how to reset the router.

B: Jane knows. I'm not sure, but I heard she might be here. (evidence that Jane is here)

A: Let's ask Gerith...

a. She'll know whether Jane's here.

b. ?? She'll know whether Jane's not here.

The embedded negative polar question in (33b) is odd, perhaps because there is no negative evidence.⁸

Now the question is, does adding negative evidence make the embedded negative polar question felicitous?

(34) *Negative evidence*

A: We need to find an empty office for our invited speaker to use.

B: I'm not sure, but I heard Jane might be out today. (evidence that Jane is not here)

A: Let's ask Gerith...

a. She'll know whether Jane's not here.

b. She'll know whether Jane's here.

The presence of negative evidence in (34) seems to improve the embedded negative polar interrogative in (34a) relative to (33b). Together, (33) and (34) suggest that embedded polar interrogatives—which by hypothesis have a light semantics—may be subject to the Evidential Condition. This in turn suggests that we need an account of the Evidential Condition in matrix polar questions that can function with a light semantics, such as the one I have proposed in this paper. The alternative would be to produce an account that enables a heavy semantics to compose with a responsive predicate like *know*. However, I am unaware of any attempts to produce such an account of embedded polar interrogatives.

One final loose end to address: (34b) also seems to be perfectly felicitous, but perhaps it shouldn't be if the Evidential Condition is in effect. It may be that evidence provided in these contexts is subtle enough that it is difficult to suppress the felicity

⁸ There are two variables to manipulate in these embedded clauses: the complementizer (*whether* vs. *if*) and the negation (full *not* vs. cliticized *n't*). The choices seem to matter, and I've simply chosen those that make the starkest case. One pitfall to avoid is that negation in embedded polar interrogatives in English can sometimes be "expletive", a reading that may be encouraged by cliticization. It's not obvious what the source of this expletiveness is, but one possibility is that the embedded negative interrogative can actually have a "high negation question" reading. I put "HNQ" in scare quotes because the evidence needed to establish this is also subtle, and I am skeptical that these are in fact embedded HNQs. In any case, this is beyond the scope of this proceedings paper.

of the PPQ, unlike earlier examples of matrix polar questions in which the negative evidence was so strong that the PPQ became infelicitous such as (9), (10), and (14).

6 Conclusions

In this paper, I have argued (i) that the Evidential Condition does not apply to HNQs, only PPQs and LNQs; (ii) that an account of the Evidential Condition can be given while maintaining a light-symmetrical semantics for polar questions, $\{p, \neg p\}$, by taking polar questions to be anaphoric to propositional discourse referents made salient by contextual evidence; and (iii) that if the Evidential Condition is operative in polar interrogatives embedded under responsives like *know*, it suggests that an account that works with a light semantics may be necessary.

What can we conclude about polar question semantics from all of this? Does the fact that we can give an account of the Evidential Condition while maintaining a light-symmetrical semantics for polar questions mean that polar questions *must* have a light-symmetrical semantics? Does the fact that the Evidential Condition seems to be operative in polar interrogatives embedded under responsives like *know* mean that polar questions *must* have a light semantics? I think the answers to these questions may in fact be “No.” While point (iii) above shows that the account of the Evidential Condition must itself work with a light semantics, the account that I have developed is nevertheless consistent with a heavy semantics for matrix polar questions, if that heavy semantics is required *for other reasons*. For example, suppose that we want to maintain a heavy semantics for all matrix polar questions in order to explain the existence of speaker bias in matrix HNQs (as I argue in Goodhue 2022b; see Krifka 2021 for other reasons for assuming a heavy semantics for matrix polar questions). The current account of the Evidential Condition could fit with such a view—the idea would be that \mathcal{O} is active below the CP layer, producing the effects that we observe as the Evidential Condition, regardless of whether the question is matrix and so includes heavier operators high in the structure, or embedded and so lacks that heavy layer high in the structure. The idea would then be that embedded polar interrogatives have a light semantics while matrix polar questions have a heavy semantics, but the latter is not motivated by the Evidential Condition. The Evidential Condition is explained at the level of the TP, independent of any heavy operators higher in the structure.

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Daniel Goodhue
 Pariser Str. 1
 10719 Berlin, Germany
 goodhue@leibniz-zas.de