Simplifying the evidential condition on asking polar questions

In classic accounts of polar question semantics [1, 2], positive polar questions (PPQ) like (1), low negation questions (LNQ) like (2), and high negation questions (HNQ) like (3) all denote the same set of answers: {*that Mo sang*, *that Mo didn't sing*}. But PPQs, LNQs, and HNQs have different distributions [3, 4, 5]. PPQs appear in evidentially neutral contexts like (4), and in contexts with evidence for the positive answer like (5). LNQs and HNQs are acceptable in contexts with evidence for the negative answer like (6). And HNQs are acceptable with neutral contextual evidence, but they also require the speaker to have a preexisting positive bias [4, 6, 7, 8], which makes them unacceptable in (4), but acceptable in (7). The LNQ/HNQ asymmetry in (8) shows that LNQs don't have the same positive bias requirement. This data supports the felicity conditions in (9) and (10). While (9) has been widely discussed [3, 4, 5, 9, 10, 11, 12, 13], no universally accepted explanation has emerged. In this talk, I make the novel argument that the HNQ evidential condition in (9c) dissolves under scrutiny, and so only the PPQ condition in (9a) and the LNQ condition in (9b) 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 PPQs and LNQs.

The LNQ evidence condition does not apply to HNQs: (7) is crucial in establishing the difference between the LNQ condition in (9b) and the HNQ condition in (9c). (7) lacks the contextual evidence required to satisfy (9b) and the LNQ is infelicitous, but (7) has the speaker bias that HNQs require as stated in (10), and the HNQ is felicitous, which leads to the assumption that HNQs permit neutral evidence as in (9c). Despite this, [10] and [11] both claim that (9c) is incorrect, and that HNQs are instead subject to (9b). To explain the acceptability of the HNQ in (7), [11] argues that contextual evidence for the negative answer $\neg p$ can be accommodated. E.g., if the opening act is relevant, and B fails to mention p, that Chai is opening, then A can take this as contextual evidence for $\neg p$. However, this explanation incorrectly predicts the LNQ in (7) to be felicitous as well. Since it isn't, HNQs and LNQs must not be subject to the same condition.

Evidence against the HNQ evidence condition: The HNQ condition in (9c) says that HNQs are only compatible with evidence for $\neg p$ (negative evidence), or no evidence (neutral evidence). (6) and (7) respectively demonstrate that HNQs are acceptable in each of these kinds of contexts, while (5) is a context with positive contextual evidence in which the HNQ is unacceptable. However, the HNQ in (5) may be unacceptable for another reason: A has no preexisting bias, and so does not meet the HNQ speaker bias condition in (10). Further support for (9c) is needed.

(11), based on [4, ex. (9)], is also supposed to establish (9c), but has a similar problem to (5). There is contextual evidence for (11a)'s prejacent p, so (11a) is predicted by the HNQ evidential condition (9c) to be infelicitous, while (11b) with prejacent $\neg p$ is predicted to be felicitous. Thus [4] claims that such examples support (9c). However, the contrast in (11) can also be explained by the HNQ speaker bias condition in (10) alone, since the speaker is not biased for p, the propositional prejacent of (11a), but is biased for $\neg p$, the prejacent of (11b).

So far then, we can explain (5) and (11) either via (9c) or via (10). Note that we have independent motivation for the HNQ bias condition in (10): the HNQ evidential condition in (9c) is met in both (4) and (8), and yet the HNQs are infelicitous. They are infelicitous because (10) is not met in (4) and (8). Thus, using (10) instead of (9c) to explain (5) and (11) is more parsimonious because we need (10) for independent reasons, namely to explain the infelicity of HNQs in (4) and (8).

If the HNQ evidential condition in (9c) is to survive, we will need to find some motivation for it that cannot be explained by (10). To do so, we need an example in which the requirement in (10)

is met (the speaker is biased for p), but the requirement in (9c) isn't (there is contextual evidence for p), with the result that the HNQ is infelicitous, thus showing that (9c) is independently needed. (12) provides the right test, and (12a) is infelicitous, as predicted by (9c). However, like (5) and (11), (12a) is likely infelicitous for a different reason: In this case, A already believes p and the evidence supports p, so A has no need to ask this question ([5, p. 8] make a similar observation about how questions are motivated). The PPQ in (12b) is also infelicitous, a fact that can't be explained by (9). Therefore, we need the independent explanation just above, that A lacks a motivation for posing the questions in (12), and (9c) is again rendered superfluous.

Finally, there are examples like the two in (13) in which there is evidence for p and the HNQ is felicitous, which directly violates the HNQ evidential condition in (9c).

There is no HNQ evidence condition: (5), (11), and (12) can be explained independently of the HNQ evidence condition (9c), and (13) violates (9c). I conclude that there is no HNQ evidence condition. (9c) can be discarded. This dissolves a puzzle raised by [3] and echoed by [4]: They seek—but by their own admission fail to find—a satisfying unified account of evidence conditions holding on all kinds of positive and negative polar questions including HNQs. If my line of argument is correct, the search for a unified account that includes HNQs can be abandoned.

Explaining what remains: With HNQs out of the way, the evidential condition in polar questions can be explained in two parts. (i) Suppose PPQs and LNQs have identical denotations: $[\![?p]\!]$ = $[\![?\neg p]\!]$ = $\{p, \neg p\}$. Suppose also that contextual evidence for a proposition p makes p more salient than $\neg p$. Suppose finally that there is a general principle requiring speakers to maximize relations between what they say and the context; more specific principles like Maximize Anaphoric Relations or Maximize Presupposition are corollaries of this [14]. I posit another corollary: If a speaker wants to ask whether p or $\neg p$, and one of those propositions is more contextually salient, then the speaker must use the more salient proposition as the prejacent of the question. This explains why contextual evidence can force the use of a PPQ or LNQ, even if they are semantically identical. For different, but equally accurate, explanations of part (i), cf. [11] and [13].

(ii) The preference for PPQs in evidentially neutral contexts is explained by the markedness of negation [15]. The presence of negation in LNQs makes them morphosyntactically more complex than PPQs. A preference for less complex expressions, which is apparently lower ranked than the requirement to maximize contextual relations, makes PPQs preferred to LNQs in evidentially neutral contexts (perhaps deriving from the maxim of manner, [11]).

These explanations, or other possible explanations of (i) and (ii) from [11] and [13], would be too simple to explain the evidential condition when the HNQ condition in (9c) is included. [11] tries to get around this by arguing that HNQs are in fact subject the LNQ evidence condition in (9b); but I demonstrated problems for this view. And [13] exclude HNQs, but do so without any discussion of them. My argument in favor of excluding HNQs clears the path. Dissolving the HNQ condition in (9c) simplifies the puzzle, allowing it to yield to simple explanations while retaining a simple semantics.

(1)   Did Mo sing? (PPQ)   (2)   Did Mo not sing? (LNQ)   (3)   Didn't Mo sing? (HNQ)

(4)   *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?

(5) *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?

(6) *Negative Evidence + Positive Bias*: 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?

(7) *Neutral Evidence + Positive Bias*: B tells A that she is going to see Mitski in concert. A previously heard that the opening act will be Chai. A: Oh yeah, I heard about that show.
✓Is Chai opening?   # Is Chai not opening?   ✓Isn't Chai opening?

(8) *Negative Evidence + No Bias*: A has **no idea** what the weather is. B walks in rubbing his hands together and stamping his 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?

(9) **Evidential conditions** on asking polar questions (where p = e.g. *that Mo sang* in (1)-(3))

   a. **PPQ condition**: PPQs require there to be no evidence against p (*neutral or positive*)
   b. **LNQ condition**: LNQs require there to be evidence against p (*negative*)
   c. **HNQ condition**: HNQs require there to be no evidence for p (*neutral or negative*)

(10) **HNQ speaker bias condition**: HNQs require the speaker to have a preexisting, potentially private bias for p; LNQs don't.   (not explained here; see accounts in e.g. [6, 7, 8])

(11) A believes that Mo is right handed (bias for $\neg p$). Then A and B see Mo writing with her left hand (evidence for p). A says to B:
   a. #Isn't Mo left handed? (HNQ-p)   b.   Isn't Mo right handed? (HNQ-$\neg p$)

(12) A believes Mo is left handed. Then A and B see Mo writing with her left hand. A says:
   a. #Isn't Mo left handed?   b.   #Is Mo left handed?

(13)   a.   A and B go outside. It's a sunny day.   b.   B: It's nice out.
              A: Isn't it nice out?   A: Isn't it?

References

[1] C. L. Hamblin, Foundations of language **10** (1973).
[2] J. Groenendijk and M. Stokhof, Ph.D. thesis, Universiteit van Amsterdam (1984).
[3] D. Büring and C. A. Gunlogson (2000), Ms. UCLA/UCSC.
[4] Y. Sudo, in *Beyond expressives: Explorations in use-conditional meaning*, edited by D. Gutzmann and H.-M. Gärtner (Brill, Leiden, Boston, 2013), pp. 275–295.
[5] F. Domaneschi, M. Romero, and B. Braun, Glossa **2**, 26. 1 (2017).
[6] M. Romero and C.-H. Han, Linguistics and Philosophy **27**, 609 (2004).
[7] I. Frana and K. Rawlins, Semantics & Pragmatics **12**, 1 (2019).
[8] D. Goodhue, Natural Language Semantics pp. 1–35 (2022).
[9] R. van Rooij and M. Šafářová, in *Semantics and Linguistic Theory* (2003), pp. 292–309.
[10] O. Northrup, Ph.D. thesis, UC Santa Cruz (2014).
[11] T. Trinh, in *The Art and Craft of Semantics: A Festschrift for Irene Heim*, edited by L. Crnič and U. Sauerland (MITWPL 71, 2014), vol. 2, pp. 227–249.
[12] M. Krifka, in *Proceedings of Semantics and Linguistic Theory (SALT)* (2015), vol. 25, pp. 1–18.
[13] F. Roelofsen and D. Farkas, Language **91**, 359 (2015).
[14] D. Büring, *Intonation and Meaning* (Oxford University Press, Oxford, 2016).
[15] L. Horn, *A natural history of negation* (University of Chicago Press, Chicago, 1989).