

Remarks on Epistemically Biased Questions

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Negative Polar Interrogatives and Tag-Interrogatives

The “Inference on the Spot” Condition

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Aim

- Some varieties of polar interrogatives (polar questions) convey an epistemic bias toward a positive or negative answer.
- This work takes up three paradigmatic kinds of biased interrogatives:
 - (i) positively-biased negative polar interrogatives (*Isn't she home too?*)
 - (ii) negatively-biased negative polar interrogatives (*Isn't she home either?*)
 - (iii) rising tag-interrogatives (*She is home, isn't she?*)

and aims to supplement existing descriptions of what they convey besides asking a question.

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Positively-Biased Negative Polar Interrogatives

- **Positively-biased** negative polar interrogatives, or **"outside-negation (outside-NEG)"** interrogatives (Ladd 1981), convey a positive bias toward the core proposition (p_c), i.e., the proposition denoted by *the radical minus the negation*.

- (1) H: John is such a philanthropist.
S: Yeah, doesn't he even run some sort of charity group?
(S thinks that p_c : "John (even) runs some sort of charity group" is likely to be true.)

Positively-Biased Negative Polar Interrogatives

- Outside-NEG interrogatives (i) are compatible with a positive polarity item (e.g., *too* as in (2)) and (ii) do not license a negative polarity item.

(2) H: OK, now that Stephen has come, we are all here. Let's go!

S: Isn't Jane coming too?

(S thinks that p_c : "Jane is coming (too)" is likely to be true.)

(adapted from Romero & Han 2004: 611)

- On this ground, McCawley (1988) characterizes the negation in an outside-NEG interrogative as "fake" negations.

Negatively-Biased Negative Polar Interrogatives

- **Negatively-biased** negative polar interrogatives, or **"inside-negation (inside-NEG)"** interrogatives, convey a negative bias toward p_c (= a positive bias toward $\neg p_c$).

- (3) H: There is nothing John can help with here.
S: Doesn't he even know how to keep accounts?
(S thinks that p_c : "John does not (even) know how to keep accounts" is likely to be true.)

Negatively-Biased Negative Polar Interrogatives

- Inside-NEG interrogatives (i) are not compatible with a positive polarity item, and (ii) license a negative polarity item (e.g, *either* as in (4)). This suggests that the negation involved in this construction is “genuine”, rather than “fake”.

- (4) H: So we don't have any phonologists in the program.
 S: Isn't Jane coming either?
 (S thinks that p_c : “Jane is not coming (either)” is likely to be true.)

(adapted from Romero & Han 2004: 611)

Rising Tag-Interrogatives

- **Rising tag-interrogatives** convey a positive bias toward the proposition denoted by the host clause (p_h).

(5) $[\alpha[\beta \text{ Jane is coming}], [\gamma \text{ isn't she}]]?$

α = tag-interrogative, β = host (clause), γ = tag

- The distributions of polarity items within tag-interrogatives are determined by the polarity of the host clause.

(6) a. Jane is coming (too/*either), isn't she?

(The speaker thinks that p_h : "Jane is coming" is likely to be true.)

b. Jane isn't coming (*too/either), is she?

(The speaker thinks that p_h : "Jane is not coming" is likely to be true.)

Additional Varieties

- **Unbiased Negative Polar Interrogatives:** the unbiased interpretation of a negative polar interrogative is possible, but only when the negation is realized in non-preposed (post-verbal) position.
- (7) (**Situation:** S is organizing a party and she is in charge of supplying all the non-alcoholic beverages for teetotalers. S is going through a list of people that are invited. She has no previous belief or expectation about their drinking habits.)
- H: Jane and Mary do not drink.
 S: OK. What about John? Does he not drink (either)?
 S': #OK. What about John? Doesn't he drink (either)?
- (Romero & Han 2004: 610)

Additional Varieties

- **Falling Tag-Interrogatives:** Falling tag-interrogatives have the same structure as rising ones except that the tag is associated with a falling intonation.
 - (8) a. Jane is coming (too/*either), isn't she.
b. Jane isn't coming (*too/either), is she.
- There is room for debate as to what the discourse function of the falling tag-interrogative is; I take their function to be better characterized as making a statement rather than asking a question (e.g., Ladd 1981, Huddleston 2002, Oshima 2012).

Section Summary

- The three kinds of biased interrogatives contrast with the unmarked polar interrogative, and with one another, in terms of the presence and direction of the bias.
- (9)
 - a. *unmarked polar interrogative*
Is Jane coming? [neutral (no bias)]
 - b. *outside-NEG polar interrogative*
Isn't Jane coming (too)? [positive bias]
 - c. *inside-NEG polar interrogative*
Isn't Jane coming (either)? [negative bias]
 - d. *rising tag-interrogative (with a positive/negative host clause)*
Jane is coming, isn't she? / Jane isn't coming, is she?
- This summary, however, leaves out some important semantic features of the three marked constructions.

Proposal

- Outside-NEG and inside-NEG interrogatives convey additional, subtle meanings that cannot be reduced to the presence and direction of a bias.
- Rising tag-interrogatives convey a stronger bias than negative polar interrogatives do.

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The “Inference on the Spot” Condition

- Ladd (1981) points out that an inside-NEG interrogative indicates that the speaker previously expected p_c to be true, but “has just inferred” $\neg p_c$ in the discourse situation (see also Romero & Han 2004, Filippo et al. 2017).
- (10S) meets this “inference on the spot” condition.

(10) (**Situation:** Pat and Jane are two phonologists who are supposed to be speaking in the workshop tomorrow.)

H: Pat is not coming. So we don't have any phonologists in the program.

S: Isn't Jane coming either?

(adapted from Romero & Han 2004: 611)

The “Inference on the Spot” Condition

- (11S) is infelicitous due to violation of the “inference on the spot” constraint.

(11) (**Situation:** S is preparing lunch for Jane. S thinks that Jane is probably not a vegetarian, but wants to make sure. He sees Nancy, Jane’s sister, and asks her:)

S: #Hey, isn’t Jane a vegetarian?

S’: Hey, Jane is not a vegetarian, is she?

- In this sense, the inside-NEG interrogative can be said to have a flavor of **mirativity**, which DeLancey (1997, 2001) defines as “linguistic marking of an utterance as conveying information which is new or unexpected to the speaker”.

The “Inference on the Spot” Condition

- Unlike the inside-NEG interrogative, the outside-NEG interrogative does not implicate that the (positive) epistemic bias has been formed in the discourse situation.

(12) (**Situation:** S’s roommate comes back from a trip to a conference. S has previously heard from Jane, S and H’s mutual friend, that she was planning to attend the same conference.)

S₁: How was the conference?

H: It was pretty good. My talk went okay, and I got to talk to quite a few people.

S₂: Wasn’t Jane there too?

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The "Matter of Interest" Condition

- Outside-NEG interrogatives are subject to be a subtle pragmatic constraint that has not been explicitly discussed in the literature.

- (13) (**Situation:** S needs assistance from somebody who speaks Chinese. He has heard that Amy speaks Chinese, but wants to make sure. He asks his roommate.)

S: Does Amy speak Chinese? (unmarked polar interrogative)

S': ?Doesn't Amy speak Chinese? (outside-NEG)

S'': Amy speaks Chinese, doesn't she? (rising tag)

- (14) (**Situation:** S has heard that Amy speaks Chinese.)

H: Prof. Li is looking for a TA for his Chinese linguistics course.
Can you think of anybody? He would prefer somebody who speaks Chinese.

S: Does Amy speak Chinese? (positive polar interrogative)

S': Doesn't Amy speak Chinese? (outside-NEG)

S'': Amy speaks Chinese, doesn't she? (rising tag)



The "Matter of Interest" Condition

- (15) (**Situation:** S needs some postage stamps. He thinks that the nearby convenience store should have them, but he is not completely sure. He goes to the living room and asks his wife:)
- S: Can you buy postage stamps at convenience stores? (positive polar interrogative)
- S': ?Can't you buy postage stamps at convenience stores?
(outside-NEG)
- S'': You can buy postage stamps at convenience stores, can't you?
(rising tag)
- (16) (**Situation:** S's wife asks him if he can quickly drive to the post office to buy some postage stamps. He thinks that it will be easier to go to the nearby convenience store, but is not completely sure if they have postage stamps. So he asks her:)
- S: Can you buy postage stamps at convenience stores? (unmarked polar interrogative)
- S': Can't you buy postage stamps at convenience stores? (outside-NEG)
- S'': You can buy postage stamps at convenience stores, can't you?
(rising tag)

The “Matter of Interest” Condition

- I suggest that an outside-NEG interrogative conveys that the speaker assumes that the core proposition is likely
 - (i) to hold true, and, furthermore,
 - (ii) to be something that is activated in the hearer’s mind (as in (12)) or that the hearer should pay attention to (as in (14)/(16)) (the “matter of interest” condition).

The “Matter of Interest” Condition

- The inside-NEG interrogative is not subject to the “matter of interest” condition.

(17) (**Situation:** S has always thought Jane is a vegetarian. One day, he sees a picture of her holding a chicken wing on her website. Surprised, he says to Nancy, her sister, who happened to be sitting next to him:)

Oh, isn't Jane a vegetarian? (inside-NEG)

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- The inside-NEG interrogative makes reference to the speaker's assumptions (expectations) about the hearer's beliefs, while the outside-NEG interrogative and the rising tag-interrogative do not.
- Outside-NEG interrogatives and rising tag-interrogatives can be felicitously used when it is contextually clear that $p_{c/h}$ is *not* part of the hearer's beliefs, with the intention to suggest the hearer to revise his beliefs.

(18) (**Situation:** H is Jane's brother.)

H: Jane really should stop lazing around and get a job.

S: Aren't you too harsh on your sister? You know what the current job market is like.

S': You are too harsh on your sister, aren't you? You know what the current job market is like.

Truth vs. Accepted Truth

- An inside-NEG interrogative, on the other hand, conveys that the speaker believes not only that $\neg p_c$ is likely to be true, but also that $\neg p_c$ is likely to be part of the hearer's beliefs.

(19) (**Situation:** S and H are organizing an academic colloquium. On the day before the colloquium, H shows S the room that he has arranged. S expected the arranged room to be much larger, and thinks that the room will be too small to accommodate the audience. S says:)

S: Isn't this room {too small/not large enough}? (outside-NEG)

S': This room is too small, isn't it? / This room is not large enough, is it? (rising tag)

S'': #Isn't this room large enough? (inside-NEG)

- Notice:

- (i) that p_c for (19S) = p_h for (19S') = $\neg p_c$ for (19S''), and
- (ii) that (19S'') meets the “inference on the spot” condition.

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Interim Summary

- To summarize the discussions so far:

(20) (CI = conventional implicature)

a. *unmarked positive polar interrogative*

Is Jane coming?

CI: none

b. *outside-NEG interrogative*

Isn't Jane coming (too)?

CI: S believes that p_c is likely to (i) hold true and (ii) be a matter of interest for H.

c. *inside-NEG interrogative*

Isn't Jane coming (either)?

CI: S previously believed that p_c was likely to be true, and has just come to believe that $\neg p_c$ is likely to (i) hold true and (ii) be part of H's beliefs.

d. *rising tag-interrogative*

Jane is coming, isn't she?

CI: S believes that p_h is likely to hold true.

The Scale of Likelihood

- A further question: Are the three marked interrogatives associated with a bias of the same **strength**?
- Different markers of epistemic modality are associated with different threshold values on the scale of likelihood (probability):

$$(21) \quad \theta_{possible} < \theta_{might} < \theta_{likely} < \theta_{must} < \theta_{certain}$$

(Lassiter 2017: 140)

The Scale of Likelihood

- (22) (**Situation:** The estimated chances of John's being in {his office/the library/the cafeteria} are {60%/20%/20%} respectively.)
- a. John might be in his office.
 - b. John is likely to be in his office.
- (23) (**Situation:** The estimated chances of John's being in {his office/the library/the cafeteria} are {34%/33%/33%} respectively.)
- a. John might be in his office.
 - b. #John is likely to be in his office.

The Outside-NEG Interrogative vs. the Rising Tag-Interrogative

- The bias conveyed by a rising tag-interrogative is stronger than that conveyed by an outside-NEG interrogative (i.e., $\theta_{Out-NEG-Int} < \theta_{Rising-Tag-Int}$).

(24) (**Situation:** A guard sees a group of youth drinking beer on a river bank. They look like about **16 years old**. (The drinking age here is 21.) The guard asks:)

S: Aren't you guys under age?

S': You guys are under age, aren't you?

(25) (**Situation:** A guard sees a group of youth drinking beer on a river bank. They look like about **19 years old**. (The drinking age here is 21.) The guard asks:)

S: Aren't you guys under age?

S': ?You guys are under age, aren't you?

The Outside-NEG Interrogative vs. the Rising Tag-Interrogative

- (26) (**Situation:** H goes to the library to see if John is there. S estimates the chance of John's being there is about **95%**. H comes back, and S asks her:)

S: Wasn't John there?

S': John was there, wasn't he?

- (27) (**Situation:** H goes to the library to see if John is there. S estimates the chance of John's being there is about **75%**. H comes back, and S asks her:)

S: Wasn't John there?

S': ?John was there, wasn't he?

The Inside-NEG Interrogative vs. the Rising Tag-Interrogative

- It can be shown that the threshold value of likelihood for the rising tag-interrogative is higher than the one for the inside-NEG interrogative, i.e., $\theta_{In-NEG-Int} < \theta_{Rising-Tag-Int}$.
(**Caveat:** To compare the strength of the biases conveyed by a rising tag-interrogative and by an inside-NEG interrogative, we need to consider discourse situations where (i) the “on the spot” condition is met and (ii) “ $\neg p_c$ is true and known to H” and “ p_h is true” practically entail each other.)

The Inside-NEG Interrogative vs. the Rising Tag-Interrogative

- (28) (**Situation:** S and H know that Jane eats meat very infrequently – **at most a couple of times a year**. S notices that there is a sandwich on the table, and asks H whose it is.)

H: I bought this for Jane, but she cannot come. You can have it if you like.

S: So, doesn't it have any meat?

S': So, it doesn't have any meat, does it?

- (29) (**Situation:** S and H know that Jane eats meat sparingly – **about 2–3 times in a week**. S notices that there is a sandwich on the table, and asks H whose it is.)

H: I bought this for Jane, but she cannot come. You can have it if you like.

S: So, doesn't it have any meat?

S': ?So, it doesn't have any meat, does it?

The Inside-NEG Interrogative vs. the Rising Tag-Interrogative

- (30) (**Situation:** S and H are roommates. H told S in the morning that he would go to the city library. When H goes to the city library, he **always** checks out three or more books and put them in the bookcase in the living room. S comes home in the evening, and notices that there is no library book in the bookcase. S asks:)

S: Didn't you go to the library?

S': You didn't go to the library, did you?

- (31) (**Situation:** S and H are roommates. H told S in the morning that he would go to the city library. When H goes to the city library, he **usually** checks out some books and put them in the bookcase in the living room, but sometimes he does not check out any books. S comes home in the evening, and notices that there is no library book in the bookcase. S asks:)

S: Didn't you go to the library?

S': ?You didn't go to the library, did you?

The Outside-NEG Interrogative vs. the Inside-NEG Interrogative

- How do the outside-NEG and inside-NEG interrogatives compare in terms of the strength of bias?
- It is hard to construct discourse situations where
 - (i) either an outside-NEG interrogative or the inside-NEG interrogative corresponding to it can be felicitously uttered (without violating the “matter of interest” or “inference on the spot” condition), and
 - (ii) the “ $\neg p_c$ ” for the inside-NEG is practically equivalent to “ $\neg p_c$ is known to H”.

The Outside-NEG Interrogative vs. the Inside-NEG Interrogative

- The (in)compatibility with certain hedge phrases (e.g., *maybe*) might indicate the relation: $\theta_{Out-NEG-Int} < \theta_{In-NEG-Int}$

- (32)
- Is Jane coming too, {maybe/possibly}?
 - Isn't Jane coming too, {maybe/possibly}?
 - Isn't Jane coming either, {?maybe/?possibly}?

- Arguably, such hedge phrases are used to convey that the speaker's estimate of the likelihood of the relevant proposition does *not* exceed a certain threshold value.
- The awkwardness of (32c) may be due to the clash between (i) the relatively "high" expectation conveyed by the inside-NEG interrogative and (ii) the "low" expectation conveyed by the hedge phrase.



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Summary

- This work examined the semantic contrasts between the three kinds of marked polar interrogatives: (i) the positively-biased negative polar interrogative (the outside-NEG interrogative), (ii) the negatively-biased negative polar interrogative (the inside-NEG interrogative), and (iii) the rising tag-interrogative.
- It was argued that
 1. a positively-biased negative polar interrogative conveys that the speaker assumes that the core proposition is likely to be something that is or should be activated in the hearer's mind,
 2. the bias associated with a negatively-biased negative polar interrogative makes reference to the speaker's assumptions about the hearer's beliefs, and
 3. the biases associated with the three constructions differ in strength, the one of the rising tag-interrogative being the strongest.

Open Issue

- It has been suggested in the literature that pragmatic meanings (including epistemic biases) of the marked interrogative constructions are derivative of (i) other independently motivated features of the three constructions, and/or (ii) more general processes including conversational implicature (Farkas and Roelofsen, 2017, Krifka, 2017, and references therein).
- I leave to future research the question of how and to what extent different kinds of reductionist approaches are useful in accounting for the descriptive observations made in the current work.

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