

Negated Polarity Questions as Speech Act Denegations

(Abstract for talk)

Ladd (1981) has observed an ambiguity in questions like like the following:

(1) *Isn't there a vegetarian restaurant around here?*

In one reading, the speaker expresses a bias that there is a vegetarian restaurant. Ladd proposed to treat the two readings as resulting of a scope ambiguity of negation. In the clearly biased case, negation is “somehow outside the proposition under question”. In the other case, it is within the proposition; for example, it licenses NPIs (*Isn't there any vegetarian restaurant around here?*). In other languages, the scope difference may appear overtly. In German, the positively biased reading is rendered with a syntactically “high” negation, whereas the other has a negative determiner *kein* indicating propositional negation (cf. Büring & Gunlogson 2000):

(2) a) *Gibt es hier nicht ein vegetarisches Restaurant?*
b) *Gibt es hier kein vegetarisches Restaurant?*

Reading (b) is unproblematic. There are a number of proposals to explain reading (a), but they all come with problems, as I will argue. For example, Romero & Han (2002) assume that the negation either scopes over or under a verum operator, a modal operator informally rendered by FOR-SURE (= FS). This results the propositions FS(‘there is a v.r.’) and ¬FS(‘there is a v.r.’), which should generate a bias towards the proposition. I argue that this is not the case, as the corresponding alternative question, *Is it for sure that there is a vegetarian restaurant, or not?* does not seem to generate this bias. I will also discuss proposals by Rooy & Šafářová (2003), Reese (2006), Venhuizen (2011) and AnderBois (2011).

My own proposal will that the high negation in scopes over a speech act. In this, it is similar to **denegation** of speech acts, as in *I don't promise to come* (cf. Hare 1970). Such negations over speech acts were modeled in Cohen & Krifka (2011) in a formal framework that assumes that participants in a conversation enact changes of commitment states. For example, if *c* represents the **development of commitments** up to the current point in conversation, then an assertion of *There is a vegetarian restaurant around here* by speaker *s* adds to *c* the responsibility of *s* with respect to the addressee *a* for the truth of the proposition ‘there is a v.r.’, for short. In general, assertion of a sentence radical denoting a proposition ϕ can be rendered as follows:

(3) $c + \text{ASS}_{s,a}(\phi) = \{c, [s \text{ is responsible to } a \text{ for truth of } \phi],$
 $[\phi \text{ becomes part of the common ground of } s \text{ and } a]\}$

It depends on the nature of the uptake of this move by the addressee whether this is illocutionary act achieves its perlocutionary purpose; *a* can either accept it or reject it.

To treat acts like grants and denegations, Cohen & Krifka propose to represent conversations by sets of commitment developments with a minimal element (the root) and other elements that represent the possible continuations. Such sets are called **commitment spaces**. If *C* is such a set, \sqrt{C} is its root, $c \leq c'$ renders that *c'* is a possible continuation of *c* (a transitive relation), and *A* is a speech act, then the update of *C* with a simple speech act consists of all the elements in *C* that can follow the root of *C* updated with *A*:

(4) $C + A = \{c \in C \mid [\sqrt{C} + A] \leq c\}$

Denegation of a speech act *A* is defined more strictly than in Cohen & Krifka (2011), as removing from *C* all the continuations of an update with *A*. For example, *I don't promise to come*, uttered by *s* to *a* at *C*, excludes the speech act that would be expressed by *I (hereby) promise to come*, uttered by *s*, and all its continuations.

(5) $C + \sim A = \{c \in C \mid \neg \exists c' [c' + A] \leq c\}$

The second ingredient for the treatment of “high” negations in polarity questions is to distinguish between regular questions and speech-act questions. I assume that in a **regular question** (*yes/no*, *wh* or alternative) the question operator is applied to a question sentence radical, assumed here to denote a **set** of propositions Φ . The resulting speech act leaves the root of the input commit space *C* intact, but restricts its further developments to those at which one of the propositions in Φ is asserted by the addressee. The addressee can reject this move; if he doesn't, he is forced to make one of these assertions in the next move (or an assertion that implies one of these assertions, to account for indirect answers).

$$(6) \quad C + QU_{s,a}(\Phi) = \{\sqrt{C}\} \cup \{c \in C \mid \exists p \in \Phi[\sqrt{C} + ASS_{a,c}(p)] \leq c\}$$

In contrast, in a **speech act question** the question operator applies to another speech act, as follows:

$$(7) \quad C + QUEST_{s,a}(A_{a,s}) = \{\sqrt{C}\} \cup C + A_{a,s}$$

This restricts the commitment space in such a way that the act $A_{a,s}$ is enforced as the next move. As with other speech acts, a can reject this, or accept it, in which case a must perform $A_{a,s}$. It can be derived that s performs such an act when uncertain whether the effects of $A_{a,s}$ already hold or should hold in the commitment space C, which leads to the conversational implicature that s has at least slight doubts whether a will perform $A_{a,s}$.

While QU is expressed syntactically (e.g., by AUX inversion), QUEST can be expressed prosodically (by rising intonation). It can apply to assertions (cf. Gunlogson 2002 for “declarative questions”), but also to a wide variety of other speech acts, e.g. to commands:

- (8) a. *There is a vegetarian restaurant around here?*
 b. A: *Open the window!* B: *Open the window? But it's cold around here!*

In addition, there is a “incredulity” prosody, optionally accompanied by an incredulous-looking face (Crespo-Sendra e.a. 2010) that conventionally implicates that s does not believe that the speech act in question can be performed by a. The corresponding operator will be rendered as QUEST-I.

Speech act questions can also apply to (regular) questions, which is especially clear with incredulity prosody:

- (9) A: *Is Butan in Africa?* B: *Is Butan in Africa?? Everyone knows that it's in Asia!*

In addition, I assume that *QUEST(-I)* can apply to assertions and trigger AUX inversion just as *QU*. The following syntactic structures indicate one way how this can be captured; here, ForceP stands for the syntactic category corresponding to speech acts (cf. Rizzi 1997).

- (10) a. $[_{ForceP} QU [_{Force'} [_{Foc0} is] [_{IPQ} there _ a \text{ vegetarian restaurant around here}]]]$
 b. $[_{ForceP} QUEST(-I) [_{Force'} [_{Foc0} is] [_{ForceP} ASS [_{IP} there _ a \text{ vegetarian restaurant around here}]]]]]$

In (a), s restricts C such that its root \sqrt{C} is followed by an assertion by a of one of the propositions in the set {‘there is a v.r.’, ‘¬there is a v.r.’}. In (b), s restricts C such that \sqrt{C} is followed by a’s assertion of ‘there is a v.r.’; this comes with the implicature (conversational with *QUEST*, conventional with *QUEST-I*) that s believes that a will reject this move. Hence, we explain the bias of s towards ‘¬there is a v.r.’. As (b) is distinct from (a) only with the prosody of *QUEST-I*, we get this reading reliably only with incredulity prosody.

In the case of “high” negation, I assume denegation of the embedded assertion:

- (11) $[_{ForceP} QUEST(-I) [_{Force'} [_{Foc0} is] [_{NegP} n't [_{ForceP} ASS [_{IP} there _ a \text{ veg. restaurant a round here}]]]]]]]$

$$(12) \quad C + QUEST(-I)_{s,a}(\sim ASS_{a,s}(\text{‘there is a v.r.’})) = \{\sqrt{C}\} \cup C + \sim ASS_{a,s}(\text{‘there is a v.r.’})$$

That is, s restricts the acts of a to the denegation of the assertion by a of ‘there is a v.r.’. Again, this comes with the (conversational or conventional) implicature that s believes that a will reject this move, which explains the bias towards ‘there is a v.r.’ In this case, the operator *QUEST* (without incredulity prosody) will achieve the reading as well, as asking for a negated proposition is dispreferred.

The presentation will conclude with a short discussion of question tags (as in *isn't there?* vs. *is there?*), which will be treated as elliptical questions adding their bias to the preceding assertion.

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