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Interpreting high negation in Negative Interrogatives: the role of the Other

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Abstract
This paper presents an account of the peculiar properties of Negative Interrogatives (NI). In uttering Don't you speak Italian?, the speakers is biased towards the underlying positive proposition, expects a positive answer, and seeks a confirmation of that expectation from the hearer. What’s more, NI involves uncertainty with respect to \( p \), a novel observation that we bring to the fore by comparison with epistemic modals. Using a framework by which speech-acts are derived by the two operators Speaker and Other representing sources of information, the high negative is assigned to the Other projection, the positive proposition being left under the responsibility of the Speaker. Thus, the NI is motivated by evidence contradicting the speaker’s belief, which is expressed by the negation that is attributed to another source and that therefore has full referential force. Because the questions is addressed by the Speaker in spite of evidence that \( \neg p \), NI displays uncertainty as to \( p \) and gives rise to a confirmation request. With direct mapping from syntax to semantics and pragmatics, the parsimonious account thus explains the morphosyntactic and interpretative properties of Negative Interrogatives.

1 Research problem
A Negative Interrogative (NI) (1-a), as compared to a standard information request (1-b), has the properties enumerated in (2) (see a.o. Romero and Han 2002, Krifka 2017).

(1) a. Ne parles-tu pas Italien ? (French)
   Not speak.2SG.PRES.IND-you not Italian?
   ‘Don’t you speak Italian?’
   b. Parles-tu Italien ? (French)
   Speak.2SG.PRES.IND-you Italian?
   ‘Do you speak Italian?’

(2) a. It implies that the speaker is biased towards \( p \);
   b. The polarity of the answer is expected to be positive;
c. The speaker seeks a confirmation that \( p \) is the case.

An account of these central properties is sketched in this short paper based on the high position of the negation, and on the complex syntactic representation of speech-acts that involves a Speaker and an Other layer (see also e.g. Speas and Tenny 2003). The novel proposal is that the high negation stands in the left-peripheral Other projection hosting information from sources other than the Speaker, who is left in charge of the underlying positive proposition \( p \).

Previous approaches are characterised in Section 2. They tend to assume that the underlying positive proposition \( p \) is presupposed. Yet, there is a degree of uncertainty with respect to \( p \), as shown by the comparison between NI and universal epistemic modals in Section 3. Section 4 implements the main lines of the proposal, whereby NI presents information relating to two different sources whose syntactic representation is used to derive speech-acts. We carefully distinguish Other from Hearer, and settle a clear-cut distinction between the three notions of commitment (of Other), bias (of Speaker) and (possible) endorsement (of Hearer). The results are summarised in Section 5.

2 Central data and discussion of previous analyses

The approaches attempting to account for the three main characteristics of NI stated in the previous section come in three flavors. Reference is made to syntax, speech-acts, and pragmatic reinterpretation.

A syntactic analysis of NI is proposed by Espinal (1992, 1993, 1997a,b, 2000). She looks at a constellation of cases, including standard expletive negatives (3), negative interrogatives (4), exclamatives (5), as well as modal-like negatives (6).\(^1\)

(3) a. \textit{Tinc por que no arribin tard.}  
Have fear that not arrive.SBJ late  
‘I’m afraid that they might arrive late.’  
(Catalan. Espinal 1997a: 74)

b. \textit{La policia impedí que les emprentes no desapareguessin.}  
The police prevented that the fingerprints not disappeared.  
‘The police prevented the fingerprints from disappearing.’  
(Catalan. Espinal 1997a: 74)

(4) \textit{No has telefonat?}  
not have-2SG phoned?  
‘Haven’t you called?’  
(Catalan. Espinal 1997a: 113)

(5) \textit{Oh no, it’s not HIM again!}

\(^1\)Of course, negation can relate a variety of particular interpretations across languages. Different presuppositional values obtain in e.g. Catalan, as suggested by a reviewer who cites Espinal (1997b).
Espinal’s general idea is that all these environments are bound by some sentential operator. Leaving aside the standard expletive negatives that occur in subordinates under a lexical item generating a negative presupposition (Muller 1991, Larrivée 2004), the partial (6-d) and total exclamative (6-f), partial (6-e) and total interrogatives (6-a), indirect interrogatives (6-c) are under a degree or question operator. Thus, in partial questions and exclamatives, the *wh* may rise to an Intensity projection situated above the CP to establish a criterial relation that checks an Affective feature; from there, it may attract the negative as an element relating to the intensity reading, and whose negative value is hence deleted. (For reliance on intensity understood as a scalar implicature, see Portner and Zamuttini 2000). This series of work by Espinal attempts to identify common morphosyntactic properties to a range of superficially disparate ‘special’ negatives. However, on the one hand, it is not clear that this includes negative interrogatives, which do not associate to ‘intensity’, and do not behave quite like other ‘special’ negatives. A rhetorical question such as (6-a) is calling for no answer, that can very much be provided to a negative interrogative. There is an element of uncertainty to the latter than is not conveyed by the former. These differences need to be accounted for.

Focusing on (2a), Romero and Han (2002) propose that the underlying proposition *p* is scoped over by a Verum Focus operator (VF), itself scoped over by the negative. This means that the negative is not available for negating the proposition (see Ladd 1981), which will be positive. The VF approach thus accounts for the bias towards *p*, making it possible for NIs to contain a Positive Polarity Item (e.g. Szabolcsi 2004). The role of the high negation is however unclear (see also Krifka 2017). The issue is not solved by introducing a Falsum operator (Repp 2012, see also Frana and Rawlins 2019 for a recent account of Italian *mica*), as there is no a principled association between negation and
Falsum (see Krifka ibid.).

The NI configuration is dependent on the interrogative form, which is a formal way to mark a speech-act; yet the configuration has an assertive flavor. The properties of the configuration are proposed to derive from the conflictual interaction between the operators of the two speech-acts of asserting a proposition and requesting information (Reese 2007; Krifka 2017). Krifka suggests that the two speech-acts relate in such a way that the request is the highest operator commanding the negative that dominates the assertion operator; thus, a negative interrogative such Ladd’s example discussed by Krifka a.o. Isn’t there a vegetarian restaurant around here? is a request to the interlocutor ‘to refrain from asserting that proposition’, as per the following structure.

\[ \text{[ForceP REQUEST [NegP is-n’t [ForceP ASSERT [TP ]]]]} \]

This accounts for the bias in favor of the positive proposition, since the negation is assumed to interact with the speech-acts, although such an interaction seems stipulative, as speech-acts never empirically come under the scope of sentential negation, not even metalinguistic negation (Larrivee, 2018). Moreover, they cannot easily explain why the properties of NI arise in total questions rather than in all interrogatives.

Like Krifka, we will also attribute a role to the Hearer, but we distinguish the source of the Evidence, which we call Other, and the real-life hearer, which is involved in answering the question. We also do not adopt the idea that NI require that the Hearer refrains from committing to \( p \).

This tension could account for the way in which the properties of NI arise. A general objection however to a re-interpretation approach is that it does not predict the resulting state of play, whether an unacceptability as above, a NI reading, or a rhetorical reading.

The review of the main approaches to NI highlights that the configuration indicates commitment rather than all-out presupposition of the underlying positive proposition, which makes it unlike other special questions such as rhetorical ones. We refer to this as to the modal dimension of NI, which we explore in the next section.

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2One reason not to use the framework by Krifka (2016, 2019a, 2019b) is that it assumes that speech-acts come under negation. But as noted, speech-acts cannot possibly be embedded under negation, as they scope above it, as noted by Frege and by Dummet 1973 according to Han and Lee (2007). There is no empirical case where negation corrects the speech-act of assertion or question, not even metalinguistic negation, which is known to be able to focus on any item under its scope. Clausal negation can question the form of the subject ‘Kids’ don’t have fears, ‘children’ have fears. But as pointed out by Larrivee (2018), it cannot suggest that the interrogative is to be corrected in favor of an assertion. A sequence such as Isn’t Abi beautiful? (but) Abi is beautiful, with target reading Don’t say ‘Is Abi beautiful?’ but ‘Abi is beautiful’ is not only agrammatical, but barely intelligible. In other words, negation corrects the contents of (assertive) speech-acts, but never the act itself.

3Total question Don’t you speak Italian? has the three properties in (2). Partial question Who doesn’t speak Italian? does commit to \( p \) (2a), the polarity of the answer is however the negative nobody (and not a positive as in (2b)), and no confirmation is sought for (unlike (2c)). We know of no partial question, and neither does the literature cite any, that has the listed properties of NI.
3 Evidence, modals and NI

The NI reading arises in French through subject-verb inversion with a high negative (8), whereas uninverted configurations readily convey the information request on a negative state of affairs (IRn), with the low negative (9). Inversion, along with the fact that the high negative only occurs in total questions and is never separated from the interrogative marker by a wh word, suggests that a special relation exists between the negation and the speech-act marker in NI. It is our goal here to explain what this relation is.

One important discovery made by Ladd 1981 (see see also a.o. Büring and Gunlogson 2000; van Rooij and Šafárová 2003; Sudo 2013; Goodhue 2018, Silk 2020 for subsequent discussion) is that the evidence available in context (John flunked the exam in our example (8)) that enables NI is a contradiction to the speaker’s belief in p (in (8), that studying took place). With standard information request questions, instead, the request about negative information follows from evidence (flunking of the exam) of the negative state of affair (in (9), not studying).

(8) How did you get an E in maths, John? – I flunked the exam.
   (Mais) N’as-tu pas travaillé (un peu) (, #c’est ça) ?
   ‘(But) Didn’t you study (a bit) (, #right)?’

(9) How did you get an E in maths, John? – I flunked the exam.
   (??Mais) Tu n’as pas travaillé (, c’est ça) ?
   ‘(??But) you didn’t study (, right?)?’

We note that NI and MUST-statements cross-linguistically are felicitous in complementary evidential contexts. As is well-known, MUST relies on evidence that is at least compatible with the prejacent (von Fintel and Gillies 2010; Giannakidou and Mari 2016, Giannakidou and Mari 2018 a.o.). In (10), being happy is evidence for having passed the math test (p), and MUST is felicitous. It is instead banned in a context where the evidence (being sad) does not support p (11).

(10) John looked pretty happy coming back from school
    a. – Il doit avoir réussi son examen de math. / ‘He must have passed the big maths test.’
    b. – #N’a-t-il pas réussi son examen de math ? / ‘#Didn’t he pass the big maths test?’

(11) John looked pretty down coming back from school
    a. – #Il doit avoir réussi son examen de math. / ‘#He must have passed the big maths test.’
    b. – N’a-t-il pas réussi son examen de math ? / ‘Didn’t he pass the big maths test?’

There is lively debate as to the weakness or strength of MUST, and in particular whether MUST p implies truth of p. This question is not relevant here.
This comparison shows that commitment to \( p \) can proceed in (at least) two different manners with respect to consideration of the evidence: NIs convey the speaker’s belief in \( p \) independently of the (contrary) evidence; MUST-statements convey the belief that \( p \) given the evidence.

Note that, like MUST-statements ((13), see a.o. Kartunnen 1979, Giannakidou and Mari 2016, Giannakidou and Mari 2018) and unlike rhetorical questions, NIs involve uncertainty (12-a).

(12) a. Isn’t there (perhaps) a vegetarian restaurant around here?
    I’m not certain, but I thought there is one near the station.

b. Has anyone (?perhaps) ever objected to a vegetarian restaurant?
   ?I’m not certain, but I think no one ever has.

(13) He must be home, but I am not entirely certain.

Both NI and MUST express bias towards \( p \), but with MUST the bias follows from the evidence, whereas with NI the speaker is biased towards \( p \) in spite of the evidence.

4 Analysis

In NI, there is a contrast between bias towards \( p \) and evidence compatible with \( \neg p \). This, we claim, derives from the syntactic status of the high negative. The general idea is that the high negative is attributed to an external source via a representation in the left-periphery, called Other, thus reflecting the belief imputed to this other source. The position of the negative in a high left- peripheral Other projection explains the derivation of a question speech-act, the attribution of commitment to \( \neg p \) to a source external to the Speaker, and the bias of the Speaker towards the remaining, positive propositional material.

We implement this idea by referring to a split CP à la Rizzi (1997), where the left periphery is assumed to contain a number of projections that anchor a proposition to its discursive environment.

(14) \[\text{ForceP} \quad \text{TopP} \quad \text{IntP} \quad \text{FocP} \quad \text{TopP} \quad \text{FinP} \quad \text{IP}\]

It is generally considered in this framework that speech-acts are encoded in ForceP, the highest node in the CP layer. The framework has been extended by proposed sub-projections accounting for a range of phenomena across languages. The distinction between different speech-acts is made by Speas and Tenny (2003) via syntactic nodes representing the Speaker and the Hearer. Schematically, a declarative is a sentence where the propositional contents is moved to a complement position of the Speaker projection,

(15) \[\text{SAP} \quad \text{Speaker} \quad \text{[p_i] Hearer} \quad \text{TopP} \quad \text{IntP} \quad \text{FocP} \quad \text{TopP} \quad \text{FinP} \quad \text{IP} \quad \text{[t_i]}\]

whereas in true questions, the propositional content is a complement to the Hearer projection.
This approach is reminiscent of that of Wiltschko (2017), although in the latter the technical implementation seems to be external to the left-periphery rather than immediately integrated to it (for another approach to layered representation of discourse dimensions in the left-periphery, see Krifka (2019a, 2019b). But the general idea remains that a sentence’s highest syntactic representation is that of its speech-act, and that the speech-act involves representations of the Hearer and Speaker.

This schematic structure helps account for the special characteristics of NI. Remember that in NI, the negative is in a high position; it only occurs in main clauses that have a full left-periphery; and is not interrupted from its relation to the question speech-act marker by a wh word, occurring only in total questions. This is explained by assuming that the negative moves to the high Other projection. Here, we rebrand as Other what Speas and Tenny (2003) call the Hearer, to include all sources that are not the Speaker.

This is further motivated by the fact that due to the evidential profile, the negative is attributed not the Speaker, but to the Other: When asking Don’t you speak Italian?, the speaker is not assuming that the hearer is not, but instead is asking the question because she perceives evidence that he may not. As a result of the attribution of the negation to the hearer, the positive version of the proposition that is left under IP is what the Speaker is biased towards.

Unlike in Speas and Tenny (2003)’s analysis of true questions, it is not \( \neg p \) that moves up to ForceP, only the negative that is moved out of \( p \). This accounts for the high position of the negative and the tension between the evidential source of \( \neg p \) and the commitment of the Speaker to \( p \). This tension can be fully accounted for in the model that we propose, without having to make the negative disappear.

One other important difference between our account and previous ones is the dimension of endorsement. That is, placing contents under an Other projection, while it suggests that the speaker expects that the hearer (or another source) believes it, does not mean that the hearer actually is committed to it (see Beyssade and Marandin 2006). Below we sketch how attribution work from a semantic-pragmatic point of view.

To represent the speech act structure of NI in the Semantics-Pragmatics, we rely on Farkas and Bruce (2010) notion of tables. We distinguish between private and public spaces (see e.g. Hamblin 1970, Clark and Schaefer 1989, Farkas and Bruce 2010, Ginzburg 2011, Krifka 2017). ‘Negotiation spaces’ \( N \) are a public space that are supersets of common grounds \( C \). In such negotiation spaces, assertions (by adding \( p \) to \( N \)) project a future \( C \) that includes the asserted proposition, whereas a question (by adding at least two alternatives to \( N \)) projects a set of \( C \)s, each containing only one of the possible answers to the question (see Farkas and Bruce [2010]: 88).
We enrich this system by distinguishing different patterns of commitment and bias relating to the evidential sources Speaker and Other encoded in the syntactic structure. Our syntactic analysis supposes that the Other is biased towards \( \neg p \) whereas the Speaker is biased towards the remaining positive proposition. The actual hearer will endorse either one of these alternatives, moving the common ground forward.

<table>
<thead>
<tr>
<th>Biases</th>
<th>Negotiation space</th>
<th>Common Ground</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other: ( \neg p )</td>
<td>Interrogative (speaker): ?p</td>
<td>( C + p \land \neg C + \neg p )</td>
</tr>
<tr>
<td>Speaker: ( p )</td>
<td>the hearer commits to either ( p ) or ( \neg p )</td>
<td></td>
</tr>
</tbody>
</table>

Table 1: NI and the biases

Indeed, in responding, the hearer can eliminate \( \neg p \) thus supporting the speaker, or can eliminate \( p \) thus supporting the Other. The confirmatory flavor of NI derives from the fact that, if the hearer chooses \( p \), she will support the Speaker’s bias towards \( p \); however, the hearer is free to choose either \( p \) or \( \neg p \) as a possible answer.

While questions are often justified on the basis of some previous commitment or available evidence (van Dijk 1979), NI are special in that they encode the justification of the question in the meaning of the question itself, which is thus double centered: to Other as the source of the information and to the Speaker as responsible for the interrogative and the bias towards \( p \).

Modals do not feature this split into the Other and Speaker. The speaker is the only anchor, and their view is supported by the evidence. The minimal skeleton of the epistemic modals involves one perspectival point, the attitude holder (Portner 2009 and references therein). With an epistemic modal, the speaker does not know whether \( p \) is true, and thus entertains two possible alternatives \( p \) and \( \neg p \) (Giannakidou and Mari 2016, Giannakidou and Mari 2018, Giannakidou and Mari 2020). While she is biased towards \( p \) (just as with NI), her bias is in line with the evidence and it is indeed supported by it.\(^5\)

5Note also that, in negative MUST statements, the negation is always interpreted as scoping over \( p \) (Homer 2015; Giannakidou and Mari 2018 for recent discussion).

(i) *He must not be ill* (English)

(ii) *Il ne doit pas être malade* – MUST(NOT(Be ill)) (French)

The negation does not scope over MUST for reasons that have been extensively explained and pertain to the commitment to \( p \) that universal epistemic modals convey. What matters for us here is that negation in negative epistemic statements cannot be interpreted in an even higher position because epistemic modals are anchored to the speaker and there is no hearer layer to appeal to.

\( (18) \)  
*John must have passed the exam.*

The Speaker does not know whether John passed the exam (\( p \) and \( \neg p \)) Given the evidence, the Speakers is biased towards \( p \).
5 Conclusion: the semantics-pragmatics mapping

NI are a type of special questions the contents of which is attributed to different sources of evidence: the negative is attributed to a source of evidence different from the speaker, called Other, leaving the positive proposition under the presumed responsibility of the Speaker. This duality of sources is reflected by the syntactic, semantic and pragmatic analysis of the clause.

There is a growing consensus towards considering epistemic modals and questions as similar objects: The idea stems from the fact that both manipulate $p$ and $\neg p$ alternatives and are both nonveridical à la Giannakidou and Mari (2016, 2018, 2020). Some authors are suggesting that epistemic modals and questions are the same object and that the difference between these two is discourse-driven (see already Bach and Harnish, 1979; Sherman 2018). Here we maintain the foundational idea that epistemic modals have truth conditions whereas questions do not (see references and discussion in Dayal 2016). However, in line with these new voices, we recognize that MUST and NI articulate both nonveridical content (uncertainty) and bias that they ground in a special relation with the evidence. MUST signals endorsement on behalf of the Speaker and NI rejection of the evidence on behalf of the Speaker.

Our syntactic analysis easily maps to a speech-act structure where both mental states (assertive content in general) and a call on addressee are performed (see Beyssade and Marandin 2006). This also echoes the request-assertion encoding in Krifka (2017) structure, but for us, the Other is a source of information rather than the answering hearer. Moreover, our analysis does not predict a request of refraining from asserting $p$ on behalf of the hearer; it encodes instead the confirmation request flavor derived as a tension between negative evidence and the interrogative act on the part of the speaker, who is herself oriented toward $p$.

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