The functional heterogeneity of interrogatives

An ‘optimistic’ approach

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These slides: http://sven.la/inqbnb
A first impression

(Matrix) interrogatives are good for requesting information

(1) Is John an only child?

\[ \sim S_p \text{ does not know whether John is an only child.} \]

\[ \sim S_p \text{ takes it to be possible that Ad knows.} \]

\[ \sim S_p \text{ requests that Ad see to it that Sp knows.} \]
What is it to ask a question?

The main issue

- What is it to ask a question?
- What is it to ask a question?
- What is one doing when one asks a question?
- What is one doing when one asks a question?
- What is one doing when one utters an interrogative sentence?
What is one doing when one utters an interrogative?

- The question is what the **sentential force** of an interrogative is.
- I.e. what is the effect that the utterance of an interrogative, qua interrogative, has on its context of use.
- This is grammatical knowledge.
  - A full specification of the grammar of a language has to encode the sentential force somewhere.
  - For today, it does not matter where it does so.
    - Could be in a **force operator** (Krifka 2014, t.a.).
Every (sincere) use of **declarative** $p$ commits the speaker to treat $p$ as **true**.

Every (sincere) use of an **imperative** $!p$ commits the speaker to treat $p$ as **desirable**.

Every (sincere) use of an **interrogative** $?p$ commits the speaker to treat $p$ as **true**.
Main claims today

1. Interrogatives pose a **substantial functional heterogeneity problem**.

2. To resolve it we need to supplement a specification of force with **articulated Gricean inference mechanisms** (one way or another).

3. Once we recognize this, we should be **ambitious**, and not set troublesome cases aside as ‘non-literal uses’.
Plan

1. The functional heterogeneity of interrogatives
2. What is a ‘literal’ use of an interrogative?
3. ‘Optimistic’ approaches
4. A dose of realism
5. Pessimism?
6. A new hope?
The functional heterogeneity of interrogatives
Imperative sentences can be used with various ‘illocutionary forces’ (Schmerling 1982, Schwager 2006, Kaufmann 2012).

(Imp)  

a. Stand at attention! (Command)  
b. Don’t touch the hot plate! (Warning)  
c. Hand me the salt, please. (Request)  
d. Do the right thing! (Exhortation)  
e. Take these pills for a week. (Advice)  
f. Please, lend me the money! (Plea)  
g. Get well soon! (Well-wish)  
h. Drop dead! (Curse)  
i. Okay, go out and play. (Permission)  
j. Okay then, sue me, if you have to. (Concession)  
k. Have a cookie(, if you like). (Offer)
The functional heterogeneity of imperatives has been a central challenge for theories of imperative sentential force. Substantial progress has been made in addressing this challenge, without giving up the aim of a uniform semantics & conventional force.


- But: imperatives are not alone in posing a heterogeneity problem.
Requesting information

‘Information question’

(2) Is John an only child?

\sim Sp does not know whether John is an only child.

\sim Sp takes it to be possible that Ad knows.

\sim Sp requests that Ad see to it that Sp knows.

- Which of these (if any) are conventionally associated with the interrogative sentence form?

- How are these meaning components distributed over different strata of ‘illocutionary meaning’? e.g.:
  - preconditions/presuppositions/felicity conditions vs.
  - postconditions/commitments/dynamic effects
Testing knowledge

‘Exam question’

(3) [In a chemistry exam]

What is the formula for sulphuric acid?

\( \vdash Sp \) does not know the formula for sulphuric acid.

\( \neg \neg Sp \) takes it to be possible that the addressee knows.

\( \vdash Sp \) requests that Ad sees to it that Sp knows.

Instead:

- \( Sp \) requests that Ad convince Sp that Ad knows the answer.
Teaching

‘Socratic/Pedagogical question’

(4) [Geometry teacher to student.]
And does this line bisect each of these spaces?  (Plato, *Meno*)

\[\n\begin{align*}
\neg S\theta & \text{ does not know whether this line bisects the spaces.} \\
\neg S\theta & \text{ takes it to be possible that the addressee knows.} \\
\neg S\theta & \text{ requests that } A\delta \text{ sees to it that } S\theta \text{ knows.}
\end{align*}
\]

Instead:

- *S*\(\theta\) wants *A*\(\delta\) to realize what the answer is.
Prompting a commitment

‘Combative question’

(5) [Libertarian representative in parliament to his leftwing colleague] Should taxes be raised to balance the budget? 
\[\neg Sp\] does not know whether taxes should be raised. 
\[\neg Sp\] takes it to be possible that the addressee knows. 
\[\neg Sp\] requests that Ad sees to it that Sp knows.

Instead:

- Sp wants Ad to ‘go on record’ with what Ad believes to be the answer.
‘Discussion question’ (Type I)

(6) **Who had opportunity to commit the crime?** (Let’s figure this out.)

\[ \sim S_p \] does not know who had opportunity.

\[ \sim \chi S_p \] takes it to be possible that the addressee knows.

\[ \sim \chi S_p \] requests that \( Ad \) sees to it that \( S_p \) knows.

Instead:

- \( S_p \) wants to start a discussion during which the answer is determined (as far as possible).
‘Discussion question’ (Type II)

(7)  Where shall we go for dinner?

\[ \sim S_p \text{ does not know where we shall go for dinner.} \]

\[ \sim! S_p \text{ takes it to be possible that the addressee knows.} \]

\[ \sim! S_p \text{ requests that } Ad \text{ sees to it that } S_p \text{ knows.} \]

Instead:

- \( S_p \) wants to start a discussion during which the interlocutors agree on an answer.

- N.B.: Thereby, the make an answer the true one.
Rhetorical questions
of various types

When the answer is $CG$ already

(8) $[Ad$ does not stop complaining how bad the movie was.$] Sp : \textbf{Who insisted that we go see this movie?}$
$\sim \quad Sp$ does not know who who it was.
$\sim \sim \quad Sp$ takes it to be possible that the addressee knows.
$\sim \sim \sim \quad Sp$ requests that $Ad$ sees to it that $Sp$ knows.

Instead (?):

- $Sp$ wants to remind $Ad$ of what the true answer is.
Rhetorical questions of various types

‘Discourse structuring’ or (‘monologic’) questions

(9) [At the beginning of a talk.]

What is it to ask a question?

≈? $Sp$ does not know what it is to ask a question.

≈? $Sp$ takes it to be possible that the addressee knows.

≈! $Sp$ requests that $Ad$ sees to it that $Sp$ knows.
The functional heterogeneity of interrogatives

(10) a. Is John an only child? (Info Q)
b. What is the formula for sulphuric acid? (Exam Q)
c. Does this line bisect each of these spaces? (Socratic Q)
d. Should taxes be raised to balance the budget? (Combative Q)
e. Who had opportunity to commit the crime? (Discussion Q I)
f. Where shall we go for dinner? (Discussion Q II)
g. Who insisted that we go see this movie? (Rhetorical Q)
h. What is it to ask a question? (Discourse-struct. Q)
The functional heterogeneity of interrogatives

The problem

‘Information question’

(11) **Is John an only child?**

- Sp does not know whether John is an only child.
- Sp takes it to be possible that Ad knows.
- Sp requests that Ad see to it that Sp knows.

- It seems that none of these three implications can be part of the conventional sentential force of interrogatives.

- At least not if we take all the exhibited uses to be ‘sincere’, ‘direct’ and ‘literal’.
What is a ‘literal’ use of an interrogative?
Indirect uses of interrogatives

Consensus (?): The request character of (12) is not coded in its sentential force.

(12) Can you pass me the salt?

- Instead, this request character comes about indirectly through a direct question-asking.

- (Prima facie) evidence: We can report (12) with both (13) and (14), or even with (15).

(13) A requested the salt.

(14) A asked wheter B could pass her the salt.

(15) A requested the salt by asking whether B can pass it to her.
Direct vs. indirect uses

- Indirect uses are ‘literal’ uses (arguably).
- That is, the utterance has all elements of its conventional force.
  - It just happens to have additional implications in context.
- ‘indirectness’ will not help us with our dilemma.
  - But it may be involved in explainin some of the **Instead:** implications.
Literal vs. non-literal uses of sentences

- *Prima facie* possibility for any sentence type: Set aside some troublesome uses as ‘non-literal’.
  - *e.g.* declarative irony.
- Perhaps: All but the information-requesting uses are non-literal uses?
- **But:** History tells us we should be more ambitious.
The functional heterogeneity of imperatives (again)

(Imp) a. Stand at attention! (Command)
b. Don’t touch the hot plate! (Warning)
c. Hand me the salt, please. (Request)
d. Do the right thing! (Exhortation)
e. Take these pills for a week. (Advice)
f. Please, lend me the money! (Plea)
g. Get well soon! (Well-wish)
h. Drop dead! (Curse)
i. Okay, go out and play. (Permission)
j. Okay then, sue me, if you have to. (Concession)
k. Have a cookie(, if you like). (Offer)
Literal vs. non-literal uses of sentences

- *Prima facie* possibility for any sentence type: **Set aside some troublesome uses as ‘non-literal’**.
  - *e.g.* declarative irony.
- Perhaps: All but the information-requesting uses are non-literal uses?
- **But**: History tells us we should be more ambitious.
  - Setting aside troublesome uses is defeatist.
  - Let’s venture on.
‘Optimistic’ approaches
Optimistic approaches

- Optimistic approaches (start by) taking the maximum number of uses as ‘literal’.
- They hence seek a uniform force that can be assumed to be present on all (sincere) uses.
- This force will be necessity very general and weak.
- Contextual conditions and pragmatic reasons specify this uniform force so as to derive the observed effects.
Interrogatives as requests

A speaker of an interrogative requests that . . .

1. . . the addressee make the speaker know an answer.  
   ‘imperative-epistemic’  
   (Åqvist 1965, Hintikka 1976, 1983)

2. . . the addressee assert a/the true answer(s).  
   ‘imperative-assertoric’  
   (Lewis and Lewis 1975, Åqvist 1983)

3. . . the addressee commit himself to an answer in the next discourse move.  
   (Krifka 2015)

4. . . an answer be made common ground.  
   (Truckenbrodt 2006a)

5. . . the addressee be committed to an answer.  
   (Lauer and Condoravdi 2012)

6. . . a contextually-specified agent or group of agents come to know an answer.  
   (Truckenbrodt 2004, 2006b)

7. . . a contextually-specified agents or group of agents activate a knowledge-representation of an answer.  
   (Zaefferer 2006)
The ‘optimistic’ (naïve?) approaches

Truckenbrodt (2004, 2006a) and Lauer and Condoravdi (2012)

- Truckenbrodt (2004):
  \[
  \text{Interrogative } q? = \text{WANT}(S, \text{KNOW}(S&A, \text{whether } q))
  \]
  \(
  \approx \text{The speaker wants that one of the answers to } q? \text{ becomes it becomes common ground.}
  \)

- Lauer and Condoravdi (2012):
  \[
  \text{Interrogative } q? \sim \text{PEP}_{Sp}(\exists p \in \text{Ans}(q?) : \text{PB}_{Ad}(p))
  \]
  \(
  \approx \text{The speaker requests that the addressee be doxastically committed to one of the answers to } q?.
  \)
The ‘optimistic’ (naïve?) approaches
Truckenbrodt (2004, 2006a) and Lauer and Condoravdi (2012)

- Both approaches:
  - Request-like force is assumed to be the same as the one present in imperatives.
  - What is requested = the standard outcome of declarative utterances.

- Optimism:
  - Conventional force is universally present on sincere uses.
  - Nothing else is universally present.
  - Variation in uses comes out via (Gricean reasoning and) contextual conditions.
Truckenbrodt (2004)

- Proposal: Request to make common ground whether $q$.
- Argued to be compatible with:
  - Information questions
  - Socratic questions
  - Exam questions
  - Rhetorical questions (as ‘redundant requests’)
  - Discourse-structuring questions (as requests to listen)
- Also compatible with (arguably):
  - Discussion questions (both types)
- Not so compatible with:
  - Combative questions.
Lauer and Condoravdi (2012)

- Proposal: Request for the speaker to be committed to an answer to $q$.
- Argued to be compatible with:
  - Information questions
  - Socratic questions
  - Exam questions
  - Rhetorical questions (as ‘redundant requests’)
  - Discussion questions (both types)
  - Combative questions
- Not so compatible with:
  - Discourse-structuring questions (unless analyzed as self-addressed?)
So far, ‘optimistic’ approaches are looking good.
They both are compatible with all our uses except one.
The respective authors also spell out the conditions under which the various uses ought to arise.
Success?
A dose of realism
First cracks in the optimistic picture

- Both optimistic approaches take the request-like force to be the same as in imperatives.

- But there are differences:
  1. Imperatives cannot be used as vacuous requests for something that is known to be the case, cf. (16)
     - but rhetorical questions allegedly are ‘redundant requests’, on these accounts.
  2. Imperatives imply that the role of the speaker in fulfilling them is to be minimized (Condoravdi and Lauer 2012).
     - but, at least in the case of discussion questions, the speaker does not imply that his involvement in bringing about common ground / addressee-commitment will be minimal.

(16) [Uttered to one of you today]
#Be at the InqBnB workshop!
Lauer & Condoravdi’s conditions for information-requesting uses:

- **Speaker preference for sincerity**: The speaker effectively disprefers that the addressee commits to believing in an answer unless he actually believes it to be true.

- **Addressee preference for sincerity**: The addressee is effectively disprefers to commit to believing in an element an answer unless he actually believes it to be true.

- **Speaker ignorance**: The speaker does not know which answer is true.

- **Addressee knowledge**: It is possible that the addressee knows which answer is true.

- **Cooperative addressee**: The addressee does not effectively disprefer sharing his information about the answer.
Optimism or naïveté?
Plunze and Zimmermann (2006)’s challenge

  - But there criticism also cuts against Lauer and Condoravdi (2012).

(17) [Customer C gets into T’s cab at the Berlin airport]

C: To the Brandenburger Tor, please.

T: Where is the Brandenburger Tor?

¬T does not know where the Brandenburger Tor is.
The original challenge of the functional heterogeneity remains.

In very many contexts, the utterance of an interrogative $q$? is an excellent and reliable way to communicate that:

- $Sp$ does not know whether $q$.
- $Sp$ thinks $Ad$ might know whether $q$.
- $Sp$ wants $Ad$ to see to it that $Sp$ whether $q$.

And yet, there are various (arguably literal) uses of interrogatives that lack any or all of these implications.
Pessimism?
Plunze and Zimmermann (2006): Pessimism

- Plunze and Zimmermann (2006): Assume that all uses that are not compatible with speaker-ignorance are non-literal.
  - Exam questions
  - Socratic questions
  - Combative questions
  - Rhetorical questions (several types)

- These uses (and others) are not cases of someone asking a question.
- They are cases of someone pretending to ask a question.
The challenge strikes back

- Such an account has the same problem all ‘pretense’ accounts have: **We don’t understand pretense very well.**
- **But:** A pretense-account will have to be supplemented with an articulated pragmatic theory of ‘pretending to ask a question’.
- Otherwise, Plunze and Zimmermann (2006) run into their own challenge:
  - On their (sketched) account, pretense-readings are very easily triggered.
  - Even for uses where speakers would intuit that they are speaking entirely literally.
  - But then, why is T’s utterance not understood as ‘pretense’?

(18) [Customer C gets into T’s cab at the Berlin airport]

C: To the Brandenburger Tor, please.

T: **Where is the Brandenburger Tor?**

~T does not know where the Brandenburger Tor is.
A new hope?
A new hope?

For optimism

**First hope:** Pragmatic reasoning.

- Like pessimistic accounts, optimistic accounts need to be complemented by articulated accounts of the pragmatic reasoning involved.

- In particular: It is plausible that an interrogative pragmatically competes with sentences of other types, with the same radical, i.e.:

  (19) *Is John an only child?*

  *competes with:*

  (20) *John is an only child.* (falling declarative)

  *competes with:*

  (21) *John is an only child?* (rising declarative)

- But: Is this enough to derive all observed implications, in all contexts where we see them?
A new hope

For optimism

Second hope: Prosody.

- Dehé and Braun (submitted) find that speakers fairly reliably mark rhetorical uses with a different prosody than information-requesting uses.
- Can we find further such tendencies with different class of uses?
- If yes, some troublesome uses might be explained away through an interaction of prosodic meaning and the basic sentence type effect.
Main claims today

1. Interrogatives pose a **substantial functional heterogeneity problem**.

2. To resolve it we need to supplement a specification of force with **articulated Gricean inference mechanisms** (one way or another).

3. Once we recognize this, we should be **ambitious**, and not set troublesome cases aside as ‘non-literal uses’.


Dehé, N. and Braun, B.: submitted, The prosody of rhetorical questions in English. manuscript, University of Konstanz.


Truckenbrodt, H.: 2006b, Replies to the comments by Gärtner, Plunze and
Zimmermann, Portner, Potts, Reis, and Zaefferer, *Theoretical Linguistics* 32(3).