

# Assertions and Polar Questions: The default case and beyond\*

Donka F. Farkas and Floris Roelofsen

Nijmegen, April 17, 2012

## 1 Introduction

Default assertion – default declarative sentence:

- (1) A: *Amy left.*  
B: Yes, she did./No, she didn't./Aha. I had no idea.

Default polar question – default polar interrogative:

- (2) A: *Did Amy leave?*  
B: Yes, she did./No, she didn't./#Aha. I had no idea.

Questions to be addressed:

- How to characterize the speech acts of making a *default assertion* and asking a *default polar question* so as to capture similarities/differences between them?
  - similarities:
    - \* *yes/no* responses;
    - \* common sentence radical;
    - \* both utterances steer the conversation toward a state where participants agree on whether Amy left or not
  - differences:
    - \* only assertions can be accepted with *aha*
    - \* contextual differences:
      - assertion commits speaker to Amy having left; polar question does not
      - assertion doesn't require overt response, polar question does;
      - *no* response to an assertion results in a contradiction; not so in the case of polar questions
- How to connect the contextual effect of declarative sentences/polar interrogatives with their semantics?
- How to expand the characterization of these two default speech acts so as to be able to account for non-default cases:

- (3) a. Amy left, didn't she?↑ [reverse rising tag question]  
b. Amy left, didn't she.↓ [reverse falling tag question]  
c. Amy left, did she?↑ [same tag question]
- (4) Amy left? [rising declarative]
- How to account for the effects of negation?
- (5) A: The door is open. [positive default assertion]  
B: ✓ Yes, it is open. / # No, it is open.
- (6) A: The door is not closed. [negative default assertion]  
B: ✓ Yes, it isn't closed. / ✓ No, it isn't closed.

Strategy used for dividing labor between semantics and discourse component:

- Default assertions/polar questions (default initiatives): minimize burden on discourse component; maximize burden on semantics
- Non-default assertions/polar questions: maximize burden on discourse component; minimize burden on semantics

Plan:

- Assumptions about context structure (Section 2)
- Semantic assumptions (Section 3)
- Default assertions and default polar questions (Section 4)
- Accounting for *yes/no* reactions (Section 5)
- Adding sources and dependents (Section 6)
- Going beyond default cases (Section 7)
- Conclusion and open questions (Section 8)

## 2 Assumptions about context structure

Minimum context components needed for default cases (Farkas and Bruce (2010) resting on much earlier work)

- list of *discourse commitments*  $DC_X$  for each participant X in the conversation
  - each discourse commitment: a set of possible worlds
  - X presents herself in the conversation as taking  $w_a$  to be in each of her discourse commitments
  - intersection of  $DC_X$ :  $cs_X$
- the Table: space where raised issues are registered; items on the Table form a stack; if an issue is raised – placed on the Table – the conversation is steered toward a state where the issue is settled

\*Paper available at <https://sites.google.com/site/inquisitivesemantics/documents/polar-initiatives-yale.pdf>

- derived components:

- the current *context set* ( $cs$ ), derived from DC: the smallest set of possible worlds  $\alpha$  such that all discourse participants are publicly committed to  $w_0$  being contained in  $\alpha$ ;  $cs = \bigcup_{X \in \mathcal{A}} cs_X$ .
- projected context set ( $ps$ ) derived from  $cs$  and the Table: set of all context sets that would be reached if every proposal on the Table were realized in some way;

$$ps = \{cs \cap \bigcap_{\llbracket \varphi \rrbracket \in T} \alpha_\varphi \mid \alpha_\varphi \in \llbracket \varphi \rrbracket \text{ for all } \llbracket \varphi \rrbracket \in T\}$$

Question that arises: what additions, if any, need to be made for non-default cases

Our partial answer: more structure added to  $DC_X$

### 3 Semantic assumptions: proposals as sets of possibilities

*Inquisitive semantics* framework (see Groenendijk and Roelofsen (2009); Ciardelli and Roelofsen (2011); AnderBois (2011) among others)

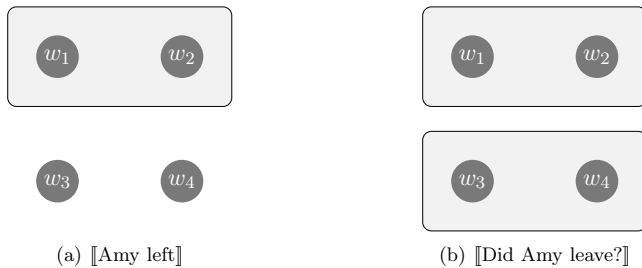
- Semantics of a sentence captures (i) its informative content: the information that the default use of the sentence provides; (ii) its inquisitive content: the information the Speaker is taken to request by the default use of the sentence.
- Main advantage for us: allows us to capture the common denominator across the discourse effects of default initiatives

Basic assumptions:

- Proposition expressed by a sentence  $\varphi$  ( $\llbracket \varphi \rrbracket$ ): set of **possibilities**.
- Each possibility in  $\llbracket \varphi \rrbracket$ : set of **possible worlds**.
- Each possibility represents a potential update of the common ground.

Example:

The propositions expressed by *Amy left* and *Did Amy leave?* given in (a) and (b)



$w_1$  and  $w_2$ : worlds where Amy left  
 $w_3$  and  $w_4$ : worlds where Amy did not leave

## 4 Default initiatives

**Common core** In uttering *Amy left/Did Amy leave?*, the speaker:

1. **commits** to the actual world being contained in at least one of the possibilities in  $\llbracket \varphi \rrbracket$ , and at the same time
  2. **requests** a response from other participants that provides enough information to locate  $w_a$  in a specific possibility in  $\llbracket \varphi \rrbracket$
- (7) **The contextual effect of default polar initiatives**  
 When a participant  $X$  uses a default declarative or a default interrogative  $\varphi$ , the discourse context is affected as follows:
- a. The proposition expressed by  $\varphi$ ,  $\llbracket \varphi \rrbracket$ , is entered as the head of the stack on the Table.
  - b. The union of all the possibilities for  $\varphi$ ,  $\bigcup \llbracket \varphi \rrbracket$ , is added to  $DC_X$ . This means that  $X$  publicly commits herself to  $w_0$  being located in  $\bigcup \llbracket \varphi \rrbracket$ .

### Differences between default declaratives and default polar interrogatives

- simpler semantics for default declaratives vs. default polar interrogatives
- as a result:
  - default assertions commit Speaker to a typically non-trivial possibility and steer conversation towards a state where the other participants commit to it as well
  - default polar questions: trivial commitment; conversation steered towards either agreeing on Amy having left or agreeing on her not having left

Result achieved so far

- semantics of declarative and polar interrogatives is connected to the way they affect context in the default case
- we generalize over assertions and polar questions deriving their different contextual effects from the difference in their semantics

Questions:

- (a) How is the semantics of declaratives and interrogatives connected to their syntax?
- (b) What about the parallelisms and contrasts in *yes/no* responses?

## 5 A semantic account of *yes/no* responses in English

[Mrs. Touchett to her son, Ralph:]

“I dont think I know what you mean,” she said; “you use too many metaphors; I could never understand allegories. *The two words in the language I most respect are yes and no.*”

(Henry James: *Portrait of a Lady*, emphasis added)

The issue at hand: whether Isabel Archer will marry Gilbert Osmond or not.

Mrs. Touchett’s preference for *yes* and *no*: they decide the issue in the most efficient way possible:

- *yes* commits the Speaker to the belief that Isabel Archer will marry Osmond
- *no* commits the Speaker to the belief that Isabel Archer will not marry Osmond

Problem for the account of default initiatives given so far: parallelism between assertions and polar questions wrt *yes* and *no* responses:

- |                                       |  |
|---------------------------------------|--|
| (8) Amy left.                         | (9) Did Amy leave?                     |
| a. Yes, she did. / *No, she did.      | a. Yes, she did. / *No, she did.       |
| b. No, she didn't. / *Yes, she didn't | b. No, she didn't. / *Yes, she didn't. |

Some urgent questions:

- Why does *yes* pick out the *Amy left* possibility and *no* the *Amy didn't leave* possibility in (9)?
- How come the particles are not sensitive to the difference between assertions and polar questions here?

## 5.1 Highlighting

We need a finer-grained formal representation of proposals if we want to account for polarity particle distribution independently of the assertion/polar question contrast:

- |   |   |
|---|---|
| (10) Is the door open?                                    | a. Yes $\Rightarrow$ open<br>b. No $\Rightarrow$ closed |
| (11) Is the door closed?                                  | a. Yes $\Rightarrow$ closed<br>b. No $\Rightarrow$ open |
| (12) Is the door open $\uparrow$ or closed $\downarrow$ ? | a. # Yes<br>b. # No                                     |

So far:

- these questions express *identical* propositions (each consisting of **two possibilities**, the possibility that the door is open, and the possibility that the door is closed)
- and yet the distribution and interpretation of polarity particles in responses to them varies:

Proposal:

- distinction between **highlighted** and non-highlighted possibilities<sup>1</sup>
- intuitively, highlighted possibilities are the ones that are **explicitly mentioned**

<sup>1</sup>See Roelofsen and van Gool (2010); Pruitt and Roelofsen (2011); Farkas (2011).

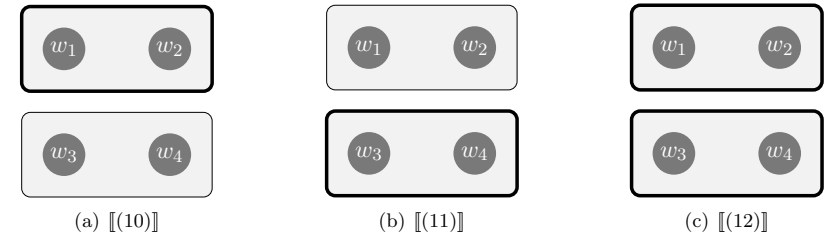


Figure 1: The possibilities proposed and highlighted by (10), (11), and (12).

Back to our examples:

- (10) highlights the possibility that the door is **open**
- (11) highlights the possibility that the door is **closed**
- (12) highlights **both** of these possibilities

In Figure 1:

- $w_1$  and  $w_2$  are worlds where the door is **open**
- $w_3$  and  $w_4$  are worlds where the door is **closed**
- **highlighted** possibilities are displayed with a **thick border**
- non-highlighted possibilities will be said to be *lowlighted*

## 5.2 Semantic value of default declaratives and default polar interrogatives

Syntactic assumptions:

- default declaratives: CPs headed by a default declarative complementizer,  $C_D$
- default polar interrogatives: CPs headed by a default polar interrogative complementizer,  $C_{PI}$
- sister node of C: TP node  $\varphi$  whose internal semantic value is a proposition consisting of one or more possibilities
  - semantic value of  $[_{TP} \text{the door is open}]$ : a proposition consisting of a single highlighted possibility made up of all worlds where the door is open.
  - semantic value of  $[_{TP} \text{Sam or Julie is home}]$ : proposition with two highlighted possibilities, one made up of all the worlds where Sam is home and one made up of all the worlds where Julie is home
  - semantic value of  $[_{TP} \text{a member of the band is missing}]$ : proposition consisting of a set of non-highlighted possibilities: the possibility in which Ringo is missing, the possibility in which John is missing, the possibility in which George is missing, and the possibility in which Paul is missing

*Semantic contribution of  $C_D$* : operator that applies to a clause  $\varphi$  and yields another clause,  $[C_D \varphi]$ , that expresses a proposition consisting of a single highlighted possibility: the union of all the possibilities for  $\varphi$

(13) **Default declarative complementizers**

$$[C_D \varphi] := \{\bigcup [\varphi]_{\langle H \rangle}\}$$

Once the TPs exemplified above combine with  $C_D$  the result is always a proposition consisting of a single highlighted possibility.

*Semantic contribution of  $C_{PI}$* :  $[C_{PI} \varphi]$  consists of exactly two alternative possibilities:

- one is the union of the possibilities in the proposition expressed by  $\varphi$ , which is highlighted
- the other is the complement of this set, which is not highlighted

(14) **Default polar interrogative complementizers**

$$[C_{PI} \varphi] := \{\bigcup [\varphi]_{\langle H \rangle}, \bigcup [\varphi]_{\langle L \rangle}\}$$

Semantic values of default declaratives and default polar interrogatives:

(15) The door is open.

$[C_D \text{ the door is open}]$  expresses a proposition consisting of a single highlighted possibility in which the door is open

(16) Is the door open?

$[C_{PI} \text{ is the door open}]$  expresses a proposition consisting of the highlighted possibility in which the door is open, and the lowlighted possibility in which it isn't

A constituent question (*Who closed the door?*) does not highlight any of the possibilities that make up the proposition that it expresses.

### 5.3 Preliminary account of polarity particles

Back to accounting for *yes* and *no*:

- Highlighted possibilities serve as **antecedents** for subsequent **anaphoric** expressions
- Polarity particles are such anaphoric expressions

Preliminary proposal for *yes/no*:

- A *yes* answer to an initiative  $\psi$  **presupposes** that there is **exactly one highlighted possibility** for  $\psi$ .
- If this presupposition is met, *yes* confirms this highlighted possibility.
- A *no* answer presupposes one or more highlighted possibilities on the Table and rejects them all.

Account of the contrast between (10), (11), and (12):

- In (10), there is **exactly one highlighted possibility**. So:
  - *yes* is licensed; it confirms the highlighted possibility, conveying that the door is open;
  - *no* denies the highlighted possibility, conveying that the door is closed.
- In (11), there is again **exactly one highlighted possibility**. So:
  - *yes* is licensed; it confirms the highlighted possibility, conveying that the door is closed;
  - *no* denies the highlighted possibility, conveying that the door is open.
- In (12), there are **two highlighted possibilities**. So:
  - *yes* is not licensed—its presupposition is not met;
  - *no* signals that the door is neither open nor closed, which is contradictory.

Some additional welcome results:

- Polarity particles can only be used in responses, **not ‘out of the blue’**.
- Polarity particles can **not** be used **in response to *wh*-questions**, assuming that such questions do not highlight any possibilities
- Mrs. Touchett’s respect for polarity particles is also accounted for given her love of efficiency

### 5.4 Positive and negative possibilities

The distinction between highlighted and non-highlighted possibilities is not enough:

(17) Amy failed the exam.

- Yes, she failed.
- \*No, she failed.

(18) Amy didn’t pass the exam.

- Yes, she didn’t pass.
- No, she didn’t pass.

So far:

- (17) and (18) are **equivalent**:
  - they express the same proposition
  - they highlight the same possibility

- and yet they do not license the same polarity particles

Conclusion:

- a semantic account of this contrast requires our notion of propositions/proposals to be even more fine-grained so as to distinguish between (17) and (18).

Proposal:

- distinction between **positive** and **negative** possibilities (see Barwise and Perry (1983), Ginzburg and Sag (2000), Cooper and Ginzburg (2011))
- negative possibilities are introduced by sentences involving sentential negation

- $\llbracket \text{not } \varphi \rrbracket$  consists of a single  $[H, -]$  possibility: the complement of  $\bigcup \llbracket \varphi \rrbracket$

Examples:

- $\llbracket \text{Amy failed the exam} \rrbracket$  consists of a single  $[H, +]$  possibility
- $\llbracket \text{Amy did not pass the exam} \rrbracket$  consists of a single  $[H, -]$  possibility

Common to both:

- the possibility involved consists of all worlds where Amy failed

Difference:

- in the first case this possibility is positive, in the second, it is negative

Back to polarity particles:

- Polarity particles presuppose positive/negative antecedents, just like pronouns presuppose masculine/feminine antecedents
- Polarity particles may have two functions:
  - they may signal whether the antecedent possibilities are **confirmed** or **rejected**
  - they may signal **positive** or **negative** nature of the response

In (17a-b):

- **positive, confirming** response
  - licenses *yes*
  - doesn't license *no*

In (18a-b):

- **negative, confirming** response
  - licenses *yes* (because confirming)
  - licenses *no* (because negative)

Next issue:

- capturing the connections between nature of antecedent, nature of response and the distribution of polarity particles

## 5.5 Absolute and relative polarity features

Two parameters that characterize responses involving polarity particles (Pope (1976); Ginzburg and Sag (2000); Farkas and Bruce (2010); Farkas (2010)):

- relation between response and antecedent (**confirming** vs. **rejecting**)
- nature of the response itself (**positive** vs. **negative**)

Polarity particles realize two sets of features:

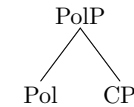
- **absolute** polarity feature marks a response as being
  - **positive**:  $[+]$
  - **negative**:  $[-]$
- **relative** polarity feature marks a response as
  - **confirming** and having the **same** absolute polarity as the antecedent:  $[SAME]$
  - **rejecting** and having the **reverse** absolute polarity relative to the antecedent:  $[REVERSE]$

Possible feature value combinations:

	response	relation with antecedent
$[SAME, +]$	+	same
$[SAME, -]$	–	same
$[REVERSE, +]$	+	reverse
$[REVERSE, -]$	–	reverse

Some syntactic assumptions:

- Polarity features are hosted by the head of a syntactic node called **PolP**
- Pol attaches to a clausal node, which we call its **prejacent**



- The prejacent CP may be partially or fully elided (or, alternatively, null pro-sentence when no prejacent present)
  - presence of prejacent is obligatory in some special cases in English; (essential for particle distribution in Romanian)
  - unitary account of *yes* and *no* in English: elided prejacent in cases of solo particle responses

To do next:

- The semantic contribution of the four possible feature combinations in Pol
- Feature realization rules:
  - which particles can be used to realize which features, and
  - given a certain feature combination, which features are to be realized

## 5.6 Interpretation of feature combinations in Pol

Semantic contribution of material in Pol:

- set of **presuppositions**
- if the presuppositions are met, Pol expresses the **identity function**,  $\lambda p.p$

Presuppositions of feature combinations in Pol:

- [SAME, +]
  - presupposes a unique [H, +] alternative  $\alpha$  on the Table<sup>2</sup>
  - presupposes that its prejacent **confirms** this alternative:  $\llbracket \text{prejacent} \rrbracket = \{\alpha_{[+]}\}$
- [SAME, −]
  - presupposes a unique [H, −] alternative  $\alpha$  on the Table
  - presupposes that its prejacent **confirms** this alternative:  $\llbracket \text{prejacent} \rrbracket = \{\alpha_{[-]}\}$
- [REVERSE, +]
  - presupposes a non-empty set of [H, −] alternatives A on the Table
  - presupposes that its prejacent **rejects** all these alternatives:  $\llbracket \text{prejacent} \rrbracket = \{\overline{\bigcup A_{[-]}}\}$
- [REVERSE, −]
  - presupposes a non-empty set of [H, +] alternatives A on the Table
  - presupposes that its prejacent **rejects** all these alternatives:  $\llbracket \text{prejacent} \rrbracket = \{\overline{\bigcup A_{[+]}}\}$

What is the connection between features in Pol and the polarity particles of a language?

## 5.7 Account of polarity particles in English (final version)

Two issues that have to be settled:

- Which features / feature combinations have to be realized?
- Which particles can be used to realize which features?

Some markedness considerations:

- (19)
- [−] is marked relative to [+]
  - [REVERSE] is marked relative to [SAME]
  - The absolute polarity of [REVERSE] responses is marked because it **contrasts** with the polarity of the antecedent
  - [REVERSE] in response to an assertion is more marked than [REVERSE] in response to a polar question

<sup>2</sup>We assume a discourse model in which a discourse context includes a stack of propositions, representing the proposals under consideration. This stack of propositions is called the Table. For convenience, we refer to alternatives that are contained in the *first* proposition on the Table simply as the ‘alternatives on the Table.’ The discourse model will be spelled out in the full paper (in progress). It will integrate inquisitive semantics with the model of Farkas and Bruce (2010), which in turn builds on much earlier work, e.g., Hamblin (1971); Stalnaker (1978); Carlson (1983); Ginzburg (1996); Clark (1992); Roberts (1996); Gunlogson (2001); Asher and Lascarides (2003); Büring (2003).

Expectation:

- Features that are more **marked** have higher ‘realization needs’ and thus will tend to be expressed more than features that are **unmarked**.

Connection between absolute and relative features:

- (20)
- [SAME] and [+] are the unmarked values in the two sets
  - [REVERSE] and [−] are the marked values in the two sets

- Possible syncretisms (see Pope (1976)):

- (21)
- one particle for [SAME] and [+]
  - one particle for [REVERSE] and [−]

Realization rules in English:

- (22)
- [SAME] and [+] realized by *yes*
  - [REVERSE] and [−] realized by *no*

Polarity particles in English do **double duty**

- they are used to realize both absolute and relative polarity features

Main predictions:

- (23)
- [SAME, +] can only be realized by *yes*
  - [REVERSE, −] can only be realized by *no*
  - [SAME, −] can be realized by *yes* or *no*
  - [REVERSE, +] can be realized by *yes* or *no*

- (24)
- In the case of [SAME, −] we expect a **preference** for *no* over *yes* because [−] is more marked than [SAME]
  - In the case of [REVERSE, +] **both features have high realization needs**; special conditions may obtain

- In English, [REVERSE, +] polarity phrases must have an explicit prejacent with **verum focus**, reflecting the **contrastive** positive polarity of the response:

- (25)
- A: Peter didn’t call.  
B: Yes, he DID. / No, he DID.

The full paradigm<sup>3</sup>:

- (26) A: Peter called. / Did Peter call?  
B: Yes, he did. / \*No, he did. [SAME,+]
- (27) A: Peter called. / Did Peter call?  
B: \*Yes, he didn't. / No, he didn't. [REVERSE,-]
- (28) A: Peter didn't call. / Did Peter not call?  
B: Yes, he didn't. / No, he didn't. (preference for *no*) [SAME,-]
- (29) A: Peter didn't call. / Did Peter not call?  
B: Yes, he DID. / No, he DID. (contrastive stress obligatory) [REVERSE,+]

## 6 Adding *sources* and *dependents*

Further puzzle (Gunlogson (2008)):

- (30) A: Stuart is in town.  
B: Yes, I saw him yesterday. / #Yes, I had no idea.

Main ideas in Gunlogson (2008):

- epistemic authority participants have over information contained in their commitments

- (31) You had a haircut.

- Speaker has some epistemic authority over the information expressed
- Addressee has more authority

Main proposal in Gunlogson (2008) that we adopt: distinction between a commitment on  $DC_X$  with X as *source* vs. with X as *dependent*

- X commits to a possibility  $p$  as a *source*: X presents herself as having evidence for  $p$  that is independent of her interlocutor's prior discourse commitments
- X commits to a possibility  $p$  as a *dependent*: X presents herself as depending on an interlocutor's previous commitment to  $p$
- default situation: X is source for commitments on  $DC_X$

Back to *yes* and *no*:

- both *yes* and *no* mark Speaker commitment to prejacent as source; may not be felicitously followed by statements that are inconsistent with the role of Speaker as source

Forms of assertion acceptance that do not register speaker as Source:

- (32) A: Johnny's just arrived.  
B: Aha. / Ok. (I had no idea.) Then we can start dinner.

<sup>3</sup>For a different account of [SAME,-] cases, where both *yes* and *no* can occur as 'solo' particles, see Kramer and Rawlins (2009) as well as Ginzburg and Sag (2000).

Information seeking questions:

- Questioner: no epistemic authority over answer
- Addressee: epistemic authority and therefore source for her answer

Quiz questions:

- Both Questioner and Addressee may be sources for answer

Some welcome consequences:

- (i) acceptance of answer to an information seeking polar question cannot be signaled with *yes* but it can be signaled with *ok*, *aha*;
- (ii) acceptance of answer to quiz question can be signaled with *yes*
- (iii) *ok* cannot be used to answer a question affirmatively because author of the answer to a question must be Source

- (33) A: Is Johnny coming with us to the movies?  
B: (Yes), he is. / No, he isn't.  
A: Aha. / Ok. / #Yes.
- (34) A: So, Johnny, what's the capital of California?  
J: Sacramento.  
A: Yes, you're right. Let's go on to a more difficult one.
- (35) A: Is Johnny coming with us to the movies?  
B: #Ok / #Aha.

Enriching discourse structures with *sources* and *dependents*:

- $DC_X$  divided into  $DC_{X,s}$  and  $DC_{X,d}$

In sum:

- default assertions add possibility  $p$  to  $DC_{Sp,s}$  ( $p^{Sp}$ )
- *yes* and *no* add prejacent to  $DC_{Sp,s}$
- having introduced sources and dependents, we expect them to be useful elsewhere

## 7 Beyond the default cases

### 7.1 Biased questions and tentative assertions

Common to default assertions and polar questions:

- $\llbracket \varphi \rrbracket$  is placed on the Table
- the Speaker commits to the informative content of the sentence (the union of the possibilities in  $\llbracket \varphi \rrbracket$ )

- as a result of the semantics of  $C_D$  and  $C_{PI}$ :
  - the Speaker commits to a typically non-trivial possibility in the case of default declaratives
  - the Speaker commits to a trivial possibility in the case of polar interrogatives and presents herself as epistemically neutral relative to the two alternatives in  $\llbracket \varphi \rrbracket$

Non-default assertions/polar questions:

- Non-default assertions: weaken commitment associated with default declaratives
- Non-default polar questions: give up the neutrality associated with default questions

Some non-default polar questions:

- (36)    a.    Suzanna is joining us, isn't she?  
           b.    Suzanna isn't joining us, is she?  
           c.    Suzanna is joining us, is she?

Terminology:

- Sentence form: *tag interrogatives*
- Speech act performed: *tag questions*
- The adjoined interrogative clause: the *tag*
- The initial declarative clause: the *anchor*
- The unique possibility in the semantic value of the anchor: *anchor possibility*
- Examples, (36a) and (36b): reverse tag questions (RTQs), which may be rising ( $\uparrow$ RTQs) or falling ( $\downarrow$ RTQs)
- Example (36c): same polarity tag questions (STQs); always positive, always rising

Non-default assertion:

- (37)    That's a persimon?

Terminology:

- sentence form in (37): rising declarative (RD)
- speech act performed by uttering (37): tentative assertion

Discourse effects:

- anchor bias in the case of tag questions;
- weakened commitment for the declarative sentence in the case of RDs.

Means to capture it: introduce the notion of conditional commitment to a possibility.<sup>4</sup>

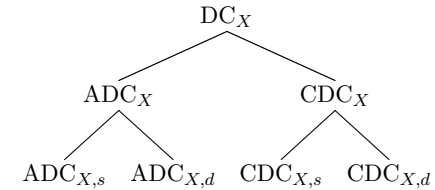
<sup>4</sup>The discussion below is inspired by Malamud and Stephenson (2011) when it comes to tag questions of various sorts and by Gunlogson (2001) and Gunlogson (2008) when it comes to rising declaratives. The notion of conditional commitments that we use here comes from Gunlogson (2008) but she does not apply it to tag questions. Malamud and Stephenson (2011) develop an account of tag questions that is similar in spirit to the one developed here, but do not use the notion of conditional commitments and the distinction between sources and dependents. For relevant discussion see also Beyssade and Marandin (2006) and Reese and Asher (2007).

**Conditional commitments**    Intuition behind conditional commitment:

- Speaker expresses conditional commitment if she expresses willingness to commit to  $p$  under the condition that her interlocutor commits to  $p$  as well
- since fate of  $p$  is to be decided by the Addressee, he should be future source for  $p$
- Speaker can be either source or dependent relative to  $p$
- a conditional commitment is less categorical than a non-conditional commitment
- conditional commitments are 'future' oriented: once the addressee commits to  $p$  as source in a future move,  $p$  is added to the actual discourse commitments of the Speaker and can go into the cg (see Malamud and Stephenson (2011), who talk in terms of projected commitments, capturing the same intuition)

Making room for conditional commitments:

- $DC_X$  split into two
  - X's actual commitments ( $ADC_X$ )
  - X's conditional commitments ( $CDC_X$ )
  - each branch split into further two branches depending on whether X is source or dependent
  - for all conditional commitments, Addressee is projected as future source



- (38)    a.     $Cp^{Sp}$ :  $p$  is to be added to  $CDC_{Sp,s}$   
           b.     $Cp_{Sp}$ :  $p$  is to be added to  $CDC_{Sp,d}$

**Rising reverse tag questions ( $\uparrow$ RTQs)**

- (39)    Suzanna is joining us, isn't she?

Intuition:

- $\uparrow$ RTQ signals that the Speaker is epistemically biased in favor of  $p$ , the anchor possibility, while at the same time being ready to accept its reverse on the authority of the Addressee
- difference wrt default polar interrogative: existence of Speaker's bias for the anchor possibility; signal of readiness to go against it on the authority of the Addressee



Discourse effects of  $\uparrow$ RTQ:

- place  $\{p, \bar{p}\}$  on the Table, with  $p$  highlighted, just as a polar question based on the anchor
- affect  $DC_{Sp}$  as in (40)

$$(40) \quad \begin{array}{ll} \text{a.} & Cp^{Sp} \\ \text{b.} & C\bar{p}_{Sp} \end{array}$$

$\uparrow$ RTQs are non-default initiatives: effect on the discourse context is special in that conditional commitments are involved; cannot be computed from what is on the Table in the standard way  
Consequences:

- Addressee should be in a position to source either  $p$  or  $\bar{p}$
- Speaker's epistemic authority over  $p$  should be lower than the Addressee's
- Context should allow for Speaker's epistemic bias for  $p$

Testing:

- follow Malamud and Stephenson (2011) in using predicates of personal taste
- 'judge' (participant whose direct experience is involved) has high epistemic authority and may act as source
- if no direct experience: always lower authority than 'judge'

*Context 1:* Addressee is eating ice cream, Speaker is not and no reason to assume Speaker is informed with respect to taste/quality of ice cream; Addressee is possible source for (41), Speaker is not:

$$(41) \quad \text{This is tasty.}$$

Predictions for Context 1:

$$(42) \quad \begin{array}{ll} \text{a.} & \text{Is it tasty?} \\ \text{b.} & \# \text{It's tasty, isn't it} \uparrow? \end{array}$$

problem with  $\uparrow$ RTQ: Speaker cannot be conditional source

*Context 2:* Speaker is eating ice-cream, Addressee isn't; no reason to suppose Addressee has any opinion on the quality of the ice-cream or any prior experience with it:

$$(43) \quad \begin{array}{ll} \text{a.} & \# \text{Is it tasty?} \\ \text{b.} & \# \text{It's tasty, isn't it} \uparrow? \end{array}$$

Problems here: Addressee cannot be source; Speaker is the only one in a position to decide on the anchor possibility

*Context 3:* Speaker and Addressee are eating ice-cream from the same container; both equally good sources for statements on the quality of the ice-cream:

$$(44) \quad \text{It's tasty, isn't it} \uparrow?$$

Additional prediction: response to  $\uparrow$ RTQs can be either *yes* or *no* but not *aha*

## Falling reverse tag questions ( $\downarrow$ RTQs)

$$(45) \quad \text{Suzanna is joining us, isn't she?}$$

Intuition:

- stronger Speaker bias for  $p$ ; Addressee should still be possible source

Same contextual effect as  $\uparrow$ RTQs except single conditional commitment to  $p$  as source:

$$(46) \quad Cp^{Sp}$$

## Same tag questions (STQs)

$$(47) \quad \text{It's tasty, is it?}$$

Intuition:

- Express Speaker's bias in favor of the Addressee's commitment to  $p$  as source and express some skepticism toward  $p$

Minimally different from  $\uparrow$ RTQ except the effect on  $DC_{Sp}$  is as in (48), with no additional commitment to  $\bar{p}$ :

$$(48) \quad Cp_{Sp}$$

Bias for anchor possibility rooted not in Speaker's own experience but rather in what she takes the Addressee's epistemic bias to be.

Should be fine in Context 1 in case the Addressee is eating ice cream with gusto and the Speaker hasn't tasted it yet:

$$(49) \quad \text{It's tasty, is it?}$$

## Rising declaratives (RDs)

$$(50) \quad \text{That's a persimmon?}$$

Intuition:

- Assertion-like in that some type of commitment to  $p$  is expressed
- Question-like in that commitment is contingent on Addressee's ratification

We treat these as tentative assertions

- place single possibility  $p$  on the Table, just like default assertions
- add  $p$  to  $DC_{Sp,s}$ , unlike default assertions

$$(51) \quad Cp^{Sp}$$

RDs: require both Speaker and Addressee to be possible sources but given the conditional commitment expressed, the Speaker presents herself as having less epistemic authority over  $p$  than the Addressee since she requires Addressee ratification in order to commit to  $p$  even though she has some independent reason to do so.

Proposals here are tentative but give an idea of how the basic picture we gave for default cases can be extended.

Open issues:

- role of negation; why STQs are always positive
- role of nuclear vs post nuclear distinction
- possibility of neutral negative  $\uparrow$ RTQs

## 7.2 Are default positive and negative polar questions really neutral?

Recent insightful discussion of this issue in AnderBois (2011), Büring and Gunlogson (2000), van Rooij and Šafářová (2003), Romero and Han (2004) and references therein.

In neutral contexts, a default positive polar question is typically more natural than a negative one:

- (52) a. Is  $/p/$  a fricative?  
b. #Is  $/p/$  not a fricative?

What considerations drive the choice of question form?

Terminology:

- (53) *Prejacent possibility of a default polar question*  
If  $Q$  is a default polar question, we refer to the unique possibility that it highlights as its prejacent possibility, and denote this possibility as  $p_Q$ .

Empirical generalization:

- (54) *Felicity condition for default polar questions*  
A default polar question  $Q$  is only felicitous if there is no compelling contextual evidence against  $p_Q$ .

Examples supporting this generalization (Büring and Gunlogson, 2000):

- (55) Scenario: A enters S's windowless computer room wearing a dripping wet raincoat.  
a. S: What's the weather like out there? Is it raining?  
b. S: #What's the weather like out there? Is it sunny?
- (56) Scenario: A and S have conducted a psycholinguistic experiment in which the subjects have all certified that they are right-handed. They encounter Carl, who they recognize as one of their subjects, cutting bread with his left hand.  
a. S: Is Carl left-handed?  
b. S: #Is Carl right-handed?

## Account

- Positive form is formally less marked than negative form; as a result, you need a special reason to use a negative form; in the absence of such reasons, the positive is preferred. (Horn, 2001)
- Choice of question form is governed by a pragmatic principle that directs the Speaker towards avoiding a situation where the Addressee would give a [REVERSE] response.
- This is based on the markedness principle mentioned above and repeated below:

(57) [REVERSE] is marked relative to [SAME]

- The pragmatic principle that captures (54) is formulated in (58):

(58) *Avoid [REVERSE]*  
Other things being equal, a cooperative speaker formulates her initiative in such a way as to avoid a situation where her interlocutor would give a [REVERSE] response.

- Consequences of (58)

- compelling contextual evidence *against* good weather and *for* rain makes S ask *Is it raining?* rather than *Is it sunny?* in (55)
- compelling evidence *for* Carl being left-handed makes the Speaker ask *Is he left-handed?* or *Is he not right-handed?* rather than *Is he right-handed?* in (56)
- a negative polar question can be good in a neutral context if the utility of the [SAME] response to the negative question is greater than the utility of a [SAME] response to the corresponding positive question

(59) Scenario: A visits her doctor D with her son.  
D: Has he not been eating properly?

(van Rooij and Šafářová, 2003)

## 8 Conclusion

Aims:

- balance the semantic and discourse facets of our analysis of various types of declarative and polar interrogatives in such a way as to separate default cases from more complex ones
- account for all the default cases in a uniform way
- give an account of polarity particle distribution and interpretation

Results:

- Commonalities across all the cases we considered:
  - semantic core of all cases: express sets of possibilities
  - raise the issue of locating the actual world within one of the possibilities the sentence expresses
  - commit the Speaker (conditionally or unconditionally) to the informative content of their utterance –  $w_a$  within the union of the possibilities in the proposition expressed

- Differences:
  - singleton vs. non-singleton set of possibilities
  - trivial vs. non-trivial commitment
  - actual vs. conditional commitments
  - commitment as source or as dependent
- Account of polarity particles:
  - distinction between highlighted and lowlighted possibilities
  - distinction between positive and negative possibilities
  - distinction between absolute and relative features

- (60)
- Is the door open?
  - Is the door closed?
  - Is the door not open?
  - Is the door not closed?
  - Is the door open or closed?

## References

- AnderBois, S. (2011). *Issues and alternatives*. Ph.D. thesis, University of California Santa Cruz.
- Asher, N. and Lascarides, A. (2003). *Logics of Conversation*. Cambridge University Press.
- Barwise, J. and Perry, J. (1983). *Situations and Attitudes*. The MIT Press.
- Beysade, C. and Marandin, J.-M. (2006). From complex to simple speech acts: a bidimensional analysis of illocutionary forces. In R. Fernández and D. Schlangen, editors, *Brandial '06: Proceedings of the 10th Workshop on the Semantics and Pragmatics of Dialogue (SemDial-10)*. University of Potsdam.
- Büiring, D. (2003). On d-trees, beans, and accents. *Linguistics and Philosophy*, **26**, 511–545.
- Büiring, D. and Gunlogson, C. (2000). Aren't positive and negative polar questions the same? Manuscript, UCSC/UCLA.
- Carlson, L. (1983). *Dialogue Games*. Reidel, Dordrecht.
- Ciardelli, I. and Roelofsen, F. (2011). Inquisitive logic. *Journal of Philosophical Logic*, **40**(1), 55–94.
- Clark, H. (1992). *Arenas of Language Use*. University of Chicago Press, Chicago.
- Cooper, R. and Ginzburg, J. (2011). Negative inquisitiveness and alternatives-based negation. Presented at the 18th Amsterdam Colloquium.
- Farkas, D. (2010). The grammar of polarity particles in Romanian. In *Edges, Heads, and Projections: Interface properties*, pages 87–124. John Benjamins.
- Farkas, D. (2011). Polarity particles in English and Romanian. In *Romance Linguistics 2010: Selected papers from the 40th Linguistic Symposium on Romance Linguistics (LSRL)*, pages 303–328. John Benjamins.
- Farkas, D. and Bruce, K. (2010). On reacting to assertions and polar questions. *Journal of semantics*, **27**, 81–118.
- Ginzburg, J. (1996). Dynamics and the semantics of dialogue. In J. Seligman, editor, *Language, Logic, and Computation*, volume 1.
- Ginzburg, J. and Sag, I. (2000). *Interrogative Investigations*. CSLI Publications.
- Groenendijk, J. and Roelofsen, F. (2009). Inquisitive semantics and pragmatics. Presented at the Workshop on Language, Communication, and Rational Agency at Stanford, May 2009, available via [www.illc.uva.nl/inquisitive-semantics](http://www.illc.uva.nl/inquisitive-semantics).
- Gunlogson, C. (2001). *True to Form: Rising and Falling Declaratives as Questions in English*. Ph.D. thesis, University of California at Santa Cruz.
- Gunlogson, C. (2008). A question of commitment. *Belgian Journal of Linguistics*, **22**, 101–136.
- Hamblin, C. I. (1971). Mathematical models of dialogue. *Theoria*, **37**, 130–155.
- Horn, L. (2001). *A Natural History of Negation*. CSLI Publications.
- Kramer, R. and Rawlins, K. (2009). Polarity particles: an ellipsis account. In *The Proceedings of NELS 39*.
- Malamud, S. and Stephenson, T. (2011). Three ways to avoid commitments: Declarative force modifiers in the conversational scoreboard. In *Proceedings of the 15th Workshop on the Semantics and Pragmatics of Dialogue*, pages 74–83.
- Pope, E. (1976). *Questions and Answers in English*. Mouton, The Hague.
- Pruitt, K. and Roelofsen, F. (2011). Disjunctive questions: prosody, syntax, and semantics. Presented at a seminar at the Georg August Universität Göttingen, April 2011, available via [www.illc.uva.nl/inquisitive-semantics](http://www.illc.uva.nl/inquisitive-semantics).
- Reese, B. and Asher, N. (2007). Prosody and the interpretation of tag questions. In E. Puig-Waldmüller, editor, *Proceedings of Sinn und Bedeutung 11*, pages 448–462.
- Roberts, C. (1996). Information structure in discourse. In J. Yoon and A. Kathol, editors, *OSU Working Papers in Linguistics*, volume 49, pages 91–136. Ohio State University.
- Roelofsen, F. and van Gool, S. (2010). Disjunctive questions, intonation, and highlighting. In M. Aloni, H. Bastiaanse, T. de Jager, and K. Schulz, editors, *Logic, Language, and Meaning: Selected Papers from the Seventeenth Amsterdam Colloquium*, pages 384–394. Springer.
- Romero, M. and Han, C. (2004). On negative yes/no questions. *Linguistics and Philosophy*, **27**(5), 609–658.
- van Rooij, R. and Šafářová, M. (2003). On polar questions. In R. Young and Y. Zhou, editors, *Proceedings of Semantics and Linguistics Theory (SALT 13)*, pages 292–309. CLC Publications.
- Stalnaker, R. (1978). Assertion. *Syntax and Semantics*, **9**, 315–332.