Polarity particles

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1 Introduction

- Across languages, responses to polar questions and assertions are often marked by so-called *polarity particles* (in English: *yes*/*no*)

(1) Amy left.
  a. Yes, she did.
  b. No, she didn't.

(2) Did Amy leave?
  a. Yes, she did.
  b. No, she didn't.

- **Key issues** to be addressed:
  - What kind of polarity particle systems exist across languages?
    - **two particle** systems (e.g., English, Spanish)
    - **three particle** systems (e.g., Romanian, French, German)

(3) A telefonat Paul? 'Did Paul call?'
  a. Da. 'Yes, he did.'
  b. Nu / Ba nu. 'No, he didn't.'

(4) Nu a telefonat Paul? 'Did Paul not call?'
  a. Nu. 'No, he didn't.'
  b. Ba da. 'Yes, he DID.'

  - Questions of **distribution** and **interpretation**:
    - What does each particle do?
    - What are the distributional restrictions in each language?
    - How do languages with two particles differ from those with three?
    - What cross-linguistic patterns should we expect? And what do we find?
  - Polarity particles need an **antecedent**: not good in 'out of the blue' contexts
    - How do polarity particle relate to their antecedent?

*This class is based on joint work with Donka Farkas (Farkas and Roelofsen, 2012). It is also closely related to a line of experimental work in collaboration with Adrian Brasoveanu (Brasoveanu, Farkas, and Roelofsen, 2012, 2013).

- Polarity particles may be used as a **window** onto the semantics and discourse function of the utterances that they are used to react to
  - polarity particles are fine in reactions to assertions and polar questions
  - not fine in reactions to *wh*-questions, and certain types of disjunctive questions

(5) Who left?
  a. *Yes.
  b. *No.

(6) Did Amy leave↑ or stay↓?
  a. *Yes.
  b. *No.

- How to capture the essential similarities and the crucial differences between assertions and the various kinds of questions.

- Basic ideas to be worked out:
  - Both assertions and questions express a **proposal** to update the common ground of a conversation in one or more ways[1]
  - Polarity particles mark responses to a given proposal as being **confirming/reversing**, or as being **positive/negative**

- First part of the class:
  - Develops a precise and sufficiently fine-grained formal notion of proposals
  - Specifies how polarity particles are used to mark responses to such proposals
  - Lays out what we expect to find cross-linguistically

- Second part of the class:
  - Examines the polarity particle systems in Romanian, French, and German, which differ in interesting ways from English

2 Proposals, responses, and polarity particles

2.1 Proposals as sets of possibilities

- We will work within the framework of **inquisitive semantics**[2]
- In inquisitive semantics, the proposition expressed by a sentence does not just capture the informative content of that sentence, but also its inquisitive content
- Intuitively, propositions are thought of as representing **proposals** to update the common ground of the conversation in one or more ways
- Formally, propositions are defined as sets of **possibilities** (also called *alternatives*)[3]

[1] See Stalnaker (1978); Groenendijk and Roelofsen (2009); Farkas and Bruce (2010), among others.

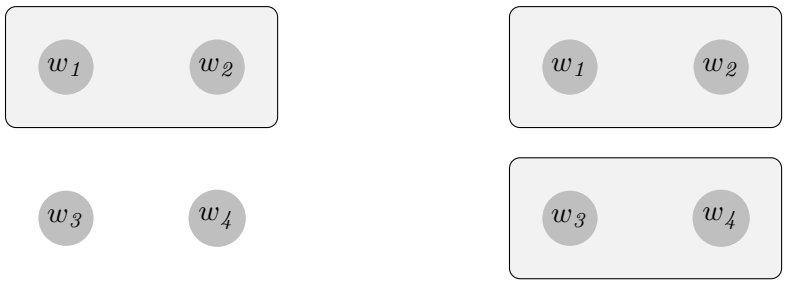
[2] See Groenendijk and Roelofsen (2009); Ciardelli and Roelofsen (2011); AnderBois (2011); Roelofsen (2012). Inquisitive semantics is closely related to the framework of *alternative semantics* (Kratzer and Shimoyama, 2002; Alonso-Ovalle, 2006, among others). For detailed discussion of this connection see Roelofsen (2012).

[3] We simplify here somewhat: propositions are usually defined in inquisitive semantics as *downward closed* sets of information states, which in turn are sets of worlds. The *maximal* elements in a proposition A are then called the possibilities or alternatives in A. For our purposes here, propositions can be directly characterized as sets of possibilities.

- Each possibility is a set of **possible worlds**, representing a potential update
- Example:

  The propositions expressed by (1) and (2) are depicted below:

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



(a) [Amy left] (b) [Did Amy leave?]

- The proposition expressed by a sentence φ is denoted by $[\![\varphi]\!]$
- In uttering a sentence φ, a speaker:
  1. **provides** the information that the actual world is located in at least one of the possibilities in $[\![\varphi]\!]$, and at the same time
  2. **steers** the conversation towards a common ground that is contained in one of the possibilities in $[\![\varphi]\!]$

2.2 Highlighting

- For many purposes, it is sufficient to simply represent proposals as sets of possibilities
- However, to account for the distribution and interpretation of polarity particles we need a **more fine-grained** formal representation of proposals
- To see this, consider the following three questions:

  (7) Is the door open?

  (8) Is the door closed?

  (9) Is the door open↑ or closed↓?

- The propositions expressed by these questions all consist of the **same two possibilities**: the possibility that the door is open, and the possibility that the door is closed
- Yet, if we consider the distribution and interpretation of polarity particles in responses to these questions, we find striking differences:

(7) Is the door open?

a. Yes ⇒ open
b. No ⇒ closed

(8) Is the door closed?

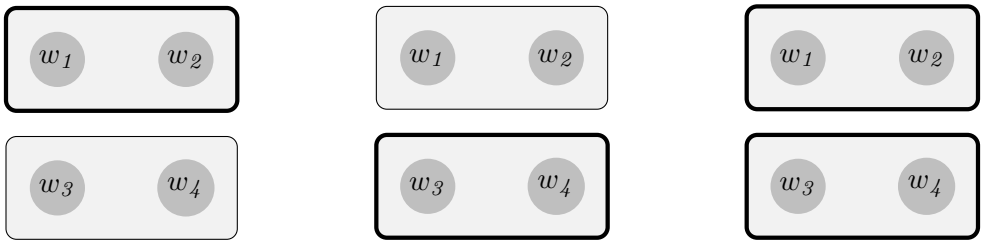
a. Yes ⇒ closed
b. No ⇒ open

(9) Is the door open↑ or closed↓?

a. # Yes
b. # No

- The contrast between (7) and (8) is sometimes presented as a general argument against **'proposition set' approaches** to questions, which include the classical theories of Hamblin (1973), Karttunen (1977), and Groenendijk and Stokhof (1984).
- It has inpired several **alternative approaches** to the semantics of questions such as:
  - the **structured meaning** approach of von Stechow (1991); Krifka (2001)
  - the **dynamic** approach of Aloni and van Rooij (2002)
  - the **orthoalgebraic** approach of Blutner (2012)
- We will not pursue a full-fledged alternative to the proposition set approach, but rather to extend it in a suitable way
- **Key idea**:
  - A speaker may **highlight** some of the potential updates that she proposes
  - Intuitively, highlighted updates are ones that the speaker **explicitly mentions**
- The proposition expressed by a sentence should not only capture which updates are proposed when the sentence is uttered, but also which updates are highlighted.
- To this end, we make a distinction between highlighted and non-highlighted possibilities.[4]
- For instance:
  - (7) highlights the possibility that the door is **open**
  - (8) highlights the possibility that the door is **closed**
  - (9) highlights **both** of these possibilities
- This is depicted in figure 1, where:
  - 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**
- Highlighted possibilities may serve as **antecedents** for subsequent **anaphoric** expressions
- Polarity particles are such anaphoric expressions

[4] See also Roelofsen and van Gool (2010); Pruitt and Roelofsen (2011).



(a) [(7)] (b) [(8)] (c) [(9)]

Figure 1: The possibilities proposed and highlighted by (7), (8), and (9).

- Assume that *yes* and *no* are interpreted as follows (to be refined)
  - A *yes* answer to φ **presupposes** that $[\varphi]$ contains **exactly one** highlighted alternative.
  - If this presupposition is met, *yes* confirms this highlighted alternative.
  - A *no* answer simply rejects all the highlighted possibilities for ψ.
- Then the contrast between (7), (8), and (9) is accounted for
- In the case of (7), there is **exactly one highlighted alternative**. So:
  - *yes* is licensed; it confirms the highlighted alt, conveying that the door is open;
  - *no* denies the highlighted alternative, conveying that the door is closed.
- In the case of (8), there is again **exactly one highlighted alternative**. So:
  - *yes* is licensed; it confirms the highlighted alt, conveying that the door is closed;
  - *no* denies the highlighted alternative, conveying that the door is open.
- In the case of (9), there are **two highlighted alternatives**. 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 predictions:
  - 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

2.3 Independent motivation for the notion of highlighting

- Constructions other than *yes* and *no* seem sensitive to highlighting as well.

- Anaphoric elements:[5]

(10) a. Is the door open? **Then** the doctor is in.
b. Is the door closed? **Then** the doctor is in.
c. Is the door open↑ or closed↓? # **Then** the doctor is in.

(11) a. Is the door open? **Otherwise**, please wait.
b. Is the door closed? **Otherwise**, please wait.
c. Is the door open↑ or closed↓? # **Otherwise**, please wait.

- There are clear empirical differences between (10-a), (10-b), and (10-c):
  - (10-a) implies that the doctor is in if the door is **open**;
  - (10-b) implies that the doctor is in if the door is **closed**;
  - (10-c) is infelicitous.
- Explanation in terms of highlighting:
  - The question in (10-a) highlights the possibility that the door is **open**;
  - The question in (10-b) highlights the possibility that the door is **closed**;
  - These highlighted possibilities serve as the **antecedent** for anaphoric *then*.
  - (10-c) highlights **both** possibilities.
  - Assuming that *then*, just like *yes*, presupposes a unique highlighted possibility, this explains why (10-c) is infelicitous.
- Question embedding verbs:[6]

(12) a. John knows whether the door is open.
b. John knows whether the door is closed.

(13) a. John doubts whether the door is open.
b. John doubts whether the door is closed.

- (12-a) and (12-b) are truth-conditionally equivalent:
  - John knows whether the door is open if and only if he knows whether the door is closed.
- (13-a) and (13-b) are **not truth-conditionally equivalent**:
  - in a situation where John suspects that the door is open, we can truely say that he doubts whether the door is closed, but not that he doubts whether the door is open.
- This asymmetry cannot be explained if the embedded questions in (13-a) and (13-b), *whether the door is open* and *whether the door is closed*, have exactly the same semantic value.
- Explanation in terms of highlighting:
  - The embedded questions highlight different possibilities;
  - The semantics of *doubt* depends on the possibility highlighted by its complement.

[5] Similar examples are discussed, for different purposes, by Starr (2009) and by Mameni (2010).

[6] These observations were inspired by Karttunen's (1977) squib on *doubting whether*. Related observations have also been made more recently by Rawlins (2008); Biezma and Rawlins (2012).

2.4 Positive and negative possibilities

- The notion of highlighting yields a more fine-grained semantics of questions and assertions, but it is **not yet sufficient** for a full account of polarity particles
- To see this, consider the following contrast:

(14) Susan failed the exam.
  a. Yes, she failed.
  b. *No, she failed.

(15) Susan didn't pass the exam.
  a. Yes, she didn't pass.
  b. No, she didn't pass.

- (14) and (15) are entirely **equivalent** in the system developed so far:
  - They express exactly the same proposition
  - They highlight exactly the same possibility
- Still, they do not license the same polarity particle responses[7]
- This contrast can only be captured semantically if we make our notion of propositions/proposals even more fine-grained
- ... fine-grained enough to reflect the relevant difference between (14) and (15)
- To this end, we will make a distinction between **positive** and **negative** possibilities
- Negative possibilities are introduced by clauses with sentential negation
- [not φ] always consists of a single negative highlighted possibility: $\overline{\bigcup[\![\varphi]\!]}$
- Example:
  - [Susan failed the exam] consists of a positive possibility
  - [Susan did not pass the exam] consists of a negative possibility
  - In both cases, the possibility involved consists of all worlds where Susan failed
  - However, in one case this possibility is positive, in the other it is negative
- Polarity phrases presuppose positive/negative antecedents, just like pronouns presuppose masculine/feminine antecedents
- Polarity particles in English do **double duty**:
  - They may signal whether the antecedent possibilities are **confirmed** or **rejected**
  - or whether the antecedent possibilities are supposed to be **positive** or **negative**
- In (14-a-b):
  - ***yes*** signals that the response is **confirming** or that the antecedent is **positive**
  - ***no*** is **not licensed** because it can only be used to signal that the response is **rejecting** or that the antecedent is **negative**
    Neither is the case here: the response is confirming and the antecedent is positive
- In (15-a-b), *yes* signals confirmation, while *no* signals that the antecedent is negative

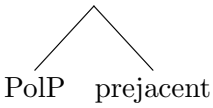
[7] See Kramer and Rawlins (2009) and Holmberg (2012) for related observations, and Brasoveanu, Farkas, and Roelofsen (2012) for experimental work corroborating these observations.

2.5 Absolute and relative polarity features

- To capture the idea that polarity particles do double duty, we assume that they are used to **realize** either an **absolute** or a **relative polarity feature**[8]
- An **absolute** polarity feature marks a response as being **positive** or **negative**
- A **relative** polarity feature marks a response as having the **same** absolute polarity as the antecedent, or the **reverse**
- Absolute polarity feature values: [+] and [−]
- Relative polarity feature values: [SAME] and [REVERSE]
- Thus, in total there are four possible feature value combinations:

	response	relation with antecedent
[SAME,+]	+	same
[SAME,−]	−	same
[REVERSE,+]	+	reverse
[REVERSE,−]	−	reverse

- Polarity features are hosted by a syntactic node called **PolP**
- Syntactically, PolP always attaches to a clausal node, which we call its **prejacent**



- The prejacent may be partially or fully elided
- To be specified:
  - The semantic contribution of the four possible feature combinations in PolP
  - Feature realization rules:
    - which particles can be used to realize which features, and
    - given a certain feature combination, which features need to be realized

2.6 Interpretation of feature combinations in PolP

- The semantic contribution of any polarity feature combination in PolP is twofold:
  1. It presupposes that the discourse context makes certain antecedent possibilities available
  2. It requires that its prejacent either agrees with or reverses these antecedent possibilities

[8] See Pope (1976); Ginzburg and Sag (2000); Farkas and Bruce (2010); Farkas (2010).

- [SAME,+]
  - presupposes a unique **positive** highlighted possibility α on the Table[9]
  - requires that its prejacent **agrees** with α, both in terms of content and in terms of polarity: $[\![\text{prejacent}]\!] = \{\alpha_{[+]}\}$
- [SAME,−]
  - presupposes a unique **negative** highlighted possibility α on the Table
  - requires that its prejacent **agrees** with α, both in terms of content and in terms of polarity: $[\![\text{prejacent}]\!] = \{\alpha_{[-]}\}$
- [REVERSE,+]
  - presupposes a non-empty set of **negative** highlighted possibilities A on the Table
  - requires that its prejacent **reverses** A, both in terms of content and in terms of polarity: $[\![\text{prejacent}]\!] = \{\overline{\bigcup A}_{[+]}\}$
- [REVERSE,−]
  - presupposes a non-empty set of **positive** highlighted possibilities A on the Table
  - requires that its prejacent **reverses** A, both in terms of content and in terms of polarity: $[\![\text{prejacent}]\!] = \{\overline{\bigcup A}_{[-]}\}$

2.7 Realization rules

- Which particles can be used to realize which features?

  In English:
  - [SAME] and [+] can be realized by *yes*
  - [REVERSE] and [−] can be realized by *no*
- Consequences:
  - [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*
- Thus, polarity particles in English do **double duty**
  - they are used to realize both absolute and relative polarity features
- Given a certain feature combination, which features are to be realized?

  Features that are more **marked** have higher 'realization needs'

[9] We assume the discourse model developed in Farkas and Roelofsen (2012), building on Farkas and Bruce (2010). In this model, 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.'

Some factors determining markedness:

1. **Absolute polarity scale**: [−] is marked relative to [+]
2. **Relative polarity scale**: [REVERSE] is marked relative to [SAME]
3. **Contrastive markedness**: the absolute polarity of [REVERSE] responses is marked because it contrasts with the polarity of the antecedent
4. **Reversal scale**: a [REVERSE] response to an assertion is more marked than a [REVERSE] response to a question, since only the former results in a 'conversational crisis'

- Some consequences:
  - 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**; across languages we expect to find different strategies to satisfy these needs

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

(16) A: Peter didn't call.
B: Yes, he DID. / No, he DID.

- The full paradigm in English:

(17) A: Peter called. / Did Peter call?
B: Yes, he did. / *No, he did. [SAME,+]

(18) A: Peter called. / Did Peter call?
B: *Yes, he didn't. / No, he didn't. [REVERSE,−]

(19) A: Peter didn't call. / Did Peter not call?
B: Yes, he didn't. / No, he didn't. (preference for *no*) [SAME,−]

(20) A: Peter didn't call. / Did Peter not call?
B: Yes, he DID. / No, he DID. (contrastive stress obligatory) [REVERSE,+]

- What do we expect to find cross-linguistically?
  - **Common core.**
    We assume that absolute and relative *polarity features*, and their *interpretation*, form the common core of polarity particle systems across languages
  - **Variation.**
    What may differ from language to language is:
    * the *particle inventory*
    * the *realization rules*
  - **Constraints on variation.**
    We expect that cross-linguistic variation is constrained by the general principle that more marked features have higher realization needs

3 Polarity particles cross-linguistically: an initial exploration

- In this section we will consider several **languages with three polarity particle systems**:
  - A language with two absolute particles and a specialized [REVERSE] particle (Romanian)
  - Two languages with a specialized particle for [REVERSE,+]
    - based on an adversative [REVERSE] morpheme (German)
    - or based on a special [+] morpheme (French) (see also Swedish and Danish)
- The variation found across these languages is in line with our markedness considerations
- All these languages have special strategies to satisfy the high realization needs of [REVERSE,+]

3.1 A dedicated [reverse] particle: the case of Romanian

- Particle inventory: *da*, *nu*, *ba*
- Realization rules for Romanian:
  - Realization **potential** of polarity particles
    - *da* realizes [+]
    - *nu* realizes [−]
    - *ba* realizes [REVERSE]
  - Realization **needs** of polarity features
    - Absolute features must be realized, either by a particle or by the prejacent clause
    - [SAME] is never realized
    - [REVERSE] is always realized in [REVERSE,+] responses
    - [REVERSE] is optionally realized in [REVERSE,−] responses to assertions
    - [REVERSE] is never realized in [REVERSE,−] responses to questions

Illustrations:

- *da* realizes [+]

(21) [SAME,+]
A: Paul a telefonat./A telefonat Paul? 'Paul called./Did Paul call?'
B: Da/*Nu, (a telefonat). 'Yes / *No (he called)'.

(22) [REVERSE,+]
A: Paul nu a telefonat./Nu a telefonat Paul? 'P did not call./Did P not call?'
B: Ba da/*Nu, (a telefonat). 'Yes, he DID.'

- *nu* realizes [−]

(23) [SAME,−]
A: Paul nu a telefonat./Nu a telefonat Paul? 'P did not call./Did P not call?'
B: Nu, (nu a telefonat). 'No, (he didn't call).'

(24) [REVERSE,−]
A: Paul a telefonat./A telefonat Paul? 'Paul called./Did Paul call?'
B: Nu, (nu a telefonat). 'No, (he didn't call).'

- *ba* realizes [REVERSE]

(25) [REVERSE,+]
A: Paul nu a telefonat./Nu a telefonat Paul? 'P did not call./Did P not call?'
B: Ba (da)/*nu, (a telefonat). 'Yes, he DID.'

(26) [REVERSE,−]
A: Paul a telefonat. 'Paul called.'
B: (Ba) nu, (nu a telefonat). 'No, (he didn't call).

- Absolute features must be realized (by particle or prejacent):

(27) A: Paul nu a telefonat. 'Paul did not call.'
B: *Ba. / Ba da. / Ba, a telefonat. 'Yes, he DID.'

(28) A: Paul a telefonat. 'Paul called.'
B: *Ba. / Ba nu, (nu a telefonat). / Ba, nu a telefonat. 'No, he didn't.'

- Realization of [REVERSE] in different types of responses:
  - In [REVERSE,+] responses, [REVERSE] is **always** realized: see (25)
  - In [REVERSE,−] responses to **assertions**, [REVERSE] is **optionally** realized:

(29) [REVERSE,−] in reactions to assertions
A: Paul a telefonat. 'Paul called.'
B: (Ba) nu, (nu a telefonat). 'No, he didn't.'

  - In [REVERSE,−] responses to **questions**, [REVERSE] is **never** realized:

(30) [REVERSE,−] in reactions to questions
A: Nu a telefonat Paul? 'Did Paul call?'
B: *Ba nu/Nu, (nu a telefonat). 'No, he didn't.'

- The Romanian polarity particle system and our markedness considerations
  - The existence of languages with a dedicated [REVERSE] particle and no dedicated [SAME] particle is in line with our markedness considerations
  - We expect that there are no languages exhibiting the opposite pattern—a dedicated [SAME] particle but no dedicated [REVERSE] particle
  - The behavior of the [REVERSE] particle is also in line with our markedness considerations:
    - [REVERSE,+] is more marked than [REVERSE,−] and thus has higher realization needs
    - Assertion reversal is more marked than question reversal: only the former leads to a 'conversational crisis'

- Main contrasts with English
  - Presence of a dedicated [REVERSE] particle
  - No overlap in the use of *da* and *nu*, because these polarity particles don't do double duty
  - High realization needs of [REVERSE,+] are satisfied by obligatory [REVERSE] particle
- Expectations concerning other three polarity particle systems with a dedicated [REVERSE] particle:
  - Realization of [+] could be optional, because [+] is relatively unmarked
  - In this case, solo [REVERSE] would be possible in [REVERSE,+] responses (Hungarian)
  - Realization of [REVERSE] could be obligatory throughout

3.2 A dedicated [reverse,+] particle: the case of French and German

- Languages with basic absolute polarity particles may have a special [REVERSE,+] because no absolute polarity particle can realize both features and yet both have high realization needs.
- Special [REVERSE,+] particles may consist of a special [+] particle or a special [REVERSE] particle.

3.2.1 Languages with a special [+] particle for [reverse,+]: French

- Polarity particles in French: *oui*, *non*, *si*
- Features realized by each particle:
  - *oui* realizes [+]

    (31) [SAME,+]
    A: Claude est à la maison. 'Claude is at home.'
    B: Oui, (elle y est). 'Yes, (she is.)'

  - *non* realizes [−]

    (32) [SAME,−]
    A: Claude n'est pas à la maison. 'Claude is not at home.'
    B: Non, (elle n'y est pas). 'No, (she isn't).

  - *si* realizes [REVERSE,+]

    (33) [REVERSE,+]
    A: Claude n'est pas à la maison. 'Claude is not at home.'
    B: Si, (elle y est). 'Yes, she IS.'

    (34) [REVERSE,−]
    A: Claude est à la maison. 'Claude is at home.'
    B: *Si/Non, (elle n'y est pas). 'No, (she isn't).'

3.2.2 Languages with a special [reverse] particle for [reverse,+]: German

- Polarity particles in German: *ja*, *nein*, *doch*
- Features realized by each particle:
  - *ja* realizes [SAME]

    (35) [SAME,+]
    A: Katharina ist zu Hause. 'Katharina is at home.'
    B: Ja, (sie ist zu Hause). 'Yes, (she is at home).'

    (36) [SAME,−]
    A: Katharina ist nicht zu Hause. 'Katharina is not at home.'
    B: Ja, (sie ist nicht zu Hause). 'Yes, (she is not at home).'

  - *nein* realizes [−]

    (37) [SAME,−]
    A: Katharina ist nicht zu Hause. 'Katharina is not at home.'
    B: Nein, (sie ist nicht zu Hause). 'No, (she is not at home).'

    (38) [REVERSE,−]
    A: Katharina ist zu Hause. 'Katharina is at home.'
    B: Nein, (sie ist nicht zu Hause). 'No, (she is not at home).'

  - *doch* realizes [REVERSE,+]

    (39) [REVERSE,+]
    A: Katharina ist nicht zu Hause. 'Katharina is not at home.'
    B: Doch, (sie ist zu Hause). 'Yes, she IS.'

    (40) [REVERSE,−]
    A: Katharina ist zu Hause. 'Katharina is at home.'
    B: *Doch, (sie ist nicht zu Hause). 'No, she is not at home.'

    (41) [SAME,+]
    A: Katharina ist zu Hause. 'Katharina is at home.'
    B: *Doch, (sie ist zu Hause). 'Yes, she is.'

4 Conclusion

- In order to account for the distribution and interpretation of polarity particles we made three crucial distinctions:
  - A distinction between highlighted and non-highlighted possibilities (semantic)
  - A distinction between positive and negative possibilities (semantic)
  - A distinction between absolute and relative polarity features (syntactic)
- We assume that polarity features are realized by polarity particles
- We assume that the interpretation of polarity features is constant across languages

- What may differ from language to language is the particle inventory and the realization rules
- We expect that the realization rules of any particular language are in line with the general principle that more marked features have higher realization needs
- The account presented here may of course be further extended in several directions:
  - Disjunctive questions and assertions (Pruitt and Roelofsen, 2011)
  - Tag-questions, rising declaratives (Farkas and Roelofsen, 2012)
  - Imperatives, high negation questions, conditional questions, conjunctive questions
- Investigating polarity particles is interesting in its own right, but also has wider repercussions: they provide a valuable window onto the semantics and discourse function of the utterances that they are used to react to.

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