

Intro to polar questions?

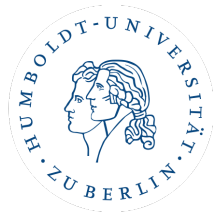
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OVA 2026 in Debrecen

Day 1: recap

- Languages mark PQs via question particles, intonation, verb morphology, or word order. Sometimes, there are several strategies per language.

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- Declaratives vs. Interrogatives: Declaratives have truth-conditions (determined relative to a possible world). Interrogatives do not have truth-conditions, they have answerhood conditions.
- Knowing the answerhood conditions for a PQ means knowing what counts as an answer; specifically, whether p holds or $\neg p$ holds, i.e., $\{p; \neg p\}$

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- Declaratives vs. Interrogatives: Declaratives have truth-conditions (determined relative to a possible world). Interrogatives do not have truth-conditions, they have answerhood conditions.
- Knowing the answerhood conditions for a PQ means knowing what counts as an answer; specifically, whether p holds or $\neg p$ holds, i.e., $\{p; \neg p\}$
- The Problem: Classical proposition-set frameworks predict that
 - (1) Positive PQ = Low-Negation PQ = High-Negation PQ = $\{p, \neg p\}$
- Today (Day 2): Why this fails, unpacking negation and question bias.

Syntax: High and low negation

- | | | | |
|-----|----|------------------------------|--------------------|
| (2) | a. | Isn't Judit a chess player? | [high-negation PQ] |
| | b. | Is Judit not a chess player? | [low-negation PQ] |

Syntax: High and low negation

- | | | | |
|-----|----|---|--------------------|
| (2) | a. | Isn't Judit a chess player? | [high-negation PQ] |
| | b. | Is Judit not a chess player? | [low-negation PQ] |
| (3) | a. | Ne igraet li Katja v šaxmaty?
NEG play LI Katja in chess
'Doesn't Katja play chess?' | [high-negation PQ] |
| | b. | Katja ne igraet v šaxmaty?
Katja NEG play in chess
'Doesn't Katja play chess? / Does Katja not play chess?' | [low-negation PQ] |

- where negation is positioned, high or low in the structure

Meaning: Inner and outer negation

Ladd (1981), Büring and Gunlogson (2000), among many others

(4) Situation: Bob is visiting Kathleen in Chicago.

[Bob:] I'd like to take you out to dinner while I'm here.

[Kathleen:] Nice, but there's really no place for us non-meat eaters to go in Hyde Park.

[Bob:] Oh, really, **is there no vegetarian restaurant around here?**

[Kathleen:] No, about all we can get is hamburgers and souvlaki.

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[Kathleen:] No, about all we can get is hamburgers and souvlaki.

- since Kathleen says that there is no option, Bob is double-checking that there is no restaurant
- because it's 'inside' the proposition [? [$\neg p$]], let's call this negation INNER
- negation is negating, doing it's 'meaningful' job

Meaning: Inner and outer negation

(5) Situation: Kathleen visits Bob in Chicago.

[Bob:] You must be starving. Do you want to get something to eat?

[Kathleen:] Yeah, **isn't there a vegetarian restaurant around here —
Moosewood, or something like that?**

[Bob:] Gee, you've heard about Moosewood, huh? OK, let's go there.

Meaning: Inner and outer negation

(5) Situation: Kathleen visits Bob in Chicago.

[Bob:] You must be starving. Do you want to get something to eat?

[Kathleen:] Yeah, **isn't there a vegetarian restaurant around here —
Moosewood, or something like that?**

[Bob:] Gee, you've heard about Moosewood, huh? OK, let's go there.

- Kathleen is double-checking that there is a restaurant, as she thinks there is one
- in other words, it is not that negative, negation is doing something else here
- negation is 'outside' the proposition somehow [? [$\neg$ [p]]], let's call it OUTER

Inner vs outer negation in German

Büring and Gunlogson (2000), Krifka (2011)

- *nicht ein* vs. *kein* in German PQs

- (6) Gibt es **nicht ein** vegetarisches Restaurant in dieser Ecke? [outer negation]
gives EXPL not a vegetarian restaurant in this corner
'Isn't there a vegetarian restaurant around here?'
- (7) Gibt es **kein** vegetarisches Restaurant in dieser Ecke? [inner negation]
gives EXPL no vegetarian restaurant in this corner
'Is there no vegetarian restaurant around here?'

Mapping of form and meaning

- high and low – position in the structure
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- English:
 - high *Isn't there ...?* → outer
 - low *Is there not ...?* → inner
- German:
 - *nicht ein* → outer
 - *kein* → inner
- Russian:
 - high with *li* → outer
 - low intonationally marked → ???

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- Russian:
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Are we sure that there are two readings of negation, though?

How to test for outer and inner readings?

Ladd (1981), Romero and Han (2004), Goodhue (2022), AnderBois (2019), among others

Polarity Items test

- *too* and *either* need their polarity

- (8)
- a. Jane is coming too.
 - b. Jane is coming either.

- (9)
- a. Jane is not coming too.
 - b. Jane is not coming either.

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Polarity Items test

- *too* and *either* need their polarity

- (8) a. Jane is coming too. ✓
b. Jane is coming either. ✗

- (9) a. Jane is not coming too. ✗
b. Jane is not coming either. ✓

- (10) [high-negation PQ]
a. Isn't Max coming too?
b. Isn't Max coming either?

- (11) [low-negation PQ]
a. Is Max not coming too?
b. Is Max not coming either?

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How to test for outer and inner readings?

Goodhue (2022)

Again-test

- (12)
- a. Is Max coming again?
 - b. Isn't Max coming again?
 - c. Is Max not coming again?
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- what can one say about Max's previous appearances based on these PQs?

How to test for outer and inner readings?

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 - high-negation in (b) also presupposes that p happened before

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- a. Is Max coming again?
 - b. Isn't Max coming again?
 - c. Is Max not coming again?

- what can one say about Max's previous appearances based on these PQs?
- positive PQ in (a) presupposes that p happened before
- high-negation in (b) also presupposes that p happened before
- high-negation in (b) is not really that negative $\rightarrow$ outer
- low-negation in (c) presupposes that $\neg p$ happened before $\rightarrow$ inner

How to test for outer and inner readings?

Goodhue (2022)

***Also*-test**

- (13)
- a. Is Max coming, also?
 - b. Isn't Max coming, also?
 - c. Is Max not coming, also?

- let's say we have another person in mind, Peter
- what can we infer about Peter and Max from these PQs with *also*?

How to test for outer and inner readings?

Goodhue (2022)

***Also*-test**

- (13) a. Is Max coming, also?
 b. Isn't Max coming, also?
 c. Is Max not coming, also?

- let's say we have another person in mind, Peter
- what can we infer about Peter and Max from these PQs with *also*?
- positive PQ in (a) presupposes that Peter is coming too, so does high negation in (b)
- low-negation in PQ in (c) presupposes that Peter is not coming too

Theory from yesterday

- the proposition set frameworks, aka the theory from yesterday, predicts the same meaning because of $\{p; \neg p\}$
- answerhood conditions are the same, yes and no
- completely different PQs!
- how to get out? how to capture their differences?

Polar question bias

Sudo (2013), Gärtner and Gyuris (2017), Krifka and Trinh (2025), among others

- PQs questions are still $\{p, \neg p\}$ and have an additional component to their meaning, namely **question bias**



non-biased PQ



biased PQ towards $\neg p$, I guess?

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- PQs questions are still $\{p, \neg p\}$ and have an additional component to their meaning, namely **question bias**



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- Bias is the expectation of a particular answer based on the personal internal information state of the inquirer or external contextual evidence
- Bias can support p , support $\neg p$ or be neutral with respect to them.

Polar question bias

(14) A dialog at the party.

[Kathleen:] I struggle so much with the Alien Gambit! I wish someone could properly explain it to me.

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[Bob:] I think Judit can help you. ...

(i) ... Is she a chess player?

[positive PQ]

(ii) ... Is she not a chess player?

[low-negation PQ]

(iii) ... Isn't she a chess player?

[high-negation PQ]

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– a sentence is grammatical but it doesn't fit a context

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– a sentence is grammatical but it doesn't fit a context

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- original speaker belief that p = Judit is a chess player

(15) ORIGINAL SPEAKER BIAS for p (Romero 2024: 281)

Personal belief or expectation of the speaker that p is true, based on their information state prior to the current situational context and conversational exchange.

Polar question bias

- (16) Bob struggles with playing the black pieces, so Kathleen recommends that he talk to Susan, whom she believes can help improve his game. However, Bob responds:

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[Bob:] Susan? She doesn't even know how pawns move!

[Kathleen:] What? ...

(i) ... Is she a chess player?

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| (iii) | ... # / ? Isn't she a chess player? | [high-negation PQ] |

- original Kathleen's belief that p = Susan is a chess player
- current contextual evidence that $\neg p$ = Susan is not a chess player

- (17) CONTEXTUAL EVIDENCE BIAS for $\neg p$ (Romero 2024: 282)

Expectation that $\neg p$ is true induced by evidence that has just become mutually available to the participants in the current discourse situation (NB: possibly contradicting prior belief of the speaker).

Polar question bias

(18) Bob remembers that Sofia simply hates board games. But at the party, Kathleen tells Bob:

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| (iii) | ... Isn't she a chess player? | [high-negation PQ] |

- original Bob's belief that $\neg p$ = Sofia is not a chess player, as she hates board games
- current contextual evidence that p = Sofia is a chess player

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Polar question bias

Sudo (2013)

Feature-based approach

		SPEAKER BIAS	EVIDENTIAL BIAS
<i>Is Judit a chess player?</i>	PPQs	none	must not be for $\neg p$
<i>Isn't Judit a chess player?</i>	high-neg PQs	for p	must not be for p
<i>Is Judit not a chess player?</i>	low-neg PQs	for p	must be for $\neg p$

Japanese PQs

Sudo (2013)

- bare or with particles *no* and *desho*
- note: ON-PQs - Outer Negation PQs, IN-PQs - Inner Negation PQs,

		SPEAKER	EVIDENTIAL
<i>John-wa hidarikiki?</i>	PPQ- $\emptyset$	none	must not be for $\neg p$, nor for p
<i>doko-ka oisii resutoran sir-anai?</i>	ON-PQ- $\emptyset$	for p	must not be for $\neg p$
<i>doko-mo oisii resutoran sir-anai?</i>	IN-PQ- $\emptyset$	none	must be for $\neg p$
<i>ima ame futteru no?</i>	PPQ- <i>no</i>	none	must be for p
<i>doko-ka oisii resutoran sir-anai no?</i>	ON-PQ- <i>no</i>	for p	none
<i>dare-mo hokani ko-nai no?</i>	IN-PQ- <i>no</i>	for p	must be for $\neg p$
<i>John-wa hidarikiki desho?</i>	PPQ- <i>desho</i>	for p	none
<i>doko-ka oisii resutoran sir-anai desho?</i>	ON-PQ- <i>desho</i>	for $\neg p$	must not be for p
<i>dare-mo hokani ko-nai desho?</i>	IN-PQ- <i>desho</i>	for $\neg p$	none

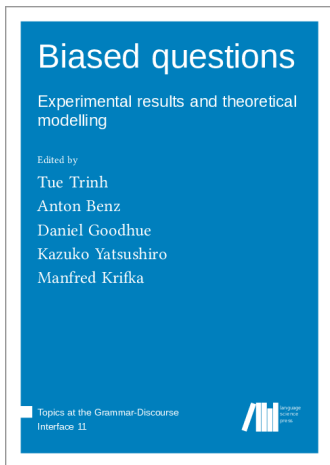
Hungarian PQs

Gyuris (2017)

		SPEAKER	EVIDENTIAL
<i>Esik az eső/\?</i>	PPQ- $\emptyset$ ($\wedge$ -Int.)	none	must not be for $\neg p$, nor for p
<i>Nem esik az eső is/\?</i>	ON-NPQ- $\emptyset$	for p	must not be for p
<i>Nem esik az eső sem/\?</i>	IN-NPQ- $\emptyset$	none	must be for $\neg p$
<i>Esik-e az eső?</i>	PPQ- <i>e</i>	none	must not be for $\neg p$ nor for p
<i>Nem esik-e az eső is?</i>	ON-NPQ- <i>e</i>	for p	must not be for $\neg p$, nor for p
—	IN-NPQ- <i>e</i>	—	—
<i>Esik/\ az eső/\?</i>	PPQ- <i>decl</i> ($\wedge$ -Decl.)	none	must be for p
—	ON-NPQ- <i>decl</i>	—	—
<i>Nem esik/\ az eső sem/\?</i>	IN-NPQ- <i>decl</i>	none	must be for $\neg p$

- Negative *-e* questions do not have an IN-NPQ reading (Gyuris 2017: 16)
- ON-NPQ readings do not have a grammatical $\wedge$ -declarative counterpart (Gyuris 2017: 16)

More on bias in different languages



- many different languages

How to model Question Bias

- Where the semantic–pragmatic boundary blurs, how do we divide the labor? Should we divide it?
 - **Pragmatics** → context-driven and conversation-related inferences
 - **Semantics** → convention-related and lexically/grammatically built-in operators

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The Dual Nature of Speaker Bias (Prior Beliefs)

- **Inquirer (Expression):** Encodes their private inclination in the question.
- **Addressee (Retrieval):** Infers the inquirer's private inclination.

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The Dual Nature of Evidential Bias (Contextual Cues)

- **Inquirer (Retrieval):** Infers cues from the immediate environment.
- **Inquirer (Expression):** Encodes compatibility with that environment in the question.

How to model Speaker bias

- (19) Isn't Judit Polgar a chess player? [high-negation; double-checking p]
- (20) ORIGINAL SPEAKER BIAS for p (Romero 2024: 281)
Personal belief or expectation of the speaker that p is true, based on their information state prior to the current situational context and conversational exchange.

How to model Speaker bias

- (19) Isn't Judit Polgar a chess player? [high-negation; double-checking p]
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Personal belief or expectation of the speaker that p is true, based on their information state prior to the current situational context and conversational exchange.

Three ways (Romero 2024):

- A. The Expressed Proposition Line
- B. The VERUM Line
- C. The Speech Act Line

How to model Evidential bias

- (21) Is Alysa Liu not a chess player? [low-negation; double-checking $\neg p$]
- (22) CONTEXTUAL EVIDENCE BIAS for $\neg p$ (Romero 2024: 282)
Expectation that $\neg p$ is true induced by evidence that has just become mutually available to the participants in the current discourse situation (NB: possibly contradicting prior belief of the speaker).

Two ways (Romero 2024):

- A. The Expressed Proposition Line
- B. ~~The VERUM Line~~
- C. The Speech Act Line

Weight and symmetry for semantics of PQs

Goodhue (2024); Tabatowski (2022)

(23) *Weight*

- a. A heavy semantics includes semantically encoded pragmatic operators, resulting in a denotation that cannot embed under a responsive predicate like *know*, e.g. speech act operators, conversational/doxastic modals, attitude predicates
- b. A *light* semantics lacks such operators and so can embed under a responsive like *know*, e.g. sets of propositions, partitions, functions from answers to truth values

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(24) *Symmetry* (bipolar/monopolar)

- a. A *symmetrical* semantics is one in which all questions have identical denotations, e.g. $PPQ = NPQ = \{p; \neg p\}$
- b. In an *asymmetrical* semantics, they have different denotations, e.g. $PPQs = \{p\}$, $NPQs = \{\neg p\}$

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