

## Overview

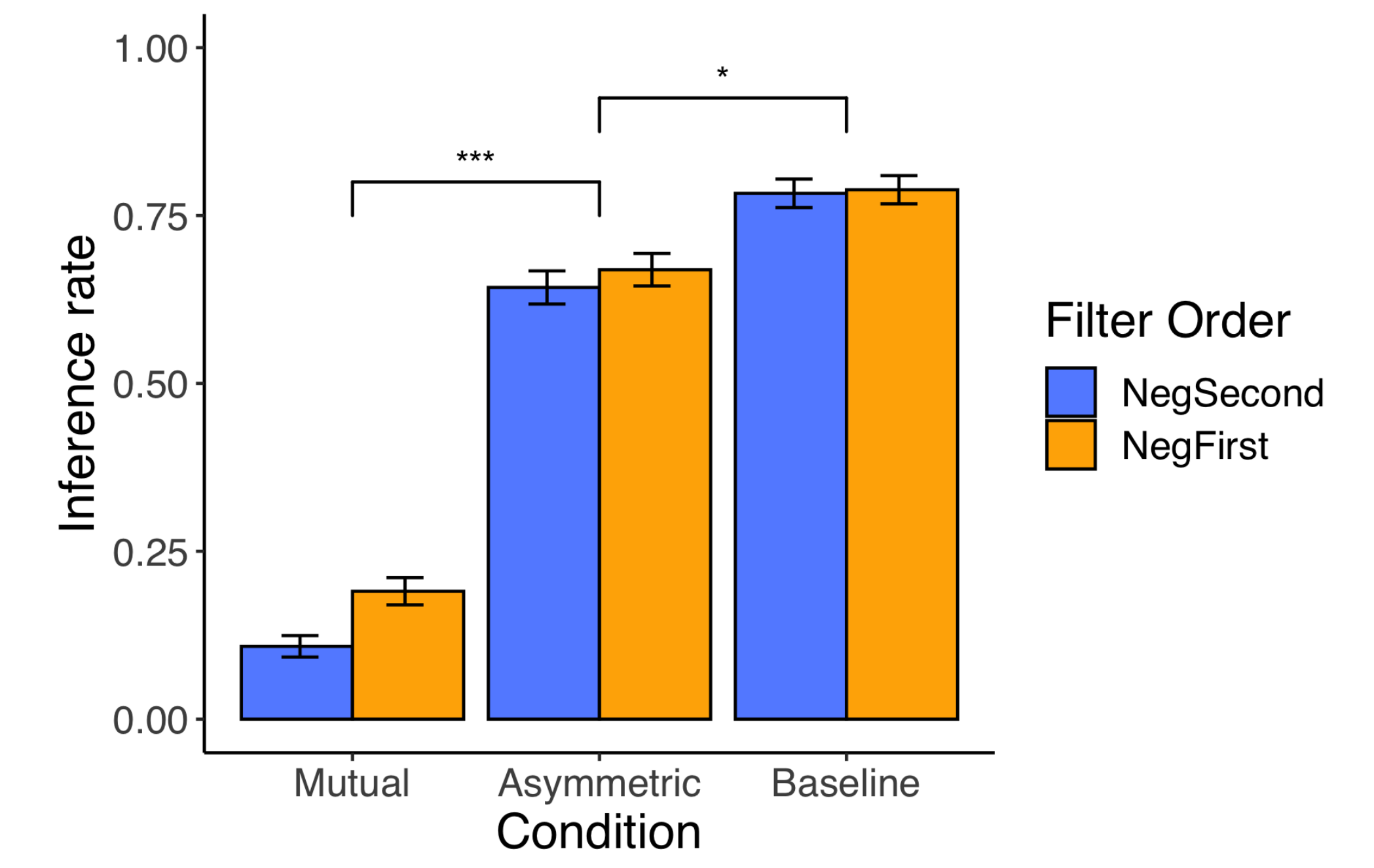
- An inference task using disjunctions with a presupposition filter that asymmetrically entails the presupposition.
- Result:** presupposition filtering does not appear to be systematic in either direction.

## Hypothesis Space

- H1** Symmetric Filtering  
In both orders  $p$  is filtered out
- H2** Asymmetric Filtering  
 $p$  is filtered in only the neg-first order
- H3** No filtering

## Exp. 1 - Results

- The data do not support H2:
  - In the asymmetric condition, no effect of the factor order. (logistic regression, slope for order, random intercepts for subject and item)
  - What effect we do see is in the wrong direction.
- Asymmetric condition:
  - Inference rate is higher than mutual, in support of H3.
  - Inference rate is lower than baseline, in support of H1.



- Model 1 - asymmetric v. mutual; Model 2 - asymmetric v. baseline (Model 1:  $p < 0.001$ , Model 2:  $p = 0.0357$ ).

## Introducing the problem

Disjunction is often thought to be a symmetric presupposition filter.

- Motivation comes from sentences of the form:
  - $\lceil \text{not } p' \text{ or } q_p \rceil$  (*neg-first order*)
  - $\lceil q_p \text{ or not } p' \rceil$  (*neg-second order*)

(1) a. Either there is no bathroom, or the bathroom is upstairs.  
b. Either the bathroom is upstairs, or there is no bathroom.

- Partee 'bathroom sentences':
  - $p' = p = \text{There is a bathroom}$
  - $q_p = \text{The bathroom is upstairs}$

This is inconclusive: a possible confound with local accommodation.

- Presupposing *there is a bathroom* violates a norm [1]:
  - The speaker of the disjunction must be ignorant about of the truth-value of each disjunct.
- local accommodation*: mechanism that allows presuppositions not to project if they conflict with other inferences [2].

## Exp. 1 - Design

### Task & Procedure:

- Inference task: given a discourse, does the speaker believe  $p$ ?
- Sentences were presented as 'overheard', simulating accommodation out of the blue.
- Four **target** and two **baseline** conditions, formed from two factors **entailment pattern** and **disjunct order**

	Neg First	Neg Second
<b>Mutual Entailment</b>	not $p$ or $q_p$	$q_p$ or not $p$
<b>Asymmetric Entailment</b>	not $p_+$ or $q_p$	$q_p$ or not $p_+$
<b>Baseline: No entailment</b>	not $r$ or $q_p$	$q_p$ or not $r$

- 9 items, presented in each condition for 36 targets and 18 baselines.
- 12 controls and 6 fillers: conditionals with and without presupposition triggers respectively.
- Experiment built and hosted online using PClbex. Preregistered at <https://osf.io/g3kzp>.

### Participants:

- 50 native English speaking participants recruited using Prolific.
- We planned to exclude any participant who failed to correctly answer more than 75%. 8 participants were excluded.

### Predictions: for the asymmetric condition

- H1 - inference rates should be low across both disjunct orders.
- H2 - inference rates higher in the *neg-second* order
- H3 - inference rates should be high across both orders.

## Selected references

[1] Gazdar, G. 1979. *Pragmatics: implicature, presupposition, and logical form*. [2] Heim, I. (1983). On the projection problem for presuppositions. [3] Hirsch, A., & Hackl, M. (2014). Incremental presupposition evaluation in disjunction. NELS44. [4] Hirsch, A., Zehr, J., & Schwarz, F. (2018). Presupposition projection from disjunction in online processing. SuB21. [5] Kalmoiros, A., & Schwarz, F. (2023). Presupposition projection from 'and' vs. 'or': Experimental data and theoretical implications. J. of Sem. [6] Mandelkern, M., Zehr, J., Romoli, J., & Schwarz, F. (2020). We've discovered that projection across conjunction is asymmetric (and it is!). L&P.

## Follow-up Experiment

Results are not decisively in favor of H1 or H3:

Follow up considering the possibility that H1 is correct, but seeing that the negation of 'not  $p_+$ ' entails  $p$  is difficult.

(3) Exp. 2 - Negation and Entailment

- Mary believes Ellen does not live in Paris.
- John believes Ellen lives in France.
- Prompt: Mary is wrong. Is John right?

Participants' (n = 54, recruited on prolific) correct response rate by entailment:

- Mutual: 83.3%
- Asymmetric: 42.5%

Significant effect of item-based score ( $p < 0.001$ , logistic regression item-score vs. response in Exp.1)

While [3,4] provide evidence of an incremental parsing (asymmetric) view, recent work using acceptability judgments supports a symmetric view [5]

Local accommodation is only expected to be available as a last resort.

(2) a. Either Mary doesn't live in Paris, or John knows she lives in France.  
b. Either John knows that Mary lives in France, or she does not live in Paris.

$p'$  **asymmetrically** entails  $p$

Therefore negation of  $p'$  is compatible with belief in  $p$   
no reason to trigger local accommodation