

# Alternatives and Adaptation in Scalar Implicature

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*9/27/2018*

## Introduction

Informal definition of scalar implicature (SI) offered by Potts (2015): a contextually-conditioned inference arising from social-cognitive (cf. Griceans, Bayesian / game-theoretic pragmaticists) or semantic processes (cf. grammaticists); namely:

An utterance  $U$  conveys a scalar conversational implicature iff there are alternative utterances  $U'$  that are at least as relevant as  $U$  in the discourse and that are communicatively stronger than  $U$ . (The content of this implicature will depend on the context, the nature of the utterance competition, and other pragmatic factors.)

## A categorical view of SI:

- By far the most popular understanding of SI
- Encompasses both (neo-)Gricean and grammaticist views.
- The inference: the negation of a proposition expressed by a communicatively stronger alternative utterance (or a related, weaker inference regarding the speaker's epistemic attitude towards that proposition, cf. Sauerland 2004).

## A gradient view of SI:

- A newer class of formal analysis of SI relying on probabilistic inference (cf. Goodman and Stuhlmüller 2013; Franke and Jäger 2016).
- The inference: any negative change in the listener-perceived posterior probability of a meaning conveyed by a communicatively stronger alternative.

## Comparing the approaches

- As a quantitative class of formalisms, the gradient view allows for the specification of models which capture population-level variation in pragmatic inference (Potts et al. 2016, Waldon et al. in prep) as well as the specification of explicit linking functions from competence to behavior in experimental paradigms (Jasbi, Waldon, and Degen under review).

The present project expands critical comparison of the two approaches by exploring two conjectures:

- **Conjecture #1 (Priming)**: The gradient view uniquely allows for the specification of quantitative models which capture within-subject priming effects in scalar implicature experimental paradigms.
- **Conjecture #2 (Interpretation)**: The gradient view allows for the specification of models which generate unique predictions regarding the kinds of SI inferences that are available to listeners.

## Priming:

Priming with respect to SI is a well-attested phenomenon (cf. the work of Bott, Degen, Papafragou, and collaborators).

### Priming via exposure to the strong scalar alternative

- Meaning blocking hypothesis: for a given scale, exposure to strong scalar alternative meanings attenuates the degree to which weak scalar items receive an upper-bounded interpretation.
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- Meaning priming hypothesis: for a given scale, exposure to strong scalar alternative meanings increases the degree to which weak scalar items receive an upper-bounded interpretation.
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### Priming via exposure to upper-bounded meanings

- Meaning blocking hypothesis: for a given scale, exposure to upper-bounded meanings attenuates the degree to which weak scalar items receive an upper-bounded interpretation.
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The RSA framework affords us a quantitative model of adaptation consistent with meaning blocking or meaning priming hypothesis, regardless of whether the priming comes from exhaustive meanings or strong scalar alternatives.

## Gradient priming

Gradient adaptation: an empirical faultline: only RSA allows us to model gradient meaning-blocking adaptation at all, categorical models of SI predict that pragmatic interpretation can vary only in a binary respect (i.e. is the alternative online or not?)

## Interpretation:

Range of interpretation options constrained on categorical views by virtue of how these models must deal with the symmetry problem.

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