Causal attributions in the adaptation of pragmatic informativity assumptions
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\textbf{Introduction}

Referential Expectations:
- Speakers should use only the necessary and sufficient information to uniquely refer (Grice, 1975)
- However, in spontaneous speech speakers produce more information than necessary (Nadig & Sedivy, 2002; Engelhardt, Bailey & Ferreira, 2006; Degen et al., 2017), and less information than necessary only in supportive contexts (Brown-Schmidt & Tanenhaus, 2008)
- Two hypotheses:
  1) People are only sometimes Gricean
  2) People adapt their expectations to speakers and contexts

\textbf{How do we adapt our pragmatic expectations?}
- Updating p(referential expression | referent, speaker, context...)
- Only faithfully keeping track of the statistics may lead to overfitting the estimate to uninformative data (e.g., mistakes)
- Rational listeners may leverage
  1) statistical structure of the input: What kinds of utterances are more or less likely?
  Pogue et al., (2016): Listeners readily adapt their expectations in response to a priori less likely, hence more informative, input.
- Two sampling assumptions:
  1) data is sampled and how reliable is the evidence?

\textbf{Main Question:} Are listeners appropriately adapting their expectations based on the evidence? Can they consider evidence beyond the linguistic signal?

\textbf{General Methods}

\textbf{Experiment 1}

\textbf{Does explicit correction of assumed context cancel speaker-specific pragmatic generalization?}

2 Versions:
- \textbf{Both Good (n=96):} an error notice suggests that an otherwise under-informative speaker is actually sufficiently referring
- \textbf{One Good (n=95):} error notice "fixes" one of the speakers

3 Conditions:
- Early Info: error notice before exposure
- Late Info: error notice after exposure
- No Error

\textbf{Experiment 2}

\textbf{Does context-based attribution happen if plausible context is given visually?}

\begin{itemize}
  \item Visual-Context Informative (n=80): the location of the target with respect to the listener makes the instruction under-/informative
  \item Gaze Informativeness (n=32): the speaker does/not provide an informative gaze cue in addition to their instruction
\end{itemize}

\textbf{Generalization (12 trials)}

\begin{itemize}
  \item Overall significant effect of test trial type (p <.001) for Both Good, but not One Good
  \item Suggests that top down information is not sufficient to cancel speaker-specific attributions, even if notified before exposure
  \item Some suggestion from secondary analysis, that it might be possible if the listener thinks the top down info is believable
\end{itemize}

\textbf{Main Findings:} It’s not that people are only sometimes Gricean; they can leverage various distributional assumptions and beliefs about the sampling process of the data to modulate their expectations appropriately. Listeners integrate contextual information to explain seemingly under-informative sentences, maintaining the informativity assumption for a given speaker. But they do not necessarily consider explicit information as sufficient to override expectations from evidence.

\textbf{References:}