

Hey guess why I'm speaking to you: The role of knowledgeability in inferencing

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We learn about the world through language. Communication is an inherently complicated process. On the surface it seems simple enough to take the sounds we hear and map those onto words and then map them onto meaning. However, listeners often go beyond the surface form of an utterance and compute additional meaning (Grice, 1975). That is, they compute pragmatic inferences. Pragmatic inferences rely on the expectation that interlocutors communicate rationally and cooperatively. We have an expectation for conversational contributions to add something to the discourse (Rohde, Futrell, & Lucas, 2021) but what happens when we encounter a mundane utterance? Arguably as listeners we have to backward engineer a reason as to why the speaker chose to utter this. We present two pilot experiments investigating how a speaker's expertise in a topic may influence the inferences made when listeners encounter these mundane utterances (Moty & Rhodes, 2021). Below we present preliminary data for these studies. Data collection is ongoing.

Experiment 1. In Experiment 1 participants saw see a speaker, Suzy, telling her dad about her day (See Fig.1). There are two conditions: familiar and unfamiliar. In the familiar condition Suzy is telling her dad about a place that she is familiar with (her school) and in the unfamiliar condition Suzy is telling her dad about a place she has visited on a school trip (Prime Minister's offices). Sentences were of the form "I saw that..." Participants were asked what they thought it was like before (same or different). It was predicted that participants responses would differ based on the location. At School Suzy is knowledgeable about this so it could be inferred that the mundane utterance is informing you of something new. Whereas for the PM's office there is no reason to think things would have been different. To check assumptions of familiarity participants were asked to rate how familiar they thought Suzy was with each location on a 5 point scale (5 extremely familiar and 1 not familiar at all).

Analysis & Preliminary Results. Participants (N=20) rated Suzy as being significantly more familiar with school than the PM's offices ($t(19)=8.3, p<.001$). Fig 2 shows the proportion of "same" responses. Participants' responses were analysed using a binomial mixed effects model was run with maximal random effects that allowed for convergence¹. Location had no effect on participants' responses ($z=-1.2, p=.221$).

Experiment 2. In Experiment 1 we found no difference in responses based on location. Participants responded that things were the same before an equivalent proportion of time in both the familiar and unfamiliar condition, despite rating familiarity as higher for the familiar condition. In Experiment 2 we test the inclusion of an attention cue. Here utterances began with "Hey guess what" to try and emphasise that the speaker was trying to communicate something to the listener (Fig.2).

Analysis & Preliminary Results. Participants (N=20) rated Suzy as being significantly more familiar with school than the PM's offices ($t(19)=9.0, p<.001$). Fig 4 shows the proportion of "same" responses. Participants' responses were analysed as in Experiment 1. The data show that location influenced participants responses; participants were more likely to respond same for the unfamiliar location ($z=-3.8, p<.001$). This suggests that knowledgeability can influence the sorts of inferences we draw.

Discussion and future directions. The pilot studies presented suggest that people are reluctant to make inferences about why someone is speaking to them unless there are explicit cues that a speaker is trying to communicate something. Ongoing work is also considering the role of speaker characteristics; for example is you have a speaker who is usually reticent are people more likely to infer that they are trying to be newsworthy when compared with a chatty speaker.

¹ Response ~ Location + (1 + Location | Participant) + (1 | Item)

References

Grice, H.P. (1975). Logic and conversation. In Cole et al. *Syntax and Semantics 3: Speech Acts*, pp 41-58.

Moty, K. & Rhodes, M. (2021). The unintended consequences of the things we say: What generic statements communicate to children about unmentioned categories. *Psychological Science*, 32, 189-203.

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Figures

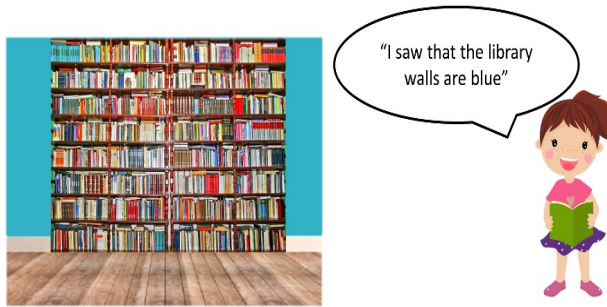


Figure 1. Example stimuli for Experiment 1.

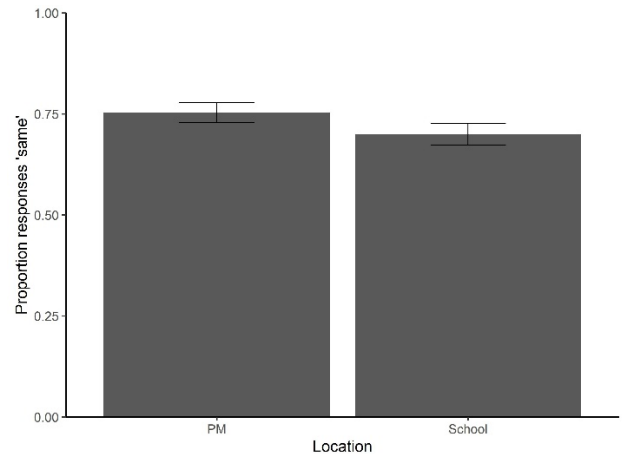


Figure 2. Proportion of "same" responses from Experiment 1.



Figure 3. Example stimuli for Experiment 2.

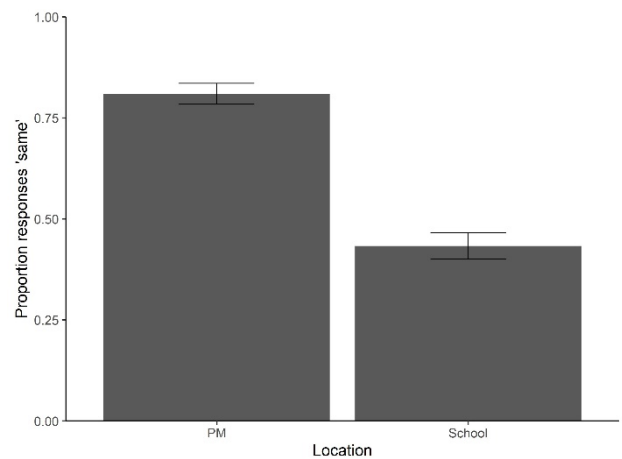


Figure 4. Proportion of "same" responses from Experiment 2.