If you don’t have anything nice (or interesting) to say, don’t say anything at all

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Abstract
Problem: Many studies emphasize the role of real-world knowledge in language processing. Such emphasis, however, risks sidestepping another key contribution of communication—its use as a channel across which speakers convey newsworthily informative messages.

Proposal: To revisit the role of “unpredictability” in language, we contrast participants’ estimates of the knowledge and likely utterances of an individual. Although plausible situations may be predictable as beliefs about the real world, they are not necessarily predictable as messages for an individual to choose to convey.

Results: Study 1 elicits fill-in-the-blank responses, which are shown to pattern with previously collected real-world estimates (Andy is a man from the US. How many cups of coffee do you think Andy drank last week? Schöller & Franke 2017), but condition (think/announce) yields no main effect or interaction. In Study 2, participants’ forced-choice responses show the predicted effect of condition, whereby announce yields higher values than think. Intuitively, “good” sentences describe situations that are suitably plausible while still being rare enough to be interesting.

1. Goal
We test the role of newsworthiness in language processing by distinguishing between expectations about:
- Speakers’ beliefs [e.g., real-world knowledge]
- Speakers’ choice of what to say [content selection]

2. Real-world knowledge
Surprisal at implausible words (Kutas & Hillyard 1980; Hagoort et al. 2004)

<table>
<thead>
<tr>
<th>The Dutch trains are yellow</th>
<th>white</th>
<th>sour</th>
</tr>
</thead>
<tbody>
<tr>
<td>yellow &lt; (white, sour)</td>
<td></td>
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Surprisal tuned to comprehenders’ knowledge about the world

Harry Potter and the Chamber of What?: the impact of what individuals know on word processing during reading

3. Content selection
Expectations for Informativity
- Maxim of Quantity (Grice 1975)
- Inclusion of disambiguating descriptors in reference (Dale & Reiter 1995)
- Omission of inferable information (Brown & Dell 1987)

4. Expecting the unexpected

Hypothesis: Estimates of what a speaker knows should differ from estimates of what the speaker will say.

![Graph showing knowledge and utterance](image)

As listeners, we expect speakers to talk about situations that are:
- Plausible (*At CUNY, I saw a unicorn*)
- Newsworthy (*At CUNY, I saw a poster*)

→ Values that approximate real-world knowledge for think; more extreme values for announce

5. Think/Announce manipulation
Previous task provides a priori real-world estimates for a set of situations (Schöller & Franke 2017)

Andy is a man from the US. How many cups of coffee do you think Andy drank last week?
→ mean = 1.1

Current materials: 12 scenarios adapted from Schöller & Franke; 2nd individual introduced as thinker/speaker

Andy is a man from the US. Andy has an aunt, Hannah. Hannah [thinks/announced to me] that Andy drank ___ cups of coffee last week.

6. Study 1, fill-in-the-blank task

Methods: Turkers (N=31) type in a value for each item

Raw means: 32.7 (think) vs 41.2 (announce)

Analysis:
- Linear mixed effects model with fixed effects for Schöller & Franke’s real-world estimates, condition, and their interaction
  → only a main effect of real-world estimates (p<0.001)
  → only a main effect of condition (p<0.049) and no interaction (p=0.34)

Problems:
- Non-uniform response scales
- Newsworthiness values can be large or small
- Outlier removal in a task eliciting newsworthiness values

![Graph showing newsworthiness values](image)

7. Study 2, forced-choice task

Methods: Turkers (N=90) select one of two choices for each item
- Lower value (Study 1 mean + 1/5 sd)
- Higher value (Study 1 mean + 4/5 sd)

Andy is a man from the US. Andy has an aunt, Hannah. Hannah [thinks/announced to me] that Andy drank ___ cups of coffee last week.

Analysis:
- Logistic mixed effects model for binary Low/Higher response
  → main effect of condition (p<0.01)
  → Difference between expectations of what speakers know versus what they say
  → Situation probability influences message probability, but not directly

8. Conclusions
Summary
Not all possible messages are word uttering. The results here suggest that knowing that a speaker has chosen to utter a message can induce expectations for newsworthiness content in that message. Rather than transparent mappings between situation probability and utterance probability, psycholinguistic models should distinguish real-world knowledge from content selection and surface realization.

Going forward
- What inferences arise from uninformative utterances? (see Kravtchenko & Demberg 2015)
- Are smaller-than-expected and larger-than-expected values equally newsworthy?
- In the think condition, why 42% higher value? Does encountering a sentence about someone’s thoughts suggest newsworthiness content about their incorrect thoughts?
- Online effects? Are appropriately newsworthily utterances easy to process?

References