

PRAGMATIC INTERPRETATION OF INFORMATIONALLY REDUNDANT EVENT MENTIONS

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Work in pragmatics shows that speakers typically avoid stating information already given in the discourse [1]. However, there has been little investigation of how comprehenders interpret utterances which assert what can easily be inferred using prior knowledge. Previous work [2] has shown that informationally redundant event descriptions trigger context-dependent implicatures, which increase utterance utility in line with listener expectations [1,3]. In a replication and 3 follow-up experiments, we look at utterances which refer to event sequences (*scripts*, such as *going to a grocery store*), and find that modifications to the informational status of the redundant event utterance significantly change the likelihood with which a ‘compensatory’ inference is drawn.

Design: 24 items; 2 (typical vs. atypical context) x 2 (‘predictable’ vs. optional event). ‘Predictable’ events (4a) were directly implied by the (typical) script, while optional events (4b) were not. Initial context was typical (1a), or implied the ‘predictable’ event was optional or atypical (1b).

Typical context

[1a] John often *goes to his local supermarket, as it's close by*_{typical}.

[2] Today he entered the apartment with his shopping bags flowing over. He ran into Susan, his best friend, and talked to her about his trip. Susan then wandered over to Peter, their roommate, who was in a different room.

[3] She commented: “John went shopping.”

EXP 1-2 [4a/b] He {*paid the cashier*_{a-predictable} | *got some apples*_{b-optional}} {!-exp1 | -exp2}

EXP 3 [4a/b] Oh yeah, and he {*paid the cashier*_{a-predictable} | *got some apples*_{b-optional}}.

EXP 4 [4a/b] You'd be surprised – he {*paid the cashier*_{a-predictable} | *got some apples*_{b-optional}}.

[5] I just saw him in the living room.”

Atypical context

[1b] John often *doesn't pay at the local supermarket, as he's usually broke*_{atypical}.

Q: How often do you think John usually {*pays the cashier* | *gets apples*}, at the store?



Procedure: Participants (all N=400, MTurk) see 6 of 24 stories; 4 show both context and the critical utterance (*posterior* measure; [1-5] in the example item on p. 2), and 2 only context (*prior* measure; [1-2]). After reading, participants rate the perceived ‘typicality’ of events on a continuous scale. We used a between-subjects design, where differences between *prior* and *posterior* ratings were examined across, rather than within, participants.

Experiment 1: This experiment replicated the results in [2], which used a within-subjects design. An LME model showed a *context* by *event predictability* interaction ($\beta = -14.61$, $p < .001$) for predictable events, indicating that comprehenders assign informationally redundant event mentions (4a: ‘John went to the store. He paid the cashier!’) an ‘informative’ interpretation, by reinterpreting the ‘predictable’ activity as atypical in context (i.e. ‘John does not typically pay the cashier’). No (re-)interpretation occurs for event mentions that are informative *a priori* (where the script does not automatically imply the event occurred) – or where the scenario is changed to make the typically inferable event uninferable.

Experiment 2: In Exp. 1, the event utterance was followed by an exclamation point, which signals importance of the information, as well as speaker intentionality in conveying it. In Exp. 2, we replaced the exclamation point with a period, to determine whether the inference is dependent upon (implicit) intonational support. Given the general abnormality of informational redundancy [4], we expected an effect similar to Exp. 1. Design and procedure was otherwise identical. The results show, contrary to expectations, that while a significant interaction remains, redundant event mentions no longer give rise to any ‘atypicality’ inferences ($\beta = -0.13$, n.s.). A subgroup analysis of ‘predictable’ events suggests that very highly inferable events (those rated the most highly ‘typical,’ given just context) are still interpreted as atypical ($\beta = -3.01$, $p < .05$) when mentioned, while less highly inferable events are not ($\beta = 17.03$, $p < .01$). This shows that informational status, independent of the literal content or informativity of an utterance, significantly influences the likelihood of it giving rise to an inference *based on its informativity* (specifically, event typicality/inferability).

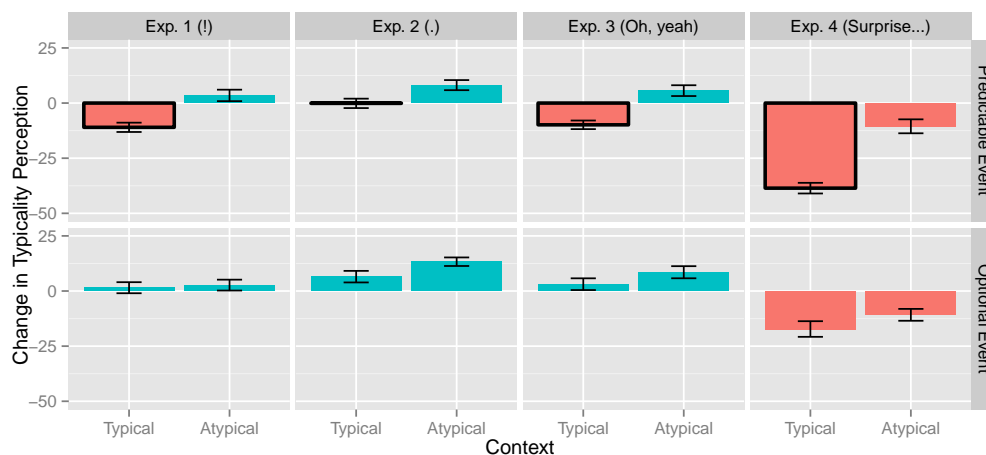
Experiment 3: Based on the results of Exp. 2, we hypothesized that linguistic markers not explicitly associated with surprisal, but indicating intentionality and relevance of the information conveyed, would produce effects of accommodation to informationally redundant utterances similar to Exp. 1. Information structure was manipulated by introducing the event utterances with *oh yeah, and....* This implicitly indicates speaker intentionality in mentioning the event, as well as the speaker's belief that it may describe something of interest/relevance to the listener. It was predicted that, overall, the results should mirror that of Exp. 1, with comprehenders assigning redundant event mentions 'informative' interpretations. A quantitatively and qualitatively similar interaction between *context* and *event predictability* was in fact found ($\beta=-15.44$, $p<.001$), with a very similar pattern of results.

Experiment 4: Based on Exp. 1, and to provide a control measure, we also hypothesized that explicit markers of surprisal, in contrast to an exclamation point (which does not directly convey surprisal), would produce more dramatic effects – inducing strong 'atypicality' inferences in all conditions, most significantly in the informationally redundant condition. Information structure was manipulated by inserting phrases that explicitly signaled surprise (e.g. *you'd be surprised, but...*). As predicted, significant effects were found in all conditions, with a significant *context* by *event predictability* interaction for predictable events ($\beta=-28.04$, $p<.001$).

Overall, these findings are consistent with the claim that mention of easily inferable material is systematically reconciled with the assumption of an informative speaker [4], giving rise to context-dependent implicatures regarding event 'typicality.' The results from Exp. 2 show, however, that this effect is highly modulated by informational status, or at least dependent on implicit contextual support for the specific inference. Additionally, it shows effects of implicit prosody on implicature generation that are different from better-known effects of prosodic focus. Results from Exp. 3-4 show that other changes in informational status, which explicitly signal surprise or utterance relevance/intentionality, replicate the original effect.

All experiments provide robust evidence that excessive informational redundancy is perceived as anomalous, and that comprehenders alter their situation models in order to accommodate it. However, there is also a substantial effect of informational status on implicature generation, despite the implicature being based on the prior inferability of the event in question - which does not change across experiments. This supports, in part, Grice's observation [4] that overinformativity, unlike underinformativity, despite often being treated similarly in later literature, is not necessarily problematic for listeners; while also complementing work in the dialogue literature [5], which shows that informationally redundant utterances are both common, and frequently used to convey 'informative' non-literal content.

Figure 1: Bars show relative changes in perception of activity typicality. Positive values indicate increases in perception of activity typicality; negative values indicate decreases. Informationally redundant conditions are highlighted.



[1] Horn. (1984). Toward a new taxonomy for pragmatic inference: Q-based and R-based implicature. [2] Kravtchenko & Demberg. (2015). Semantically underinformative utterances trigger pragmatic inferences. [3] Atlas & Levinson. (1981). It-clefts, informativeness and logical form: Radical pragmatics. [4] Grice. (1975). Logic and conversation. [5] Walker. (1993). Informational Redundancy and Resource Bounds in Dialogue.