

Translating Implausible Sentences: Plausibility-Driven Revision Beyond Structural Repair

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Sometimes people process implausible sentences non-literally by revising the syntactic structure. For instance, they treat the double-object (DO) sentence *The mother gave the candle the daughter* as *The mother gave the candle to the daughter*, which is reconstructed in a plausible but nonliteral prepositional-object (PO) structure. However, what is the case when people translate implausible sentences into another language? It is suggested that interpreters serve as mediators with subjective considerations and might edit the utterances to accelerate communication and prevent misunderstandings between the interlocutors.

This current study tests the interpreter-as-mediator hypothesis (Pöchhacker, 2008) when translating implausible sentences such as *The mother gave the candle the daughter*, which contains an implausible literal meaning and entails an implausible nonliteral interpretation. In our experiment, the interpreters listened to plausible or implausible English sentences, and then either verbally interpreted them in Chinese or relayed the sentences in the source language. As we predicted, interpreters were more likely to interpret implausible sentences with nonliteral meanings (as determined from relays or translations) during interpreting than relaying, despite that only a marginal effect of task shown in the GLMER analysis, owing to the small sample size caused by the difficulty of the sentence materials.

The English proficiency score was not a successful predictor of nonliteral response numbers, proving that NL interpreting did not result from a misunderstanding of English sentences, and that participants intentionally chose to revise implausible sentences regardless of English ability. Notably, participants also engaged in subtle lexico-semantic adjustments (2) beyond the syntactic revision route (1a) presumed by previous works on implausible sentences (Bader & Meng, 2018; Author, 2022; Lim & Christianson, 2013), and this type of NL response is more common in the interpreting group than the other. The free-answer responses in this study explored other potential models for nonliteral reanalysis, distinct from the force-choice design of comprehension Yes/No questions (1b), providing a novel perspective to our understanding of noncanonical sentence processing. This observation might be explained by the cross-linguistic matching of lexico-semantic representation after rapid heuristic processing and the partial omission of syntactic cues provided by source-language sentences, as the two languages do not share the same syntactic encoding rules.

(1) a. Stimulus: *The mother gave the candle the daughter.*

Expected revision: *The mother gave the candle to the daughter.*

b. Comprehension question: *Did the daughter receive something/someone?*

(2) a. Stimulus: *The daughter passed the mother to the ball.*

b. Interpreting response: 女儿 让 妈妈 去 球 那里。

nǚ'ér ràng māma qù qiú nàlǐ

daughter let mother go ball there

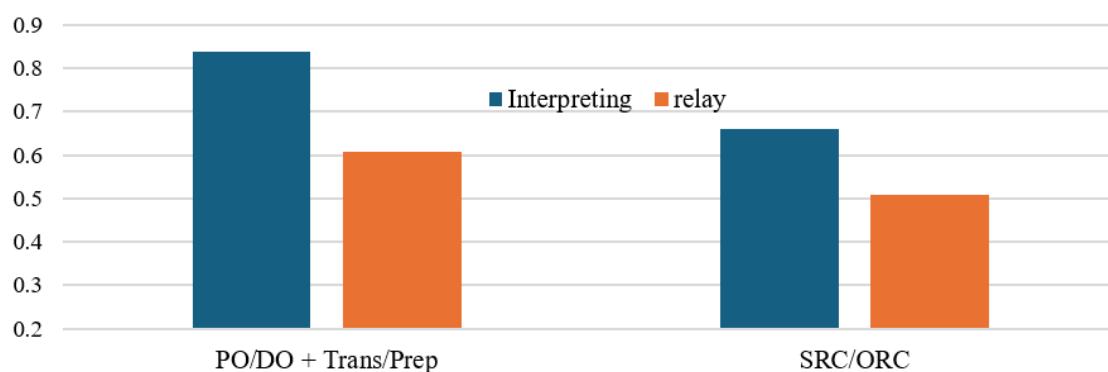
'The daughter let the mother go to where the ball is.'

Moreover, apart from task type and plausibility, our data showed a significant structural effect leading to increased NL interpretations for the implausible sentences with a higher 'edit

distance’ to their plausible alternatives. According to Gibson et al. (2017), the more adjustments an implausible utterance requires to reach an acceptable edition, the higher the edit distance is between the two of them. Their study shows that comprehenders are more likely to treat the implausibility of an utterance as an articulatory error, therefore, revising it when the edit distance is lower. For instance, an implausible subject relative clause (SRC), *The cat that was chased by the mouse.* has a longer edit distance to its plausible version *The mouse that was chased by the cat.*, compared to that between the implausible double-object (DO) sentence, *The mother gave the candle the daughter.* and its plausible reading, *The mother gave the candle to the daughter.*, contributing to a lower number of NL responses for implausible RCs than DO/PO structures. These findings suggest that interpreters may engage in probabilistic revision processes sensitive to the computational cost of transforming implausible input into plausible interpretations. Figure 1 demonstrates the descriptive data of the NL response proportion in sentences with different edit distances.

The results not only give insight into the cognitive processes underlying the act of interpreting and how contextual factors formulate nonliteral interpretation, but also reveal the fundamental differences between how people understand sentences as a pure comprehender and a message transmitter. Future work may further compare interpreter behavior with probabilistic language-model predictions to examine whether interpreters systematically generate nonliteral meaning when transforming implausible input into target language utterances.

Figure 1. Proportion of NL response to implausible sentences



Note: PO/DO and Trans/Prep implausible sentences only require a single word edit to become plausible, while SRC/ORC implausible sentences need multiple changes or word-swapping to become plausible.

References

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