

## Planning ahead: Interpreters predict source language in consecutive interpreting

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People predict upcoming linguistic content in reading and listening (Pickering & Gambi, 2018). In particular, it has been hypothesized that interpreters anticipate upcoming words and syntax in both source language (SL) and target language (TL) to facilitate timely interpreting delivery (Amos & Pickering, 2020; Chernov, 1994). In three experiments (E1a, E1b and E2), we asked whether interpreters predict lexico-semantic content in SL comprehension in consecutive interpreting to a greater extent than in regular language comprehension and whether such enhanced prediction (if any) is constrained by cognitive resources.

E1a and E1b examined whether interpreters make more lexico-semantic predictions when they read a sentence to later interpret than to later repeat (Macizo & Bajo, 2006). E1a (52 participants, 48 target items and 64 fillers) had a design of 2 (predictability: predictable vs. unpredictable) x 2 (task: repetition vs. interpreting; blocked). Based on results of a cloze test, we manipulated a critical word (e.g., eyes) to be predictable or unpredictable in a sentence (*Without the sunglasses/hat, the sun will hurt your eyes on the beach*). Participants were Chinese-English bilinguals with interpreting training/experience. In an online experiment on Gorilla, participants self-paced read an English sentence word by word to either repeat it (as a form of regular language comprehension) or to interpret it into Mandarin (as a form of SL comprehension). E1b (50 participants, 72 target items and 24 fillers) had the same design and was intended to replicate E1a using more and refined items.

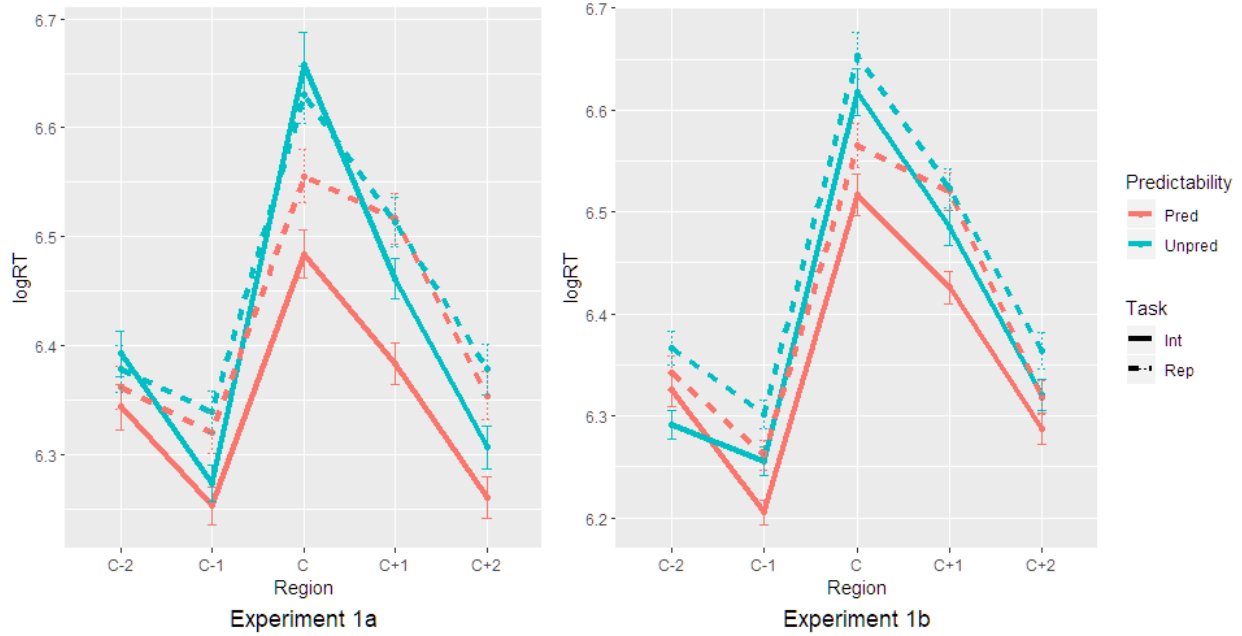
LME analyses showed that participants read the critical word and the following regions more quickly in the predictable than unpredictable condition (in C-1, C, C+1 and C+2 in E1a and in C-1, C, and C+2 in E1b; see Fig 1). More importantly, there was an interaction between predictability and task (in C+1 in E1a and C and C+1 in E1b) such that the prediction effect was stronger when participants read a sentence to later interpret than to repeat.

E2 (64 participants, 72 target items, 24 fillers) further examined whether the enhanced prediction in interpreting is constrained by cognitive resources. It had a design of 2 (predictability: predictable vs. unpredictable) x 2 (task: repetition vs. interpreting; blocked) x 2 (load: low vs. high). In the low-load condition, participants read one sentence and then repeated/interpreted it (as in Expt 1a and 1b). In the high-load condition, we added a 5-word sentence before the original sentence. Participants read the first sentence, kept it in memory, read the second (target) sentence, before they repeated/interpreted both sentences. As shown in Fig 2, we replicated the finding in Expt 1a and 1b: The prediction effect was stronger in reading to interpret than in reading to repeat (in C and C+1). More importantly, there was also a three-way interaction (in C), with enhanced prediction in reading to interpret in the low- but not high-load condition.

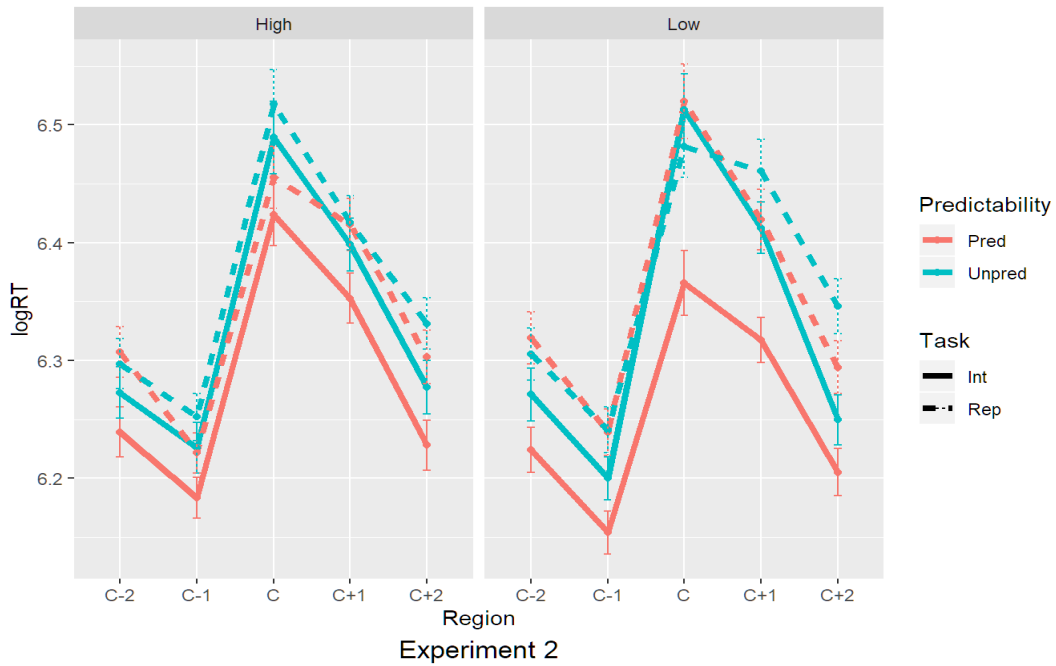
In all, the results suggest that interpreters are more predictive of lexico-semantic content in SL comprehension in interpreting than in regular language comprehension, giving support to the hypothesis that interpreters use an anticipatory strategy to maximize interpreting timeliness. Also, prediction in interpreting seems to require cognitive resources.

### References

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**Fig 1.** Log RTs for the critical word and surrounding words in self-paced reading in Experiment 1a (left panel) and Experiment 1b (right panel). For regions, *Without the sunglasses/hat, the sun will hurt (C-2) your (C-1) eyes (C) on (C+1) the (C+2) beach*; same for **Fig 2**.



**Fig 2.** Log RTs for the critical word and surrounding words in self-paced reading in Experiment 2 for the high-load (left panel) and low-load condition (right panel).