What do we retrieve when we resolve presupposition?

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Introduction Recent experimental work started to examine the memory retrieval profile of anaphora-like presuppositions [1, 2]. These studies assume processing such presuppositions involve retrieving an antecedent, which they hypothesized takes place via a cue-based retrieval mechanism [3, 4]. We report on an experiment which aimed to further test predictions of this hypothesis, ie. that the retrieval of presuppositional antecedents triggered by “too” is a subject to a similarity-based interference.

Our study uses so-called additive “too”, which carries a presupposition that in the preceding discourse there is an object to which a given property applies. E.g. in (too) condition in the supplementary material “too” presupposes that there is someone else (ie. Suzy) who also drinks wine. Since presupposition is an inherently semantic phenomenon we wanted to check whether a semantic notion such as “event” can work as a predictor. Events were operationalized as a clause with a verb in a past tense that clearly indicated some self-contained action. These actions could be in any of the event classes [5], but some care was taken to ensure that they described separate events. If the processing of "too" involves the retrieval of an antecedent which follows cue-based mechanism where being an event is a cue, then additional events between the trigger and the antecedent should interfere with the retrieval. Assuming that the more events the more likely the interference we predict that the higher number of events will result in the longer reading times of the trigger (or the following words).

Method and results The experiment was a self-paced reading study conducted in a one-word stationary window paradigm [6, 7]. This paradigm was chosen because the length of the fragments made it difficult to align word-position on the screen across the conditions. Each of the 24 target items consisted of 2 x 2 = 4 conditions (size x trigger). The size variable manipulated the number of events between the antecedent clause and the presupposition trigger. In the short condition there was one intervening event, in the long one there were three. The trigger condition manipulated the occurrence of the presupposition trigger and hence the presupposition itself. An example of an item is presented in the supplementary materials. Target items were accompanied by 24 fillers. From the total of 48 items, 20 items (13 targets and 7 fillers) were followed by a binary comprehension question. Responses from 40 subjects were collected but initial data processing revealed that many of the participants responded very poorly to comprehension questions and had to be removed from the results. This led us to gather responses from an additional 20 subjects. There were 52 participants in the final data set.

A linear mixed model with size and trigger as predictors and random intercepts for items and subjects was fit to the data but no significant effect was found. We decided for a post-hoc analysis where we checked whether the length of intervening material has an effect. The length was counted as a number of words starting at the beginning of the sentence. We fit a model similar to the one described above where the size predictor was changed to the number of words. This model yields a significant result (estimate = 0.006, SE = 0.003, t = 2.038) but only exactly on the trigger region.

Discussion Even though the initial result is uninformative with respect to the fact what kind of semantic objects might influence the retrieval of presuppositional antecedents we believe that the post-hoc analysis points to a more important fact. In the semantic literature there is a view that anaphoric-like presuppositions are not in fact anaphoric but should be analysed mainly as focus-sensitive expressions which provide a partial answer to the current question under discussion [8]. Simplifying, the anaphoric view predicts that the effect of retrieval would be observed after encountering the trigger so at the post-critical region – which is not the case in our results.

Example of an item.

short condition

(too) Suzy **had wine**. She ate some chips but no ketchup. Lucy drank **too** and was happy.

(nil) Suzy **talked excitedly**. She ate some chips but no ketchup. Lucy drank **wine** and was happy.

long condition

(too) Suzy **had wine**. She danced for a while. She laughed a lot. She ate some chips but no ketchup. Lucy drank **too** and was happy.

(nil) Suzy **talked excitedly**. She danced for a while. She laughed a lot. She ate some chips but no ketchup. Lucy drank **wine** and was happy.

Critical region results (log-RTs).

	Estimate	SE	t value
(intercept)	5.921	0.059	101.184
too	-0.120	0.054	-2.211
word no	-0.005	0.002	-2.487
interaction	0.006	0.003	2.038

References

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