What dependencies can we [[interpret the semantics] and [construct __]] ?

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In processing filler-gap dependencies (FGDs), comprehenders actively seek gaps in accordance with grammatical constraints [1–3]. Typically, conjoined phrases are considered 'islands', or constructions that FGDs may not cross into [4]. However, FGDs can be actively constructed in conjunct phrases in some cases. For instance, comprehenders actively construct FGDs in 'across-the-board movement' configurations [5,6]. Similarly, [7] found that processing FGDs resolving in a second conjunct is easier if the first conjunct was headed by the verb *go*, e.g., *what did you* [*go to the store*] *and* [*buy* __]?. Such constructions are argued to show that the island status of conjuncts are variable and sensitive to semantic factors [8,9]. For instance, if the event described by the first conjunct naturally results in the event described by the second conjunct, then a FGD that crosses into the second conjunct is acceptable [8].

We investigated the role that semantic factors play in licensing a FGD that crosses into a conjunct. Instead of *go and* VP-type configurations, which may be 'pseudo-coordination' [7], we focused on the effect of plausible event ordering. [10] showed that comprehenders selectively interpreted FGDs in adjunct clauses depending on the semantics of the sentence, suggesting that we may observe a similar profile in conjuncts as they did adjuncts.

In the critical conditions, we manipulated whether the event described by the first conjunct naturally results in the event of the second conjunct. A judgment study showed that participants preferred items in which the conjuncts formed a natural series of events. In a self-paced reading study, we found no effect of the first conjunct on the processing of the gap contained in the second conjunct. This suggests the semantic relation between two conjuncts does not affect whether a FGD can cross into the second conjunct in active processing.

(1) **±Plausible, ±Extractable**

John wondered {which friend/pizza} his daughter [{picked/hung} up the phone] and [ordered __ …]

Experiment 1 was an acceptability judgment task, in which participants judged sentences on a scale from 1 to 7 (N = 24; 40 items; 60 fillers). Every target sentence contained an FGD that resolved in the second conjunct of a conjoined VP. We manipulated whether the event described by the first conjunct was a natural lead-in to the event described by the second conjunct (±Extractability), and whether the FGD was a plausible argument for the verb in the second conjunct, (1). No first conjunct contained a VP headed by *go*, to avoid pseudo-coordinations, as investigated by [7]. Mixed effects models fit with rating as dependent variable and maximal random effects structure [11] revealed a marginal main effect of ±Extractability ($\beta = 0.26 \pm 0.14$, $t = 1.8$, $p = 0.07$), a main effect of ±Plausibility ($\beta = 0.46 \pm 0.14$, $t = 3.3$, $p < 0.01$), and an interaction effect ($\beta = 0.39 \pm 0.20$, $t = 2.0$, $p < 0.05$).

Experiment 2 was a self-paced reading task (N = 48, 40 items; 72 fillers) that used the materials from Experiment 1. Experiment 2 used the plausibility mismatch paradigm [2]. We predicted that reading times would increase in the second conjunct if comprehenders attempted to interpret the FGD as resolving in this structure. If the plausibility mismatch effect was only observed in the comparison between +Extractable, +Plausible and +Extractable, –Plausible conditions, this would demonstrate that the semantics of the first conjunct affected the processing of the FGD. We conducted mixed effects models on the first conjunct (*chatted/picked up the phone*) and second conjunct (*ordered last night*), with the log residual reading times as the dependent variable [12]. There were no main effects or interaction effects in either region (all ps > 0.05), and pairwise comparisons of +Plausible and –Plausible within both levels of ±Extractable were not significant. Thus, we find no evidence that active gap formation in conjuncts is affected by the semantics of the conjunction, in contrast to pseudo-coordination cases [7] and to parallel semantic effects in adjuncts [10].

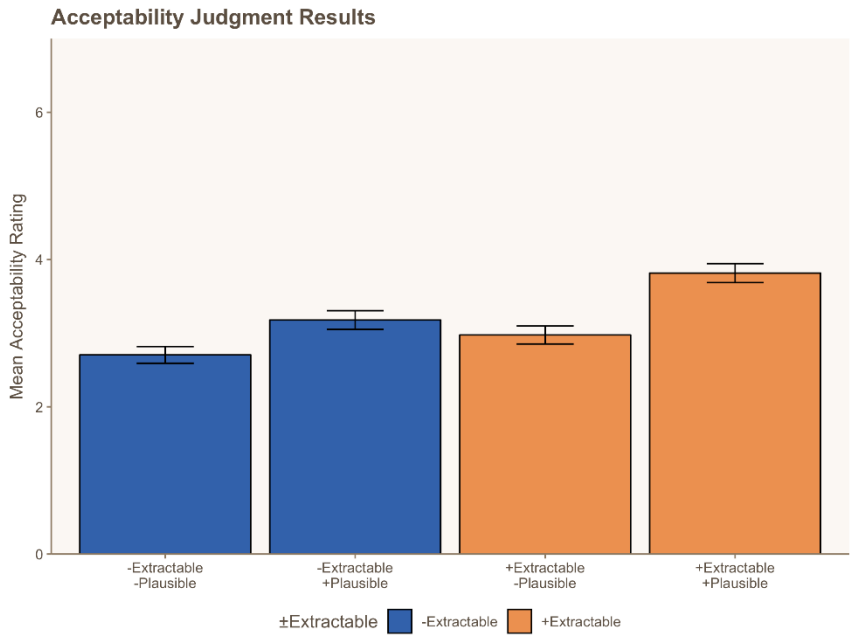

Figure 1. Mean acceptability judgments by condition in Experiment 1.

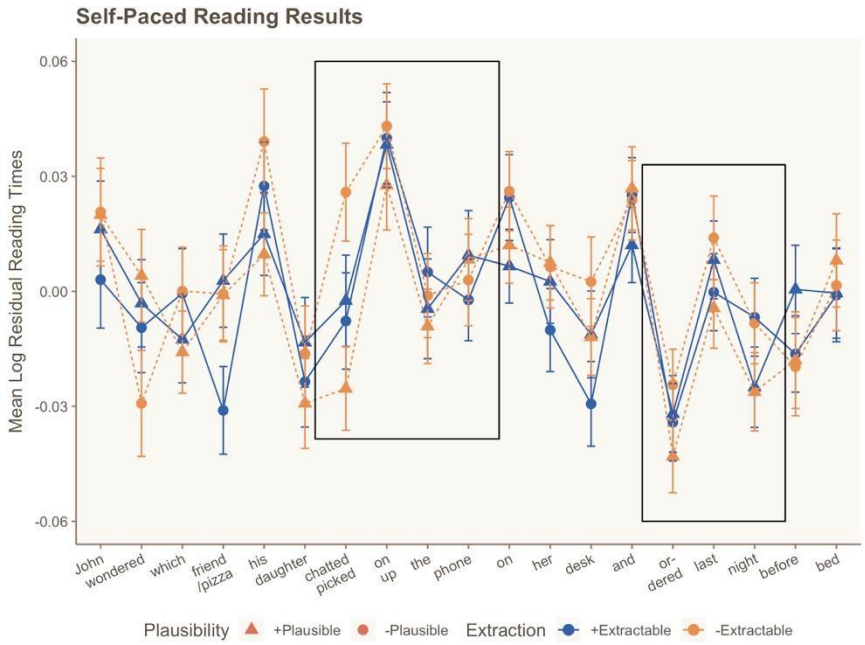

Figure 2. Mean reading times by region and condition in Experiment 2.

References. [1] L. Stowe. (1986). *LCP* 1. [2] M.J. Traxler & M.J. Pickering. (1996). *JML* 35. [3] C. Phillips (2006). *Language* 82. [4] J.R. Ross. (1967). Ph.D. Thesis, MIT. [5] M. W. Wagers & C. Phillips (2009). *J Linguistics* 45. [6] D. Parker 2017 *JML* 97. [7] J. Harris. (2009). *CLS* 45. [8] G. Lakoff (1986). *BLS* 21. [9] A. Kehler (1996). *BLS* 22. [10] A. Kohrt et al. (2018). *CLS 54.* [11] D.J. Barr et al (2013). *JML* 68. [12] https://hlplab.wordpress.com/2008/01/23/modeling-self-paced-reading-data-effects-of-word-length-word-position-spill-over-etc/