The structure question for ellipsis resolution

John played the violin, and Bill did __ too

The structure question: Is unpronounced syntactic structure recovered at the ellipsis site?
- Yes: the meaning of the ellipsis site is derived from syntactic structure (Sag 1976; Chung, Ladusaw & McCloskey 1995; Merchant 2001).
- No: the meaning of the ellipsis site is derived purely anaphorically via a semantic mechanism (Hardt 1993; Culicover & Jackendoff 2005).

Effects of sentential complement (SC) verb bias

When comparing a locally ambiguous sentence such as 'The news reporter proclaimed the royal birth was official…' to their unambiguous control:
- Sentential-complement biased (SC biased) verbs induce slow-down on the embedded NP (the royal birth), compared to direct-object (DO)-biased verbs (Trueswell et al. 1993; Kennison 1996; Garney et al. 1997).
- But less cost on the disambiguating predicate after the embedded NP (was official), compared to DO-biased verbs (Ibid., a.o.).

The current study

- If the ellipsis site is interpreted via syntactic structure, we expect a strong priming effect that shifts a DO-biased verb towards a more SC-bias (see example below).
- Such a priming effect should be strong for both elliptical and their parallel non-elliptical full-structure conditions; but it should be weaker in the anaphora and intransitive control conditions.

Summary and Conclusions:

- Elliptical structures pattern differently from their overt anaphora counterpart, suggesting different representations are recovered at the ellipsis vs. anaphora site.
- We take this to be preliminary evidence that syntactic structure from the antecedent is reactivated at the ellipsis site.
- This preliminary result from comprehension priming converges with our previous results from production priming (Xiang, Grove, and Merchant, submitted).

Materials:
40 8-condition items (see an example below).
Centered self-paced reading; targets chunked into subject, verb, embedded NP, aux.
The ambiguous verbs are normed to be DO-biased (all verbs ≥50% DO completion in the norming study, subj n=50).

<table>
<thead>
<tr>
<th>Prime Sentence 1</th>
<th>Prime Sentence 2</th>
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</thead>
<tbody>
<tr>
<td>SC</td>
<td>DO</td>
</tr>
<tr>
<td>The students planned to proclaim the funding news was false, and later that year they did.</td>
<td>The students planned to proclaim the funding news, and later that year they did it.</td>
</tr>
<tr>
<td>Target: The news reporter proclaimed the royal birth was official during the broadcast.</td>
<td>and later that year they did proclaim the funding news was false./ and later that year they did proclaim the funding news.</td>
</tr>
<tr>
<td>subj</td>
<td>v</td>
</tr>
</tbody>
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On the ambiguous NP:

- Mixed effects model: Prime Type (clause 1) x Continuation Type (clause 2) interaction p=0.06.
- Only for the ellipsis condition, there is a slow-down on the ambiguous NP when the prime is an SC structure (β=0.06, se=0.03, t=2.5).
- A few potential sources of the slow-down on the ambiguous NP: Structural revision in a lexical filtering model (Kennison, 1996).
- Increased structural complexity of SC (Trueswell et al. 1993).
- Preference to have an explicit complementizer (i.e., that) when a verb is more SC-biased (Trueswell et al. 1993).
- If the priming effect only shifts a strong DO-bias towards a more neutral one, instead of to a strong SC-bias, it would increase the structural uncertainty on the ambiguous NP.

On the disambiguating predicate:

- There is no benefit of priming with an SC.
- Previous studies have found a speed-up on the disambiguating region for strongly SC-biased verbs. The current study only used DO-biased verbs in the target, and the priming effect may not be sufficient to shift these verbs to a strong enough SC-bias.

A remaining problem:

- The full structure, unlike the elliptical structure, did not induce a similar priming effect on the target sentence.
- The repeated second clause in the full structure condition is unnatural, due to the repetition redundancy. To reduce repetition redundancy, we are conducting a follow-up study, in which a contrastive rather than parallel relation is established between the two clauses (e.g., *The town clerk was expected to certify the building certificate was forged, but at the town meeting she certified it was actually valid*).