Non-Adaptation to Garden Paths
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INTRODUCTION

Language readers have shown that they can quickly adapt to syntactic structures encountered in linguistic context.

Example: repeated exposure to a non-preferred structure leads to decreased parsing difficulty for that structure, or even a preference for it (Fine et al., 2013)

These observations have been seen as evidence to support an error based approach to structural priming and adaptation (Fine & Jaeger, 2013).

The discrepancy between what the readers expect and the input is thought to cause a change in expectation and reduction in the garden path effect.

QUESTIONS

What factors underlie adaptation?

- Is experiencing an error sufficient?
- Is adaptation easier for structures that are known to be harder to revise (lead to a larger error)?

Test ambiguities that are known to differ in revision difficulty and lingering of the initial interpretation:

- Direct Object/ Subject ambiguities: items with short ambiguous regions are easier to revise/ show less lingering of the initial interpretation than items with long ambiguous regions (Christianson et al., 2001; Ferreira & Henderson, 1991; Jacob & Felser, 2016).

- Short: As the swimmer trained, the kids were splashing in the other pool.

- Long: As the swimmer trained, the kids that were yelling loudly were splashing in the other pool.

- Do readers adapt differently to these structures?

METHODS

Web-based, self-paced reading study (Ibex Farm), non-cumulative moving window fashion.

Each participant saw 20 ambiguous and 20 unambiguous items, 60 fillers per list.

Length of the ambiguous region (long/short) was a between-group manipulation.

Participants (67 reading items with short regions; 67 reading items with long regions) recruited through Amazon’s Mechanical Turk. Groups were matched on age and gender.

All items were followed by a yes/no comprehension question. All experimental items had a comprehension question probing the lingering of the initial interpretation (Did the swimmer train the kids? Correct answer: No)

RESULTS

- Like previous studies, we found a garden path effect at the critical verb: reaction times were significantly slower for ambiguous (A) stimuli as opposed to the comma-disambiguated (U) stimuli.

- Replicating previous studies, readers had a harder time rejecting the initial interpretation in the long than in the short versions.

- No adaptation in either long or short versions:
  - The garden path effect was not significantly reduced as exposure to ambiguous experimental items increased (even when restricted to those who performed above the mean on comprehension questions).

DISCUSSION AND CONCLUSION

- Our findings suggest that experiencing an error and arriving at the correct interpretation/ erasing the initial interpretation are not sufficient to adapt to non-preferred structures.

- In contrast to previous studies using reduced relatives, object relatives, filled-gap effects, need+eV construction

Speculative explanations:

- The reanalysis of the stimuli takes up too many resources (Sikos et al., 2016)

- The reanalysis involves a reanalysis of the prosodic structure, this may hamper adaptation.