Introduction

Are reflexive pronouns sensitive to non-local antecedents in online processing?

According to syntactic theories (since at least Chomsky 1981), a matrix subject should not be available as an antecedent for an embedded anaphor. However, online processing experiments found that a feature matching antecedent like the subject in (1) can facilitate the processing of the anaphor despite the distance between them (i.e. agreement attraction effects - Patder & Phillips, 2017; but see Dillon et al., 2013; Sturt, 2003).

(1) The influential congressman said that the factory workers inspired himself ...

Results

- Log RTs were analyzed with linear mixed-effects regression.
- RTs (in the spillover region, Figure 1) for long distance anaphors in object position were not significantly different than in the ungrammatical condition (p = .81), and were significantly higher than grammatical reflexives (p < .001).
- However, once the reflexive was embedded under an NP, attraction effects emerged (at the spillover): RTs in the non-local antecedent condition were between the grammatical and ungrammatical version (p = .02, .048, correspondingly).
- A corresponding analysis of the reflexive pronoun region revealed no significant pairwise contrasts (all p’s > .2, Figure 2).
- The analysis of the spillover region also revealed an interaction of experimental trial and grammaticality (p < .001).
- We observed a facilitation in the processing of reflexives with distant antecedents (in both object and picture NP positions, Figure 3), which aligns with adaptation to ungrammatical conditions, and contrasts with grammatical ones.
- This suggests that, even in picture NPs, non-local antecedents are rare and marked.

Discussion

- A logophoric antecedent is not available for Hebrew speakers as it is for English speakers.
- While English speakers "recruit" the point-of-view holder as an antecedent in the lack of a syntactically available one, Hebrew speakers do not use this strategy.
- This provides initial empirical support for the intuition that Hebrew speakers vary from English speakers in the processing of long-distance reflexives.
- Moreover, this supports the hypothesis that so-called “agreement attraction” effects on reflexives do not originate from misretrivals of a grammatically irrelevant distractor.
- In contrast to subject-verb agreement dependencies, retrieval triggered by the reflexive seems to be robustly governed by linguistic licensing (syntactic or discourse) of the antecedent.
- The emergence of attraction effects with picture-noun reflexives can either:
  - indicate that Hebrew logophors are possible (but more restricted in terms of environment); or
  - reflect a different use of reflexives in nouns.
- We consider another pragmatic function: creating a contrast against the set of possible alternatives (similar to intensive reflexives, e.g. English own and French mienne, Cantrall 1973, Charnavel 2015).

<table>
<thead>
<tr>
<th>Feature (ms)</th>
<th>by condition at the spill-over region</th>
<th>*</th>
<th>**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Object</td>
<td>Attractor</td>
<td>Grammatical</td>
<td>Ungrammatical</td>
</tr>
<tr>
<td>Picture NP</td>
<td>Attractor</td>
<td>Grammatical</td>
<td>Ungrammatical</td>
</tr>
</tbody>
</table>

(1) Reading times (ms) by condition at the spill-over region and at base line (2). * represents p < .05. ** represents p < .001

(2) Word-by-word reading times (ms) of experimental items by condition

The current study

Will attraction effects for long distance antecedents emerge in Hebrew?

- We ran a self-paced reading experiment (N=60, mean age: 24.8) to determine what processing pattern Hebrew speakers exhibit in long distance point-of-view anaphors, and in the corresponding picture NP constructions.

The leading actresses suggested that the editors.M ...
The leading actors suggested that the editors.F ...
... will advertise themselves.F on the front page.
... will advertise pictures of themselves.F on the front page.

- Materials (30 sets) manipulated the sentential position of the anaphor (object position v. picture NP), and the grammaticality of the anaphor (grammatical antecedent, no antecedent, or matching a non-local antecedent, i.e. attractor condition). Experimental items were presented along with 60 grammatical filler items.