Sentence revision difficulties in French-speaking children and adults: Evidence from wh-questions with filled-gaps

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Sentence revision difficulties in French-speaking children and adults: Evidence from wh-questions with filled-gaps

Akira Omaki¹, Romy Lassotta², Julie Franck²
¹ Johns Hopkins University, ²University of Geneva

Background

In filler-gap dependency processing, adults and children actively create a gap in advance of concrete evidence whether the gap position is pre- or post-verbal [1-4]. However, when disconfirmed by later-arriving information, the initial attachment must be revised: pre-verbally in verb-final languages (e.g., Japanese), and post-verbally in verb-medial languages (e.g., French). Little is known about the consequence of these cross-linguistic differences in active commitment for the revision process.

Questions as in (1a) are ambiguous: wh- can be attached to the main verb or to the embedded verb. In Japanese, adults & children show active gap-filling, with 1st verb attachment preference in ambiguous questions [5]. However, whereas adults succeed in revising this attachment in filled-gap questions (1b), children fail, in line with [6].

In Japanese, adults & children show active gap-filling, with 1st verb attachment preference in ambiguous questions [5]. In filler-gap dependency processing, adults and children actively create a gap in advance of concrete evidence whether the verb dependency has been established both at the syntactic AND at the semantic levels. In Japanese, the error signal appears before the 1st verb, hence after the syntactic wh-verb dependency has been established but BEFORE it has been interpreted semantically [4].

Research questions

Does the position of the error signal influence syntactic revision -- is revision harder when the signal comes later? Is syntactic revision of filled-gap questions in French harder than in Japanese?

And are French children able to revise at all?

Methods

Population. French-speaking 6-year-old children (n=19) and adults (n=24).

Procedure & Materials. Question-after-story comprehension task, following [5].
• Story with three locations: i. main clause event (e.g., explaining), ii. embedded clause event (e.g., butterfly-catching), iii. distractor location
• Question: ambiguous (2a) and filled-gap (2b)

Results

French data (present experiment) compared to Japanese data from [5]

<table>
<thead>
<tr>
<th>Ambiguous condition</th>
<th>1st verb attachment preference in all populations.</th>
</tr>
</thead>
<tbody>
<tr>
<td>French</td>
<td>Japanese</td>
</tr>
<tr>
<td>0.75</td>
<td>0.74</td>
</tr>
</tbody>
</table>

Filled-gap condition:
• Less 1st verb attachment than in ambiguous condition in French adults (p<.001), but not in children (F<1)
• More 1st verb attachment in French adults than in Japanese (p<.05)

Discussion and conclusions


   - Active gap-filling across languages [1-5] and ages

2. In the filled-gap condition, French adults often (35%) fail to revise their initial 1st verb attachment, contrary to Japanese adults (5%). Why?
   - In French, the error signal (i.e., the filled gap) appears after the 1st verb, hence after the wh-verb dependency has been established both at the syntactic AND at the semantic levels.
   - In Japanese, the error signal appears before the 1st verb, hence after the syntactic wh-verb dependency has been established but BEFORE it has been interpreted semantically [4].

3. Position of the error signal is crucial in revision: sentence revision is harder when it involves multiple levels of representation (syntactic and semantic) than when it only involves one (syntactic)

Our results are in line with previous adult studies [7,8] showing massive reanalysis difficulties once interpretive commitments have been made.

4. French and Japanese children equally fail to revise their initial analysis of filled-gap sentences.


We are currently exploring the link between DCCST/n-back performance and garden-path recovery [12].

References


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Figures 1, 2: Adapted from JPR, 73, 31.
Figures 3, 4: Adapted from CogniJon, 73, 31.
Figures 5, 6: Adapted from JML, 106, 31.