A test case: Appositive relative clauses (ARCs).

- Sub-sentential units that are semantically, pragmatically, and prosodically demarcated from their host clauses [10].
- Argued to be less impactful on later processing than restrictive relative clauses (RRCs) [2, 3, 7, 9].

Two views of segmentation effects

- Prosodic and semantic/pragmatic segmentation sometimes reduces the accessibility of previous content, because crossing domain boundaries induces memory decay [3, 11].
- Prosodic segmentation enhances memory for utterances and their segments [6], because sub-sentential units that are semantically, pragmatically, and prosodically demarcated from their host clauses are easier to target directly and/or bypass during memory retrieval [8].

A test case: Appositive relative clauses (ARCs).

- More accessible in memory due to loss/compression of structure [3, 11], or easier to target directly and/or bypass during memory retrieval [8].

Hypotheses & Predictions

Compression: Following processing of the RC, appositives are compressed in memory due to their semantic/pragmatic status [3].
- Predicts worse memory for ARCs compared to RRCs.
- Predicts difficulty accessing ARCs-internal content, post-RC.

Partition: Appositives create a structural division in the memory representation of a sentence that makes all of the sentence’s content more easily accessible.
- Predicts better memory for ARCs compared to RRCs.
- Predicts easier access to all content in a sentence with an ARC.

Experiment 1: Recognition Memory (n = 48)

Q: Are ARCs remembered worse or better than RRCs?
A: Numerically, better, but not significantly. Crucially, not worse.

2×2 Recognition Memory paradigm crossing RC Type (ARC, RRC) and recognition probe Structure (Same, Different) across 48 items (+ 108 fillers of varied structure).

<table>
<thead>
<tr>
<th>RC Type</th>
<th>Structure</th>
<th>Probe Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC</td>
<td>Same</td>
<td>ARC</td>
</tr>
<tr>
<td>ARC</td>
<td>Different</td>
<td>ARC</td>
</tr>
<tr>
<td>RRC</td>
<td>Same</td>
<td>RRC</td>
</tr>
<tr>
<td>RRC</td>
<td>Different</td>
<td>RRC</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Condition</th>
<th>Control</th>
<th>ARC-1</th>
<th>ARC-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>0.60</td>
<td>0.64</td>
<td>0.66</td>
</tr>
<tr>
<td>ARC-1</td>
<td>0.57</td>
<td>0.62</td>
<td>0.65</td>
</tr>
<tr>
<td>ARC-2</td>
<td>0.60</td>
<td>0.64</td>
<td>0.66</td>
</tr>
</tbody>
</table>

ARC: The cat that ate tuna in the morning, came running into the kitchen.
RRC: The cat that ate tuna in the morning, came running into the kitchen.

Two explanations: Appositives are stored in separate domains that are...

- Less accessible in memory due to loss/compression of structure [3, 11], or easier to target directly and/or bypass during memory retrieval [8].

The struggling author who published two novels represented the successful hack that published forty over the past three decades.

ARC-1: The struggling author who published two novels represented the successful hack that published forty over the past three decades.
ARC-2: The struggling author who published two novels represented the successful hack, who published forty over the past three decades.

Experiment 2: Maze (n = 72)

The Maze Task [1, 5]

- 2×2AFC decisions between grammatical continuations vs. high-surplus foils.
- Choosing A terminates the trial.
- Success requires representation of structural and conceptual context.
- Response latency (RT) assumed to index lexical access, integration, and decision making.

Hypotheses & Predictions

Compression: Numerically, retrieval in ARC-1 is faster than in the Control but also slower than in ARC-2.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Control</th>
<th>ARC-1</th>
<th>ARC-2</th>
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<tr>
<td>ARC-2</td>
<td>0.60</td>
<td>0.64</td>
<td>0.66</td>
</tr>
</tbody>
</table>

ARC: The father who cooked a meal after the orchestra performed, was grateful for instant noodles.
RRC: The father who cooked a meal after the orchestra performed, was grateful for instant noodles.

References


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Compression: Following processing of the RC, appositives are compressed in memory due to their semantic/pragmatic status [3].