Two types of long-distance dependencies discerned through island effects

Dan Parker & Bradley Larson
University of Maryland

Gap-filling mechanism forms different types of dependencies in multiple gap constructions

- Gap 1 = syntactic dependency
- Gap 2 = semantic dependency

- Across-the-board (ATB) sentences like (1) contain a single filler that participates in multiple dependencies:

  (1) The cookies that Fred baked __ and Sally ate __ were homemade.

- Previous accounts assume that the filler forms syntactic dependencies with both gaps [1,2].

- We argue that the filler actually forms different types of dependencies with the two gaps.

- **EVIDENCE:** different dependencies lead to differences in sensitivity to syntactic island effects across the two conjuncts.

### Competing Accounts

- Coordinate ATB extraction forces each conjunct in (2) to contain a gap (an exception to the Coordinate Structure Constraint [3]).

  (2) **Which book** did [[IP1 Susan recommend __] and [IP2 Alice buy __]]?

#### Symmetrical Account

- Extraction from both conjuncts [1-2,4-6].

  **Which book** did [[IP1 Susan recommend __] and [IP2 Alice buy __]]?

#### Asymmetrical Account

- Extraction from only the first conjunct [7-10]

  **Which book** did [[IP1 Susan recommend __] and [IP2 Alice buy __]]?

### Puzzling Asymmetries

#### Reconstruction effects

- Reconstruction permitted only in the first conjunct

#### Binding Condition A

- (3) [Which picture of himself] did Jim sell and Sue buy?

#### Binding Condition C

- (5) [Which photo of John] did Sue like and he hate?

- **Weak crossover effects**

  - Crossover enforced only in the first conjunct

- (7) *Who, should his, friend invite and Ivy meet?

- (8) *Who, should Ivy invite meet and his, friend invite?  

### ATB and Islands: Syntactic island effects found only in the first conjunct

#### Sample ATB sentences

<table>
<thead>
<tr>
<th>Symmetrical Account</th>
<th>Asymmetrical Account</th>
</tr>
</thead>
<tbody>
<tr>
<td>No island</td>
<td>The book that [[Alex said that Frank purchased] and [Tracy doubted that Mandy read]] was a best-seller.</td>
</tr>
<tr>
<td>Island conjunct 1</td>
<td>The book that [[Alex said whether Frank purchased] and [Tracy doubted that Mandy read]] was a best-seller.</td>
</tr>
<tr>
<td>Island conjunct 1</td>
<td>The book that [[Alex said that Frank purchased] and [Tracy doubted whether Mandy read]] was a best-seller.</td>
</tr>
</tbody>
</table>

6 items per condition=18 targets; 36 grammatical fillers

- **PREDICTIONS**

  - Symmetrical Account: Both conjuncts should behave similarly with respect to syntactic island effects.
  - Asymmetrical Account: The conjuncts should behave differently with respect to syntactic island effects: island effects should be reduced or eliminated in conjunct 2.

### Conclusions

- **Contrasting island effects observed across conjuncts of multiple gap ATB constructions.**

- **Reduced and short-lived island effect in conjunct 2 is not predicted by the Symmetric Account.**

- **Suggestion:** Filler forms a syntactic dependency with Gap 1, but a semantic dependency with Gap 2.

---

**References & Acknowledgments**


---

**Conclusion**

- Immediate island detection in conjunct 2 suggests that the parser:
  - (I) quickly enforces the requirement of ATB-extraction,
  - (II) actively searches for Gap 2.

  (See also [11,12])