Towards a Description of the Syntactic Satiation Effect

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The Claim

› Bad string + repetition = better string?

(1) Who does John wonder whether Mary likes?
(2) Who does John want for Mary to meet?

› AKA: “Linguist’s Disease”, “Judgment Fatigue”

› Bad string + repetition = bad string?

(3) How many did John want to buy books?
(4) Who did John talk with Mary after seeing?

★ Is there an effect?

★ What is the source of this asymmetry?
Previous Investigation

‣ Snyder (2000)

‣ Looked at

‣ (7) WH-violations

  Want For Violation          Who does John want for Mary to meet?
  Whether Violation           Who does John wonder whether Mary likes?
  That-Trace Violation        Who does Mary think that likes John?
  Subject Island Violation    What does John know that a bottle of fell on the floor?
  Complex NP Violation        Who does Mary believe the claim that John likes?
  Adjunct Island Violation    Who did John talk with Mary after seeing?
  Left Branch Violation       How many did John buy books?

‣ (5) Repetitions
Previous Investigation

‣ Snyder (2000)

‣ Found

‣ “Satiation” (Increased Acceptability)

- Want For Violation: Who does John want for Mary to meet?
- Whether Violation: Who does John wonder whether Mary likes?
- That-Trace Violation: Who does Mary think that likes John?
- Subject Island Violation: What does John know that a bottle of fell on the floor?
- Complex NP Violation: Who does Mary believe the claim that John likes?
- Adjunct Island Violation: Who did John talk with Mary after seeing?
- Left Branch Violation: How many did John buy books?
Previous Investigation

› Other similar work
  ‣ Hiramatsu (2000)
    ‣ Found: Want for, Whether, That-trace, Subject
  ‣ Goodall (2004)
    ‣ Found: Complex NP
  ‣ Luka & Barsalou (2005)
    ‣ Found: Moderately Grammatical

What Marilyn advised is to drive to his house.
Lester is a better pianist than Janice and better singer than Edna.
Accounts

- (3) hypotheses
  - Implicit Learning
    *Luka & Barsalou (2005), Luka (2005)*
  - Processing Bottleneck
    *Snyder (2000), Hiramatsu (2000)*
  - Item-bias Confound
    *Sprouse (2007)*
Pilot Study

‣ Main goal
  ‣ Replicate the Snyder (2000) effect

‣ Secondary goal
  ‣ Evaluate potential trends in performance for further research
Design & Materials

- 188 students from U of Arizona
  - 6 classes
- Presented Snyder (2000) materials*
  - via .ppt in-class (self-timed at 10 sec)
  - Responses, Yes/No
- Background questionnaire

*Thanks to William Snyder for providing these experimental materials
Results

- **Satiation**: \( \# N \rightarrow Y > \# Y \rightarrow N \)
Results

First Set

<table>
<thead>
<tr>
<th>Sentence Types</th>
<th>Mean Percent Acceptable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Want For</td>
<td>100.00</td>
</tr>
<tr>
<td>Whether Island</td>
<td>80.00</td>
</tr>
<tr>
<td>That-trace Island</td>
<td>60.00</td>
</tr>
<tr>
<td>Subject Island</td>
<td>40.00</td>
</tr>
<tr>
<td>Complex NP Island</td>
<td>20.00</td>
</tr>
<tr>
<td>Adjunct Island</td>
<td>10.00</td>
</tr>
<tr>
<td>Left Branch Island</td>
<td>0.00</td>
</tr>
<tr>
<td>Grammatical</td>
<td>100.00</td>
</tr>
</tbody>
</table>
Results

Sentence Types

- Want For
- Whether Island
- That-trace
- Subject Island
- Complex NP
- Adjunct Island
- Left Branch

Acceptability

Subjects

- Stable
- Variable
- Decreased
- Increased

<table>
<thead>
<tr>
<th>Sentence Type</th>
<th>Stable</th>
<th>Variable</th>
<th>Decreased</th>
<th>Increased</th>
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</thead>
<tbody>
<tr>
<td>Want For</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Whether Island</td>
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</tr>
<tr>
<td>That-trace</td>
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<td></td>
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<tr>
<td>Subject Island</td>
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<td>Adjunct Island</td>
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<tr>
<td>Left Branch</td>
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</tbody>
</table>
Repeated Measures (F1)
Replication Summary

- Main goal
  - Reproduce the Snyder (2000) effect

- Of note...
  - Why are first-set responses so variable?
  - What does the stability/variability ratio represent?
Replication Summary

- Secondary goals

- Evaluate potential differences in performance for distinct populations

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Age</td>
<td>18-23 (86%)</td>
</tr>
<tr>
<td>Female</td>
<td>67%</td>
</tr>
<tr>
<td>Left Handed</td>
<td>9%</td>
</tr>
<tr>
<td>Arizona Born</td>
<td>43%</td>
</tr>
<tr>
<td>Multilingual</td>
<td>35%</td>
</tr>
<tr>
<td>&gt; Spanish</td>
<td>57%</td>
</tr>
<tr>
<td>Ling Training</td>
<td>7%</td>
</tr>
</tbody>
</table>
Other Findings

More satiation for Spanish?
Other Findings

Particular anomaly for trained?
Shortcomings & Questions

- Anomaly base limited to WH-violations
  *Does the effect generalize to a wider variety of sentence anomaly?*

- Only produced in judgment task setting
  *Can the effect be produced without repeatedly engaging decision-making faculties?*

- No consideration for population variables
  *Do language background profiles influence the effect?*
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