Interpreting an Interpretive Illusion: What the Dative Illusion Tells Us about Processing

Michael Wilson, University of Massachusetts Amherst
CUNY 31 @ UC Davis, March 15th–17th 2018

Research Question

- Dative verbs can occur in double object (DO) and prepositional dative (PD) constructions.
- Give-type verbs require recipient goals in DO and PD.
- Send-type verbs require recipient goals only in DO.
  1. John gave (Mary / Davis, CA) a package. (DO)
  2. John gave a package to (Mary / Davis, CA). (PD)
  3. John sent (Mary / Davis, CA) a package. (DO)
  4. John sent a package to (Mary / Davis, CA) (PD)

- Do comprehenders enforce thematic role restrictions on arguments in the same way in simple sentences and sentences where the argument is extracted?

Background

- Semantic type coercion is easier across clauses (e.g., The secretary began... the memo that the secretary began...)[2]
- Processing of background information may be shallow or merely “good-enough” (e.g., the Moses Illusion). [3, 4, 5, 6]
- Do these findings extend to thematic restrictions on arguments?

Materials & Methods

- Plausibility rating task (1 – low, 7 – high) on Amazon MTurk.

- Exp. 1: 20 items in a 2 × 2 × 2 design crossing verb-type, construction, and goal extraction; N = 48.
- Exp. 2: Same 20 items as exp 1 with verb-type manipulation; N = 64. Sentences broken into 2 chunks, but did not appear to affect results.
- Added STRICT/LENIENT instruction manipulation
- Added 10 ill-formed controls: 5 missing prepositions, 5 types
- (5) The train that Zack was waiting in was delayed due to an accident.
- (6) The way that Chuck got at the dealership had expensive leather upholstery.

Exp. 1 Results

<table>
<thead>
<tr>
<th>Ratings by Condition</th>
<th>DO Extracted</th>
<th>DO NonExtracted</th>
<th>PD Extracted</th>
<th>PD NonExtracted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Rating</td>
<td>2</td>
<td>6</td>
<td>2</td>
<td>6</td>
</tr>
</tbody>
</table>

Exp. 2 Results: Dative Items

<table>
<thead>
<tr>
<th>Mean Rating</th>
<th>GDF Extracted</th>
<th>GDF NonExtracted</th>
<th>GSD Extracted</th>
<th>GSD NonExtracted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Rating</td>
<td>2</td>
<td>6</td>
<td>2</td>
<td>6</td>
</tr>
</tbody>
</table>

Exp. 2 Results: Controls

<table>
<thead>
<tr>
<th>Mean Rating</th>
<th>Missing Preposition</th>
<th>Typo</th>
<th>Missing Preposition</th>
<th>Typo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Rating</td>
<td>2</td>
<td>6</td>
<td>2</td>
<td>6</td>
</tr>
</tbody>
</table>

Theoretical Analysis

```
give: DO, PD
send: DO, PD
```

```
SUCH CAT
(NP, NP, NP)
```

```
ROLES
[MO1][REC2][TH1]
```

```
send, Illusory:
SUCH CAT
(NP, NP, NP)
```

```
ROLES
[MO1][TH1][LOC1]
```

Note that give has recipient in both DO and PD frames, while send may have loc, but only in the PD frame.

Conclusions

- Exp. 1: Goal extraction improved ratings for send-type DO items more than for send-type PD or give-type items.
- Exp. 2: Participants showed no evidence of correcting the syntax of send-type DO items with goal extraction compared to controls.
- The verb-type difference persists against shallow semantic processing of embedded material. The difference between experimental items and controls points against a syntactic correction account.
- Key idea: What goes wrong is the processing of the ife mapping between syntax and semantics.
- This is easiest to account for if verbs themselves place restrictions on their arguments, in contrast to constructions or functional heads.
- For future research: why do these kinds of sentences lead to difficulty enforcing the syntax/semantics mapping? Can the Dative Illusion be extended to other cases?

References

[2] Sanders, Kevin, and Natalia Gómez. “Processing of background information may be shallow or merely ‘good-enough’ (e.g., the Moses Illusion).” Journal of Memory and Language 73, no. 1 (2012): 190–205.

Acknowledgements

Thanks to my advisors Lyn Fruaver and Brian Dillon, and to my GP chair Jeremy Hartmann. Thanks to Rong Ying for many discussions about this project, and also to Kyle Johnson. Christopher Hammarlund, Brandon Prickett, three anonymous CUNY reviewers, and attendees of the Fall 2016 UMass psycholinguistics seminar, the 2017 UMass Linguistics second-year mini-conference, and the UMass psycholinguistics workshop.

Contact Information

- A PDF of this poster is available at www.brandy.ly/mwilsonCUNY31
- Web: blogs.umass.edu/michaelwilson
- Email: mwilsonlinguist@umass.edu