Abstract

- Various sources of contextual information help to narrow down reference resolution for definites, e.g.
  - Contextual Domain Restriction and Perspective Taking
- Both require social coordination by considering shared goal structure and availability of information
- We investigate the time-course of pragmatic narrowing in an interactive game
- Eye-tracking results indicate immediate availability of both types of contextual information
- Domain Restriction is stronger than Perspective Taking

Perspective Taking

- Fixing reference for definite expressions requires identifying which candidate referents are in Common Ground (mutually known by speaker and addressee)
- Hand over the gun typically refers to a mutually known gun, not a privileged gun known only to speaker.
- Two Basic Views of Processing Perspective:
  - Egocentric First – Addresses initially consider all candidate referents ignoring privileged/shared status
  - Immediate Use of Perspective – Shared referents should be favored relative to privileged ones

Domain Restriction

- Defines require uniqueness, but uniqueness is almost always relativized to context
- Contextual Domain Restriction is captured by assuming covert variables
- Choice of Domain Restriction is crucially informed by shared goal structure
- Processing Question: Do contextual information integrated from the start, or is there an initial stage of literal processing?

Experimental Designs & Task

Question 1: Are incoming linguistic expressions...
- Initially evaluated literally, independently from contextual considerations?
- Or are contextual constraints immediately applied?

Question 2: Are Domain Restriction and Perspective taking different facets of the same underlying process of social coordination, or do they draw on separate resources?

Methods & Design

Interactive Game:
- Participant matcher carried out instructions of confederate director, transmitted via mic/headphone from another room (one-way communication only)
- Goal: Minimize like accessories in adjacent cells
- Participant to keep hands on track of number of violations
- Context sentence sets Domain Restriction (boots!)
- Some cells hidden from Director (Perspective) (indicated by shading on Participant’s screen)

Domain Restriction Manipulation

Context sentence established domain restriction:

<table>
<thead>
<tr>
<th>Perspect</th>
<th>Manip</th>
<th></th>
<th>Manip</th>
</tr>
</thead>
<tbody>
<tr>
<td>No-DR</td>
<td>Let’s start by dealing with the boots</td>
<td>DR effect</td>
<td></td>
</tr>
<tr>
<td>Pict Vari</td>
<td>Match domain restriction established by context</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DK</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DR</td>
<td></td>
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</tr>
</tbody>
</table>

Key Results

- Effect of Domain Restriction (beginning 200-400ms):
  - DR > No-DR
- Effect of Perspective Taking (beginning 200-600ms):
  - DR > No-DR

Results

- Eye movement data collected from 26 participants
- Time-locked to onsets of critical definite
- Mixed effect model analyses: looks to Competitor

Data Analysis

- Animal Onset Time
- Competitor (%)

Results

- Effect of Domain Restriction (beginning 200-400ms):
  - DR > No-DR

Domain Restriction

- As participants hear the alligator, their choice of referent is informed by Domain Restriction
- Context Sentence limits referential choices to animals with boots
- The alligator is effectively understood as the alligator with boots
- This restriction is imposed immediately, and not construed after an initial literal interpretation
- Adding further support to findings by Schwarz 2012:
  - Domain Restriction is informed by discourse goals, which can be framed as Question Under Discussion (Roberts 1996)
  - Involuntary linguistic input is immediately evaluated in light of Domain Restriction.

Perspective Taking

- Information about shared vs privileged ground is utilized in reference resolution
- Privileged Ground is hardly considered for choice of referent in Director instructions
- Advantage for Shared Ground referent emerges immediately
- Evidence against initial egocentric processing stage (cf. Barr 2008)
- The effect of perspective was weaker than for Domain Restriction, perhaps because shared ground was established via perceptual co-presence.
- Physical co-presence is a probably less common and possibly less reliable cue to shared knowledge than linguistic mention

Summary

- Immediate effects of both
- Domain Restriction and Perspective Taking
- Comprehension of definitions is relativized immediately to considerations about state of the discourse
- Linguistic Domain Restriction seems stronger than Perspective from physical co-presence

Selected References