Facts about referents as conversational precedents

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Overview

• Interlocutors use “common ground” in order to successfully coordinate discourse

• The way in which they integrate common ground is disputed

• Two accounts of common ground integration in comprehension

• My study investigates the rivalling predictions of these accounts

• Spoiler: findings are pretty mixed
Common ground

• Critical foundation upon which all utterances are produced and comprehended (Clark & Marshall, 1981)

• We know that people exploit something like common ground in tailoring production (Snow, 1972; Shatz & Gelman, 1973; Bell, 1984; Fussel & Krauss, 1992)

• Common ground and discourse as “Joint Action” invokes the Mutual Knowledge Paradox (Schiffer, 1972)

• One place we can turn to study the integration of common ground is conversational precedents...
Conversational Precedents

- Temporary conventions regarding how particular referents are to be described
- Principle of consistency; lexical entrainment (Garrod & Anderson, 1987)
- "Conceptual pacts" (Brennan & Clark, 1996)
- "Conversational precedents" (Barr & Keysar, 2002)
- Reduction of uncertainty: following a precedent makes processing more efficient; breaking a precedent impairs comprehension

- Two rival heuristic accounts of if/how we approximate mutual knowledge...
Copresence Heuristics (Clark & Marshall, 1978)

• Physical copresence, linguistic copresence, cultural copresence
• Partner-specific, shared information that enables communication
• No expectation of label consistency with a new speaker

• Conceptual pacts are ‘agreed’ and adhered to because of the accrued experience (common ground) between interlocutors
Egocentrism and preemption
Kronmüller & Barr (2007a)

- “Cognitive economy”; process labels according to the easiest available information
- Common ground only considered after error feedback
- Partner-independent, labels are processed according to egocentric model in the first instance
- For example, if a new speaker uses an old label, it’s as efficient as an old speaker using an old label.

- Precedents are maintained because of the partner-independent and consistent use of egocentric knowledge
Egocentrism and preemption
Kronmüller & Barr (2007a)

• Breaking a precedent you have set impairs comprehension (Metzing & Brennan, 2003)

• “Preemption” proposed as mechanistic explanation (Kronmüller & Barr, 2007a)

• Predicated on processing mechanisms of Mutual Exclusivity (Markamn & Wachtel, 1988)

• Heuristic assumption of ‘one referent, one label’.
Quick recap

• Two rivalling heuristic accounts of the role played by common ground in comprehension:
• *Copresence heuristics* fully constrain comprehension and rely on the shared knowledge of interlocutors; *partner-specific*
• *Preemption* uses the same a priori constraints as ‘Mutual Exclusivity’ (one-to-one mapping) to ‘preempt’ consistent label use; *partner-independent*
• Measuring the effects of maintaining and breaking conversational precedents can help us examine these processes
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- Diesendruck & Markson (2001) used facts about referents as referring expressions to explore the pragmatic constraints on Mutual Exclusivity.

- Kronmüller & Barr (2007a) use word labels (e.g. The shiny metal thing) as conversational precedents.

- I’m interested to see if listeners use the linguistic copresence of a precedent between them and their partner to establish a conceptual pact.

- Using speaker-specific facts about referents (e.g. My sister gave me this) as referring expressions may lend itself to such an exploration.
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- Two factors of two levels:
  Speaker: [same] [different]
  Precedent: [maintain] [break]
- Within-subjects

<table>
<thead>
<tr>
<th>Condition</th>
<th>First mention</th>
<th>Target instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Same Speaker Maintain Precedent (SM)</td>
<td>Reminds me of X</td>
<td>Reminds me of X</td>
</tr>
<tr>
<td>Same Speaker Break Precedent (SB)</td>
<td>Reminds me of Y</td>
<td>Reminds me of X</td>
</tr>
<tr>
<td>Different Speaker Maintain Precedent (DM)</td>
<td>Reminds me of X</td>
<td>Reminds me of X</td>
</tr>
<tr>
<td>Same Speaker Break Precedent (DB)</td>
<td>Reminds me of Y</td>
<td>Reminds me of X</td>
</tr>
</tbody>
</table>
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• Dependent measures:

  - Reaction time latency in (ms)
  - Item choice “match” or “non-match” (i.e. follow precedent or not)

• 40 participants presented with 24 arrays rotated through 4 conditions [SM, SB, DM, DB]
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“This reminds me of my sister”
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“Give me the thing that reminds me of my sister”
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Predictions of partner-independent Preemption
- Main effect of Precedent
- Kronmüller & Barr (2007a) found higher latencies for [SB] than [DB], and explained this with preemption
- [DM] is just as efficient as [SB]
- Preferential exclusion of the match cell in [SB] and [DB]

Predictions of partner-dependent Copresence
- Main effect of Speaker
- Match selection for [DM] should be chance
## Facts about referents as conversational precedents

<table>
<thead>
<tr>
<th>Condition</th>
<th>Frequency</th>
<th>Chi-squared</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Observed</td>
<td>Expected %</td>
</tr>
<tr>
<td>Different Maintain *</td>
<td>Match</td>
<td>74</td>
</tr>
<tr>
<td></td>
<td>Non-match</td>
<td>38</td>
</tr>
<tr>
<td>Different Break</td>
<td>Match</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Non-match</td>
<td>89</td>
</tr>
<tr>
<td>Same Maintain ***</td>
<td>Match</td>
<td>108</td>
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<tr>
<td></td>
<td>Non-match</td>
<td>6</td>
</tr>
<tr>
<td>Same Break</td>
<td>Match</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Non-match</td>
<td>88</td>
</tr>
</tbody>
</table>

*Degrees of Freedom (df) for all $\chi^2$ values = 1.*

**Preemption:** Preferential exclusion of match in [SB] false and [DB] equivocal

**Preferential match in [DM] true**

**Copresence:** Chance selection for [DM] false

However...
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Two-way ANOVA:

- Speaker: $F = 6.39^*$ ($p = .05$)
- Speaker + Precedent: $F = 46.59^{***}$ ($p = .0001$)
- Speaker x Precedent: $F = 4.15^*$ ($p = .05$)
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- Preferentially match the precedent at chance in [DM] as predicted by Preemption, but take significantly longer to do it
- Observed chance match selection in [SB] (rather than preferentially excluded precedent); not predicted by a one-to-one mapping of Mutual Exclusivity - rather, it is the pragmatically appropriate response (cf. Sperber & Wilson, 1987)
- In accordance with findings that preemption does not hold in the case of homonyms (Kronmüller & Barr, 2007b)
Concluding remarks

• Equivocal?

• Potential experimental confounds

• Follow up investigations using cultural knowledge as viable alternative referents

• Any questions or suggestions?
References

References


• Snow, C.E. (1972) “Mother’s speech to children learning language” Child Development 43, 549-565