INTRODUCTION

What is the relationship between semantic relatedness and semantic integration—two overlapping meaning-based factors affecting S-V agreement?

Bock & Miller (1991) established the mismatch effect: Participants produced more subject-verb agreement errors while making sentence completions for preambles containing a singular head noun paired with a plural local noun relative to corresponding singular head noun–singular local noun controls. Although grammatical number factors prominently in agreement, some studies have increased the mismatch effect by manipulating conceptual number separately from grammatical number (e.g., Bock et al., 2001). Other studies have manipulated conceptual properties unrelated to number, including semantic relatedness and semantic integration. One possibility is that these latter properties influence agreement processes to the extent that more integrated/related elements are planned closer together in time.

Semantic Relatedness

Barker, Nicol, & Garrett (2001) increased the mismatch effect by manipulating semantic relatedness, a general meaning-based relationship between two words irrespective of context. Numerous priming studies have reported faster response times when primes and targets are semantically or associatively related (e.g., Balota et al., 2006); this is consistent with the assumption that relatedness between alter the timing of planning during production.

Semantic Integration

Solomon & Pearlmutter (2004) increased the mismatch effect by manipulating semantic integration, operationally defined as the degree to which constituent elements of a to-be-uttered phrase are tightly linked at the conceptual level, relatedness (related vs. unrelated), and semantic integration (integrated vs. unintegrated):

Goals

• Exp. 1: Investigate the relationship between relatedness and integration, manipulating each factor independently
• Exp. 2: Investigate potential component aspects of relatedness

EXPERIMENT 1

Method

Materials

24 NP + PP sentence preambles in eight versions, crossing local noun number (singular vs. plural), semantic relatedness (related vs. unrelated), and semantic integration (integrated vs. unintegrated):

Relatedness

<table>
<thead>
<tr>
<th>Relatedness</th>
<th>Integration</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Related</td>
<td>Integrated</td>
<td>The canoe with the weathered oar(s)</td>
</tr>
<tr>
<td>Unrelated</td>
<td>Unintegrated</td>
<td>The canoe with the weathered flag(s)</td>
</tr>
</tbody>
</table>

Ns, Adjs, and Ps matched for length in characters, phonemes, and syllables; and for frequency 72 filler preambles (including 24 Plural Head NP + PP preambles)

Participants

269 native-English speakers

Analyses conducted on data from 235 subjects

Procedure

Participants read visually presented preambles aloud and provided a sentence completion.

Scoring

- Correct: Correct preamble and appropriately inflected verb
- Error: Same as Correct but with agreement error on a verb
- Other (e.g., preamble error, use of uninflected verb)

Subject-verb agreement error rate = Error/Error+Correct

Mismatch Effect = Plural local noun error rate - singular local noun error rate

Results & Discussion

• Related > Unrelated
• No effect of integration
• Numeric pattern of errors is consistent with Solomon & Pearlmutter (2004)
• Integration manipulation was weaker than in previous studies
• No relatedness x integration interaction
• Given effect of relatedness, Experiment 2 attempted to separate out different kinds of semantic relationships and test for differential effects on agreement errors

REFERENCES & ACKNOWLEDGMENTS


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