**INTRODUCTION**

How do semantic (conceptual) and syntactic properties affect grammatical encoding?

**Semantic/Conceptual Property**
- Degree of message-level relatedness between utterance elements to be planned
- Phrase- and word-exchange errors increase with integration (DiBattista & Pearlmutter, 2011).
- Integration affects *grammatical encoding* of sentence production.

**Syntactic Properties**
- Grammatical role and grammatical class similarity (Garrett, 1975)
- Exchanging phrases have same role, exchanging words have same class.
- Evidence from corpus analysis but not from experimental investigation.

Integration affects *degree of message-level relatedness* between utterance elements to be planned.

**PREDICTIONS**
- Integration and semantic similarity will affect grammatical encoding.
- Phrase and word exchanges will increase with integration and similarity.

**EXPERIMENT 1**

32 pictures: A common object and attribute, or two common objects.
- Pictures varied in integration and color scheme.
- Responses varied in integration, similarity, and description preference.

**Method**
- 32 pictures: A common object and attribute, or two common objects.
- Pictures varied in integration and color scheme.
- Responses varied in integration, similarity, and description preference.

16 *integrated* pictures
- Preferred response: the brown apple with the blue spot
- Unpreferred response: the brown apple with the blue spot

16 *unintegrated* pictures
- Preferred response: the green shelf above the blue sink
- Unpreferred response: the green shelf above the blue sink

**RESULTS**

Weighted linear regressions on empirical-log transformed percentages.
- Exchanges/Exchanges + Correct Descriptions
- Analyses on all errors together, and on phrase and word errors separately
- Fixed effects: Integration, similarity, preference, and their interactions
- Random effect: Either participants or items

**Untransformed Error Rates: Combined Phrase and Word Errors**

Unpreferred > Preferred
- Integrated > Unintegrated
- Integrated > Heterogeneous
- - No interactions
- Integration and similarity significant for phrase and word errors separately.

Confound: Syntactic and semantic content similarity vary together. Are the results attributable to syntactic or semantic similarity?

**GENERAL DISCUSSION**

Integration and preference affect grammatical encoding.

Similarity effect: Experimental evidence that constituent similarity influences grammatical encoding.
- Role of similarity previously seen only in corpus analysis.
- Production system attends to this similarity during utterance planning.
- Evidence most reliable when syntactic and semantic content similarity vary together.

**REFERENCES AND ACKNOWLEDGMENTS**


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