



# Syntactic Category Ambiguity in Sentence Production

Robert Thornton & Jeffrey Bye  
Pomona College

## Number Marking and Syntactic Category Ambiguity

- In English, plural nouns are formed by adding an -s, whereas singulars are not explicitly marked
- The opposite for verbs, with singular verbs often getting the -s and plurals not marked for number

*the chef cooks vs. the chefs cook*

- Many words are syntactically ambiguous, e.g., *cook* can be a noun or a verb.
- Thus, *cooks* is also number ambiguous: plural noun or a singular verb

## Lexical Ambiguity Resolution

- Studies have shown that during comprehension all meanings of a word become initially active, even in a constraining context (e.g., Tanenhaus et al., 1979)
- True of category ambiguity (e.g., Boland, 1997; Tanenhaus et al., 1979), but Folk & Morris (2003) recently found activation of only the appropriate category in context
- Interesting issue for studies of subject-verb agreement, which have shown that mismatching nouns increase agreement errors (e.g., Bock & Miller, 1991):

*The key to the cabinets are...*

- What happens when that local noun is category ambiguous? (e.g., *cooks* is noun or verb vs. *chefs*, which can only be a noun):

*The training of the **cooks***  
*The training of the **chefs***

## Predictions

Multiple constraints view: If singular verb semantics are activated, we will see fewer agreement errors for category ambiguous words

Syntactic constraint view: If syntactic category is resolved before semantic ambiguity (e.g., Folk & Morris, 2003), we should see no differences in agreement errors

## Experiment 1

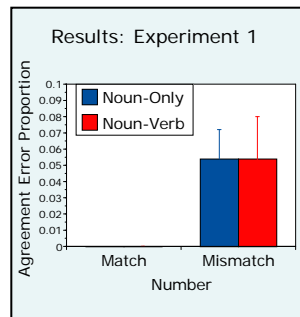
- Elicited production task: Subjects saw sentence fragments and produced complete sentences
- 32 subjects; 28 items
- Two variables:
  - Syntactic Category: Noun-only (N-only) vs. Noun-Verb (N-V)
  - Number: Matched (both singular) vs. Mismatched (singular-plural)

## Sample Item

N-Only: The training of the chef(s)  
N-V: The training of the cook(s)

## Results

- As in previous studies, more agreement errors when the local noun mismatched in number
- But no effect at all of syntactic category ambiguity, same number of errors (exactly) for category ambiguous local nouns as for unambiguous ones



## Experiment 2: Collectives

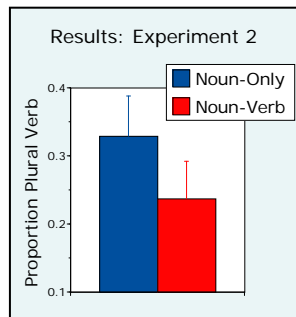
- Possible that the null result in Experiment 1 occurred simply because the error rate was so low, only 5% of trials (i.e., a floor effect)
- Haskell & MacDonald's (2003) solution: Collective phrases, more variable in agreement and can appear with either singular or plural verbs (e.g., *a group of students is angry* and *a group of students are angry* both grammatical)
- Thus we are no longer looking at agreement errors, but the proportion of plural vs. singular verbs produced in normal, grammatical utterances
- 20 participants; 16 items

- Same task as Experiment 1

- Because collective phrases denote groups, only plural local nouns were used (i.e., *a team of chefs* is semantically infelicitous)

## Sample Item

Noun-Only: A team of chefs  
Noun-Verb: A team of cooks



## Results

- Fewer plural verbs produced with category ambiguous local nouns, suggesting that the sing verb representation influenced agreement, even when the word was being produced as a noun (no ambiguity in production)

## Conclusions

- Supports multiple constraints models of ambiguity resolution, as well models that specifically stress the role of distributional info and competition in agreement (e.g., Haskell & MacDonald, 2003)
- Agreement is not simply constrained by syntax; we see lexical effects even after syntactic assignment

## References

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