Adults behaving like children: the effect of time in resolving quantifier ambiguity
Scott Fults¹, Anastasia Conroy¹, Jeffrey Lidz² and Julien Musolino²
¹University of Maryland, ²Rutgers University

Hypotheses, cont.

Surface-Default Hypothesis:
Surface scope is always the default, initial interpretation for both adults and children.

Inverse Scope Hypothesis:
Inverse scope interpretation is the process by which adults resolve semantic ambiguities.

Inference Hypothesis:
The process by which adults resolve semantic ambiguities.

Hypotheses

Preference Hypothesis:
Idiosyncratic scope assignments are learned for every construction; the adult preference for (1) is inverse scope.

There is no distinction between initial and preferred scope.

Children initially have trouble with (1) because they have already learned that the general preference for most other constructions is surface scope.

The Experiment

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Speeded vs. Non-speeded Sentence Completion Task
In order to improve upon previous on-line scope parsing studies:
- we provided a context with each sentence, so that participants did not have to imagine their own, and,
- each context supported both interpretations.

Participants sat in front of a computer screen, viewed pictures like these, and heard a story about the pictures:

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Here we have a red dwarf, a blue dwarf and a green dwarf, and they all have their own colors of spray paint. And, there’s the farmer and he has his own can of spray paint. First, there’s the barn that the cow lives in. It looks like the red dwarf and the blue dwarf spray painted the cow’s barn but not the green dwarf. And, then we hear the barn that the pig lives in. It doesn’t look like any of the dwarves painted the pig’s barn but it looks like the farmer did.
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The experiment consisted of 20 test trials: 10 for adults, 10 for children.

The sentence was presented on the screen, followed by a blank space for the answer. The subject was asked to complete the sentence either immediately or with as much time as they wanted.

Results

The Results

- 40 adults: 20 speeded, 20 non-speeded
- 40 children: 20 speeded, 20 non-speeded

Conclusions

1. Evidence for Surface-Default hypothesis: adults always first assign surface scope, and only later change to inverse scope if necessary.
2. Adults’ offline preference for inverse scope can be unified with children’s offline preference for surface scope: both initially arrive at surface scope.
3. The scope ambiguity illustrated in (1) falls in line with previous studies implicating surface scope as the initial interpretation.
4. We must maintain a distinction between initial and preferred interpretations in the processing of ambiguous sentences.
5. Preferred scope interpretations, which are measured off-line reflect the parser and contextual factors that lead to reanalysis.

References


Emails: scott.fults@gmail.com  anstac@umd.edu