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#### **Authors**

Fisher, Cynthia  
Gertner, Yael

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# Predicted Errors In Early Verb Learning

**Yael Gertner (ygertner@psych.uiuc.edu)**

Psychology Department, University of Illinois Urbana-Champaign  
603 East Daniel St., Champaign IL 61820 USA

**Cynthia Fisher (cfisher@psych.uiuc.edu)**

Psychology Department, University of Illinois Urbana-Champaign  
603 East Daniel St., Champaign IL 61820 USA

The syntactic bootstrapping theory proposes that children rely on nascent knowledge of syntax in early sentence comprehension and verb learning (Gleitman, 1990). But how does syntactic bootstrapping begin? One possibility is that very simple aspects of sentence structure—such as the set of nouns in a sentence—are meaningful to toddlers.

Even 21-month-olds interpret new verbs in accord with the number of noun-phrase arguments (Yuan et al., in prep): Children saw two events, one a two-participant causal event, and the other a solo action. The children looked longer at the two-participant event if they heard a transitive sentence ("He's gorping him!") than if they heard an intransitive sentence ("He's gorping!"). 21-month-olds inferred that a sentence with two nouns described a relation between two participants, while a sentence with only one noun could describe the actions of a single participant.

Can children interpret a new verb by counting the nouns? If they can, this would predict some tell-tale errors in early sentence interpretation. Not all two-noun sentences are transitive: In (1) a new intransitive verb appears with two nouns. Before children learn much about English syntax and morphology, they should be unable to distinguish such sentences from transitives: both contain two nouns. When this is the case, children should interpret any two-noun sentence, including (1), just as they would a transitive sentence.

- (1) The boy and the girl are gorping!
- (2) The girl and the boy are gorping!

Here we asked whether children make the predicted error. We capitalized on recent evidence that 21-month-olds use English word order to understand new transitive verbs (Gertner et al., submitted): they interpret the first noun phrase in a transitive sentence as the agent and the second as the patient. We asked whether 21-month-olds would (mistakenly) assign different interpretations to (1) and (2), tending to assign the agent role to the first noun in each sentence.

## The Current Study

21-month-olds saw event pairs like the one in Figure 1. Each pair included a causal event (the girl tips the boy in a rocking chair) and a simultaneous event (the girl and boy each bounce on a ball). Each pair was accompanied by a novel verb in a conjoined-subject intransitive sentence as in (1-2). We manipulated the order of the conjoined nouns. In the Agent-first condition, the agent of the causal event was named first, thus the two nouns appeared in the appropriate

order for a transitive sentence describing the causal event ("The girl and the boy are gorping!"). In the Agent-last condition, the two nouns appeared in the opposite order ("The boy and the girl are gorping!").

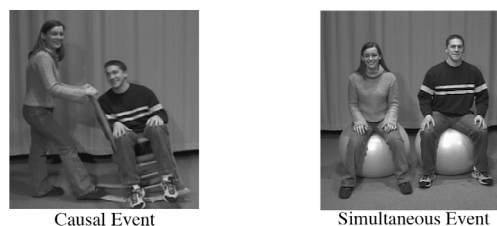


Figure 1: Example event pair.

Children in the Agent-first condition looked significantly longer at the causal event than did those in the Agent-last condition. Thus 21-month-olds tended to mistakenly interpret a conjoined-subject intransitive sentence as if it were transitive. A comparison group of college students tested with the same materials did not make the same error.

## Conclusions

Thus 21-month-olds can be fooled into interpreting a sequence of two nouns as conveying agent-patient role information, even when the sentence is not transitive. This suggests that children can use partial representations of sentence structure, as simple as an ordered set of nouns, to guide sentence interpretation. Recent evidence shows that even adults sometimes err in applying a canonical sentence schema to non-canonical sentences (Ferreira, 2003). We argue that sentence interpretation is structure-sensitive virtually from the start, and verb meanings are acquired as a consequence of structure-guided sentence interpretation.

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