

# Using Principle C to rule out a low attachment account of adjunct control



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## 4-5 year old children are reported to exhibit non-adultlike control into adjuncts:

(1) John<sub>1</sub> bumped Mary<sub>2</sub> after PRO<sub>1/\*2</sub> tripping on the sidewalk  
Who tripped on the sidewalk?

- Adults: John (subject)
- Non-adultlike answers given by 4-5 year olds:
  - John, Mary, Bill, ... (free reference of PRO) [1-4, 6-9]
  - John or Mary (free internal reference) [1-4, 6]
  - Only Mary (strict object control) [1-4, 6]

## What is responsible for children's non-adultlike behavior?

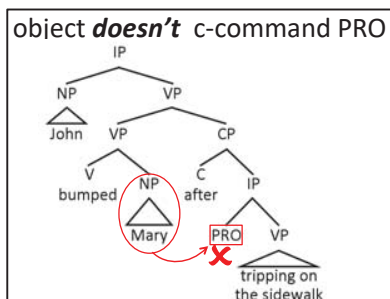
1. Non-adult grammar
2. Performance errors
3. Flaws in previous methodology

## -Current study: are children's reported errors due to a non-adult grammar?

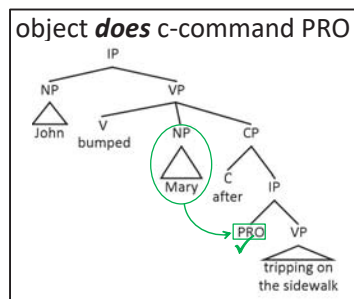
## Variable Attachment Hypothesis: Low attachment

- If the controller is the closest c-commanding NP, then object control is caused by attaching the adjunct inside the VP

Adult structure:

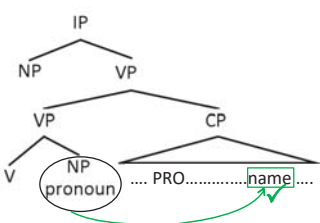


Low attachment:

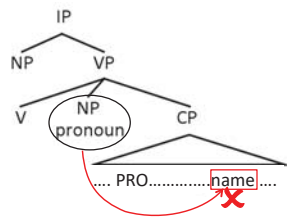


## Principle C can diagnose the position of the adjunct:

Adult structure



Low attachment



Previous studies: Proposed attachment height to explain object control of PRO.

## Current study: Tested attachment height hypothesis via its predictions regarding Principle C effects.

## TVJT



"Dora picked him an apple before finding Diego's basket."

EITHER "him" = Diego (true)  
OR "him" = Boots (false)

High Attachment (adult structure): "him" = Diego OR "him" = Boots

Low Attachment: "him" = Boots, but "him" ≠ Diego (blocked by Pr C)

## Design

| CONTEXT               | "him" = Diego | "him" = Boots |
|-----------------------|---------------|---------------|
| TRUE IF "HIM" = DIEGO | true          | false         |
| TRUE IF "HIM" = BOOTS | false         | true          |

(roles of Diego (name) and Boots (external referent) counterbalanced across items and lists)

## Predictions

With low attachment:

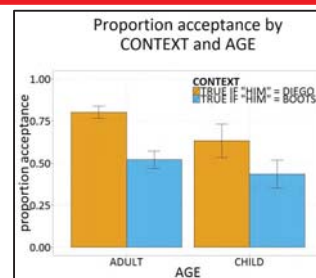
- Reject TRUE IF "HIM" = DIEGO context
- Reject TRUE IF "HIM" = BOOTS context

With high attachment:

- Accept TRUE IF "HIM" = DIEGO context
- Accept TRUE IF "HIM" = BOOTS context

## Results

- 40 children
  - 4;4-5;6
  - mean=4;11
- 37 adults
- 2x2 ANOVA
  - AGE (CHILD/ADULT,  $p = .055$ )
  - CONTEXT (TRUE IF "HIM" = DIEGO/ TRUE IF "HIM" = BOOTS,  $p < .001$ )



## Justifications

TRUE IF "HIM" = DIEGO:

"Dora picked him an apple before finding Diego's basket."

- "Yes! Because Dora gave Diego the apple before she found his basket." (= Diego)
- "No! Because she got the basket and then she gave Boots an apple." (= Boots)

TRUE IF "HIM" = BOOTS:

"Dora picked him an apple after finding Diego's basket."

- "Yes! Because she found Diego's basket before she picked Boots an apple." (= Boots)
- "No! Because she gave the apple to Diego and then found the basket." (= Diego)

## Interpretation of results

- Sentences accepted in both conditions
- Children let "him" = Diego, so this interpretation was **not** blocked by Principle C
- Adult attachment **must** be available

## Optional vs. Obligatory Attachment

Data are consistent with optional low attachment, with:

- Principle C forcing high attachment
- Low attachment otherwise

Data are **not** consistent with obligatory low attachment:

- All justifications to rejected sentences cited order of events, not the referent of PRO.

Future research will address whether low attachment is a **possible** non-adult grammar.

## Future directions:

What else could be responsible for the non-adultlike behavior observed in previous studies?

- **Non-adult grammar**, other than low attachment
  - Agent control
  - Misanalysis as a nominal
- **Performance errors**
  - If children have the adult grammar, do they fail to link PRO with the grammatical antecedent while parsing the sentence?
  - Future research will investigate how making this link online is modulated by feature overlap, by making the subject and object NPs more or less distinct.