



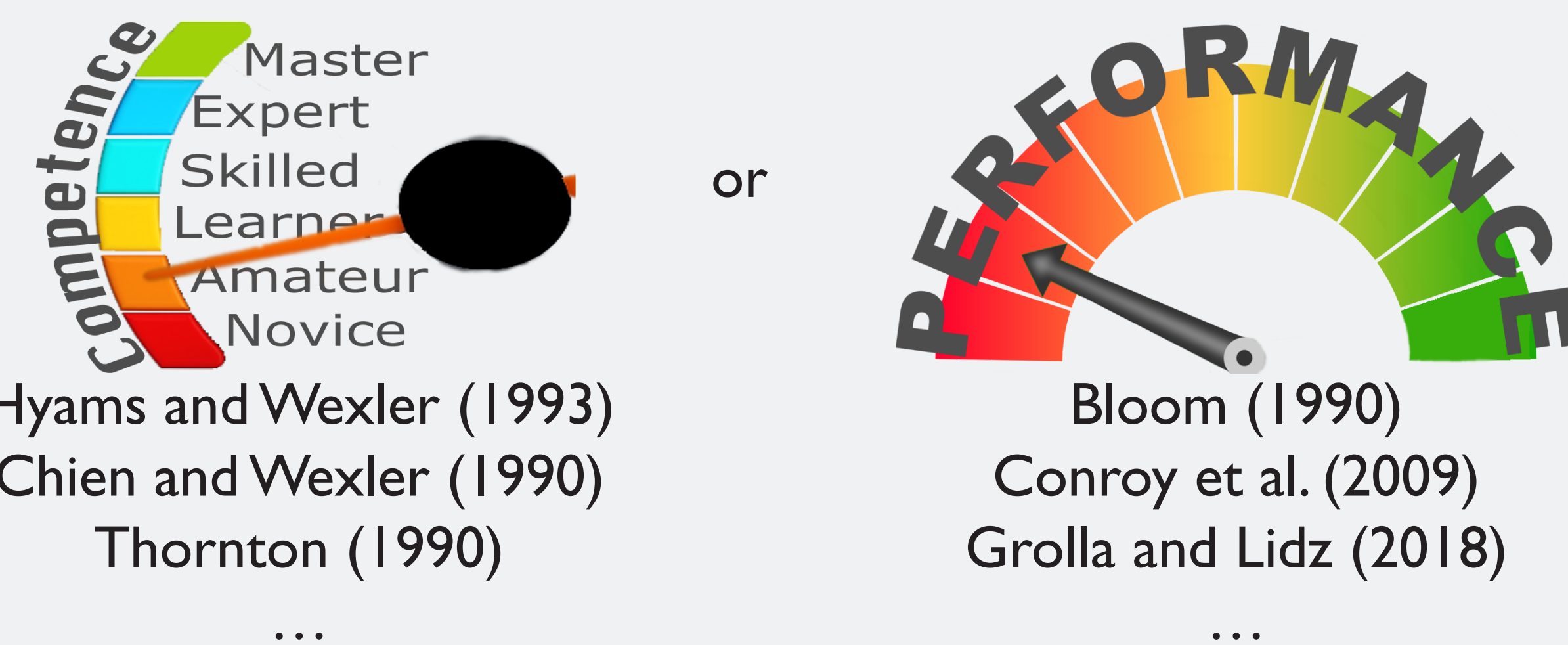
Non-actional passives can be comprehended by 4-year olds

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Introduction

- Common debate about children's non-adult-like linguistic behavior:



Null subjects
Principle B
Medial wh-phrases
...

Hyams and Wexler (1993)
Chien and Wexler (1990)
Thornton (1990)
...

Bloom (1990)
Conroy et al. (2009)
Grolla and Lidz (2018)
...

One way to manipulate information structure: With quantification

Actional

(5) Amy was $\left\{ \begin{array}{l} \text{pushed} \\ \text{hugged} \\ \text{tickled} \\ \dots \end{array} \right\}$ by $\left\{ \begin{array}{l} \text{thumbs up} \text{ Andy} \\ \text{thumbs up} \text{ everyone} \end{array} \right\}$

- Amy was known by Andy is about Andy's mental state; Amy was known by everyone is about Amy (i.e., she's popular).

- That is, in some cases with non-actionals, information structure of the passive conflicts with information structure of what is asserted.

Hypothesis

- Accommodation is difficult (e.g., Hamburger and Crain 1982); ME is driven by mismatching information structure profiles.

Non-actional

(6) Amy was $\left\{ \begin{array}{l} \text{missed} \\ \text{loved} \\ \text{known} \\ \dots \end{array} \right\}$ by $\left\{ \begin{array}{l} \text{frowny face} \text{ Andy} \\ \text{thumbs up} \text{ everyone} \end{array} \right\}$

Prediction

- Children will exhibit above-chance comprehension when the passive is appropriately pragmatically licensed.

Acquisition of the English passive

- Reported two-part developmental trajectory:
 - Passives comprehended late, not until ≈ 4 (e.g., Hirsch and Wexler 2006).
 - Maratsos Effect (ME): passives of non-actionals, such as (1), comprehended later, 6 or even 7+ (cf. Maratsos et al. 1985).

(1) Amy was liked by Amara

We show that

- Non-target grammar accounts do not explain the Maratsos Effect; and
- 4-year olds do comprehend non-actional passives given the right context (i.e., ME is a pragmatic artifact).



Issues with a syntactic homophone strategy

- Hyp: Children don't have syntax of passive; ME arises because of syntactic homophony of actional passive and non-homophony of non-actional (cf. Borer and Wexler 1987).

- (2), an actional passive, is understood as an adjectival passive until 6 or 7+ years of age.

(2) The doll was torn by Amy

- Problems:

- No evidence that children ignore/fail to parse the *by*-phrase.
- Children are sensitive to adjectival syntax early (e.g., Booth and Waxman 2003), so why no earlier comprehension?
- In fact, all passive participles, not just actional ones, make good adjectives (cf. Freidin 1975). Any unacceptability is due to pragmatics/semantics.

- (3) a. ? The seen movie
b. ? The liked toy
c. ? The heard alarm clock
d. ? The missed grandparent
e. ? The spotted intruder
- (4) a. ✓ The rarely seen movie
b. ✓ The well liked toy
c. ✓ The seldomly heard alarm clock
d. ✓ The sorely missed grandparent
e. ✓ The rarely spotted intruder

Towards a pragmatic explanation

- Subject is highly topical (cf. Givón 1990; Shibatani 1985); *by*-phrase carries narrow focus.
- Non-actional passives are often about the mental state of the external argument.
- It's odd to assert something about the Focused DP, rather than the Topic DP. But the nature of what is asserted can be pushed around in many ways (see also O'Brien et al. 2006).

Experiment

Design and materials

- TVJT (Crain and Thornton 1998): 8 target stories and 2 training stories, and each story had 2 target questions.
- 8 non-actional verbs (*know, love, like, miss, spot, see, forget, hear*).
- Stories designed for quantified *by*-phrase to ensure appropriate pragmatic licensing, but tested *referential* and *quantificational* DPs to confirm results aren't just driven by quantifier.
- Referential* vs. *quantificational* was between subjects; truth \times voice combinations counter-balanced between subjects.

Example story



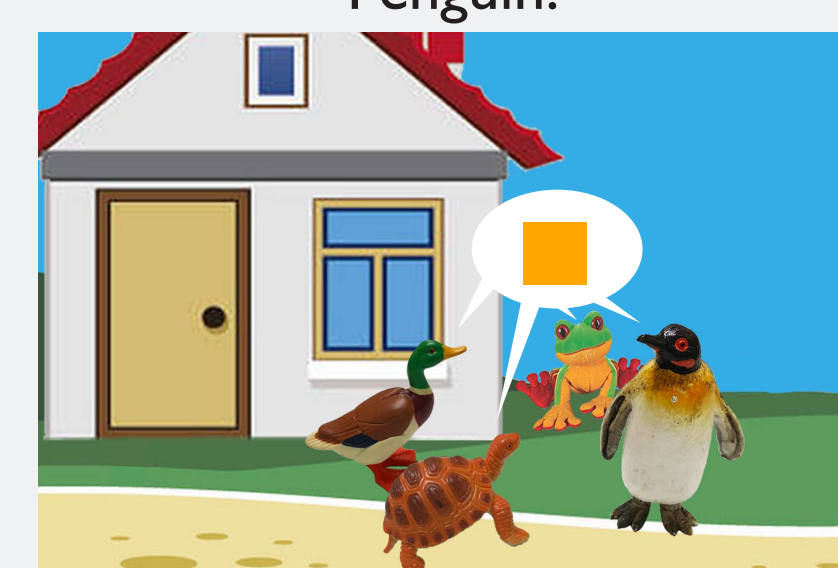
Duck, Frog, & Turtle get new neighbor, Penguin.



Frog is shy, doesn't want to meet Penguin.



But decides to meet him at last minute.



They get to know each other; all have same favorite color, orange.



Duck, Frog, & Turtle coming back from store; Turtle lags behind. They hear music.



Duck & Frog see Penguin dancing; Penguin embarrassed, hides before Turtle catches up.

Example target sentences

- Ref 1 and Quant 1 conditions:

- Penguin was seen by $\left\{ \begin{array}{l} \text{Turtle} \\ \text{everyone} \end{array} \right\}$
- $\left\{ \begin{array}{l} \text{Frog} \\ \text{Everyone} \end{array} \right\}$ knows Penguin

- Passive sentence was always presented first.

Participants

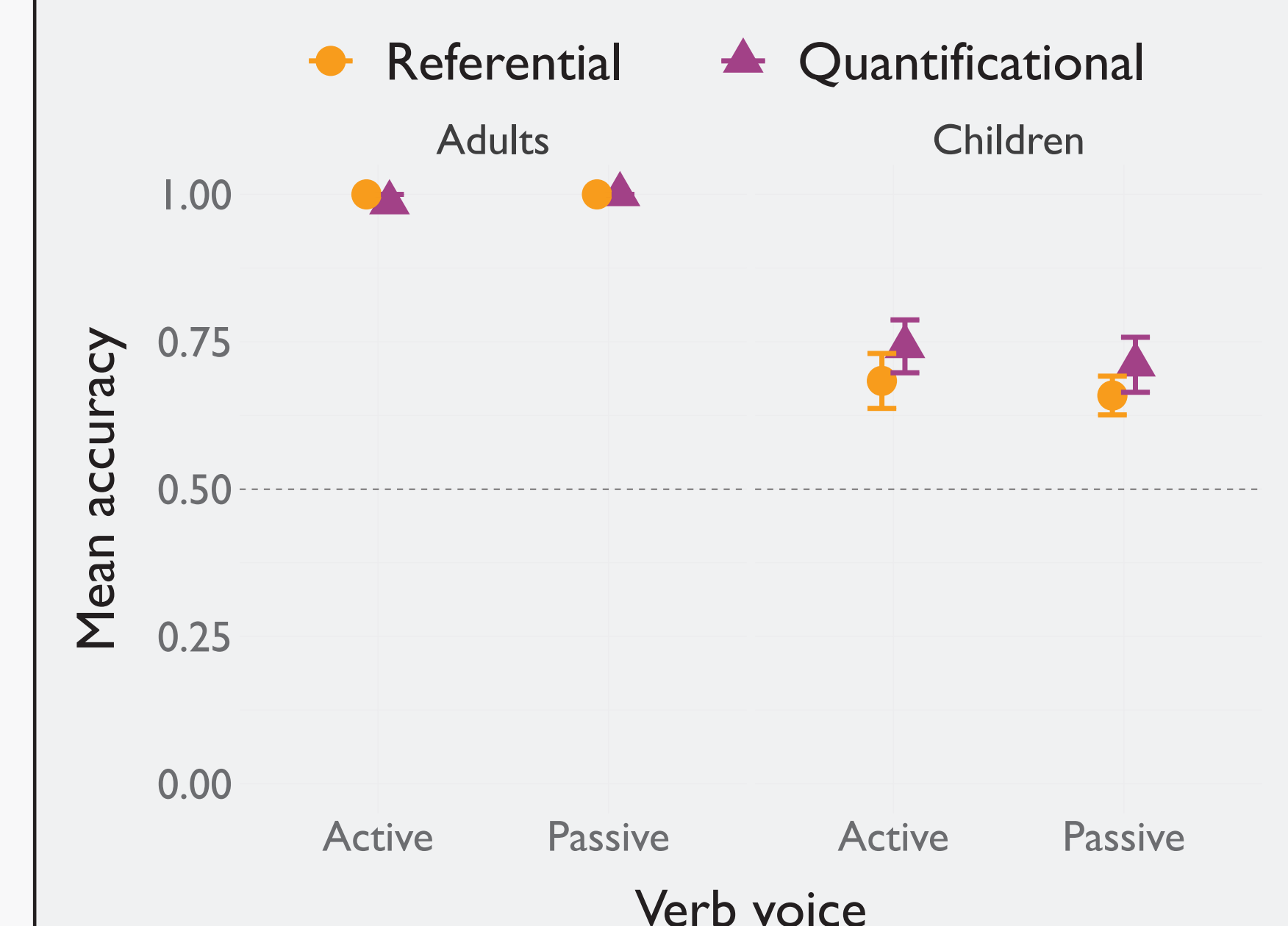
- 12 adults and 34 children.
- 18 children in the *Referential* condition (4;0,19–5;0,0; mean: 4;5,23).

- Ref 2 and Quant 2 conditions:

- $\left\{ \begin{array}{l} \text{Turtle} \\ \text{Everyone} \end{array} \right\}$ saw Penguin
- Penguin was known by $\left\{ \begin{array}{l} \text{Frog} \\ \text{everyone} \end{array} \right\}$

- 16 children in the *Quantificational* condition (4;0,28–5;0,0; mean: 4;6,10).

Results



- Logistic mixed-effects regressions show children have above-chance comprehension in both conditions ($p < 0.001$).

Discussion and conclusion

- ME is a pragmatic artifact.



- 4-year olds have syntax of the passive.
- Perhaps children even younger do as well.

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