English resumptive pronouns do not help the comprehender
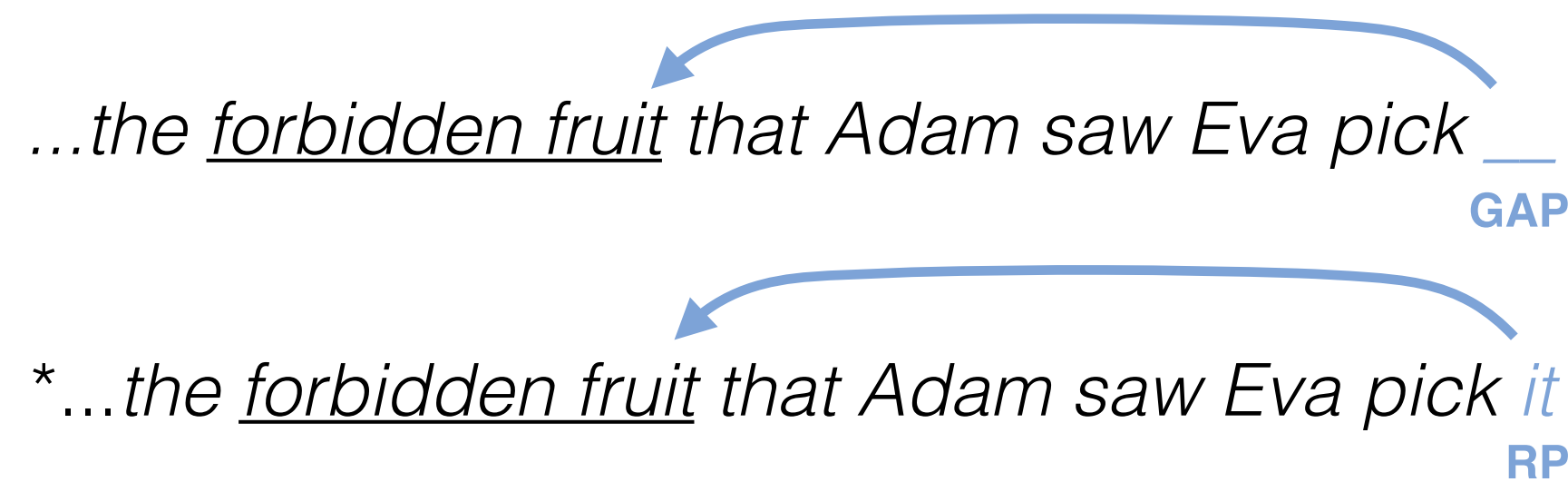
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Language Comprehension Lab

BACKGROUND

English primarily uses gaps in Wh dependencies, not Resumptive Pronouns.

...the forbidden fruit that Adam saw Eva pick __
GAP

*...the forbidden fruit that Adam saw Eva pick it
RP

When gaps are unacceptable (islands), speakers tend to produce RPs.[8,5]

*...the forbidden fruit that Titus wondered if Adam saw Eva pick it

Why do English speakers produce RPs?
- H1: RPs facilitate comprehension.[4,7]
- H2: RPs can be explained in terms of production processes.[1,5]

Hofmeister & Norcliffe (2013) measured reading times on gaps/RPs.[4]
- RTs were faster after RPs than after gaps.
- H&N interpreted faster RTs as evidence of facilitation.

But...
- Faster RTs only imply facilitation if comprehension isn't negatively impacted. (They might simply reflect confusion/giving up.)

STIMULI

Question: Do RPs facilitate comprehension?
- To isolate the contribution of RPs vs. gaps, we:
  - use animals to avoid pragmatic cueing
- To improve validity, we:
  - test RPs in islands and nonislands

Stimulus design: 2 x 3
- DEPENDENCY: resumptive pronoun, gap
- ISLANDHOOD: non-, Wh-, adjunct

NON-ISLAND	It is Miss Dino that Miss Rabbit said that Mr. Piggy tickled (her) with a feather.
WH-ISLAND	It is Miss Dino that Miss Rabbit wondered whether Mr. Piggy tickled (her) with a feather.
ADJUNCT ISLAND	It is Miss Dino that Miss Rabbit slept while Mr. Piggy tickled (her) with a feather.

Who did what to whom?

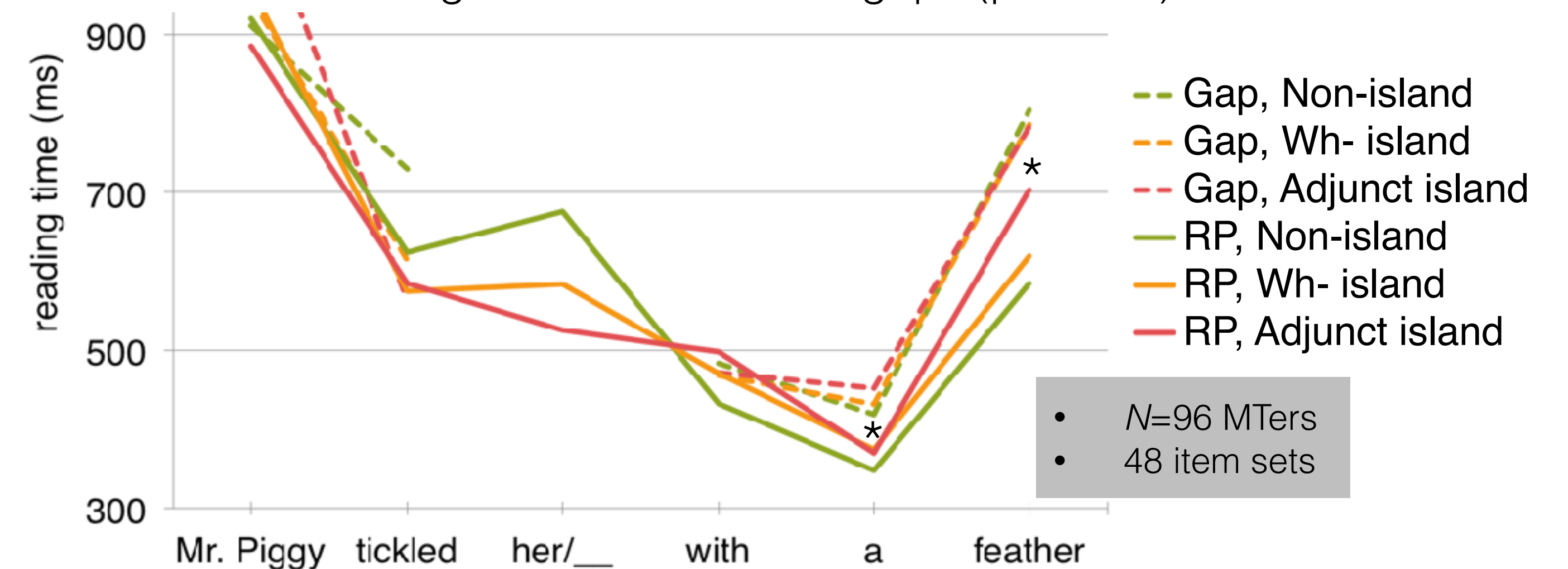|	
TARGET	Mr. Piggy tickled Miss Dino with a feather.
LOCAL	Mr. Piggy tickled Miss Rabbit with a feather.
DANGLE	Mr. Piggy tickled Miss Duckie with a feather.
INSANE	Miss Rabbit tickled Miss Dino with a feather.

EXPERIMENT 1: 1-shot interpretation

Method

It is Mr. Dino that Mr. Rabbit said that Miss Piggy tickled with a feather.
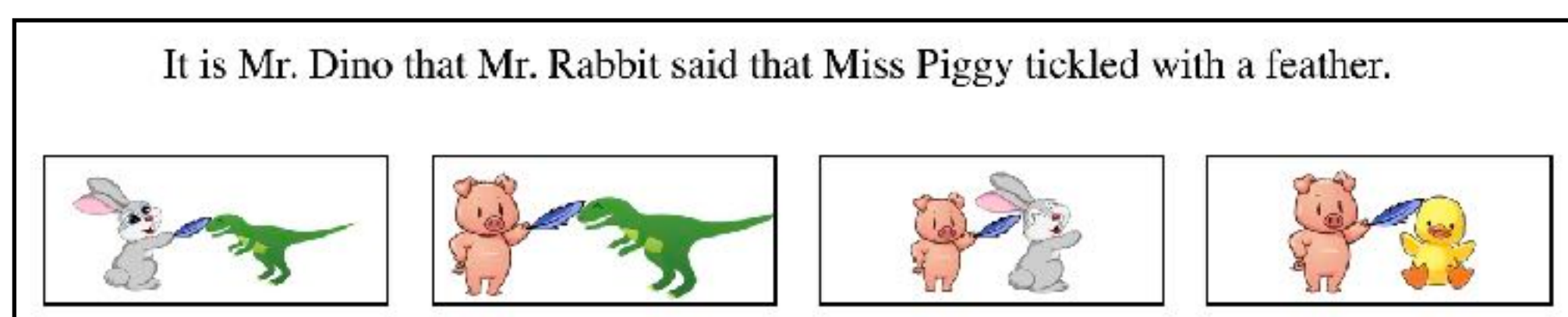
Results
- RPs decrease TARGET interpretations (p < 0.05)
- RPs increase LOCAL interpretations (p < 0.05)

N=300 Mechanical Turkers
1 item set
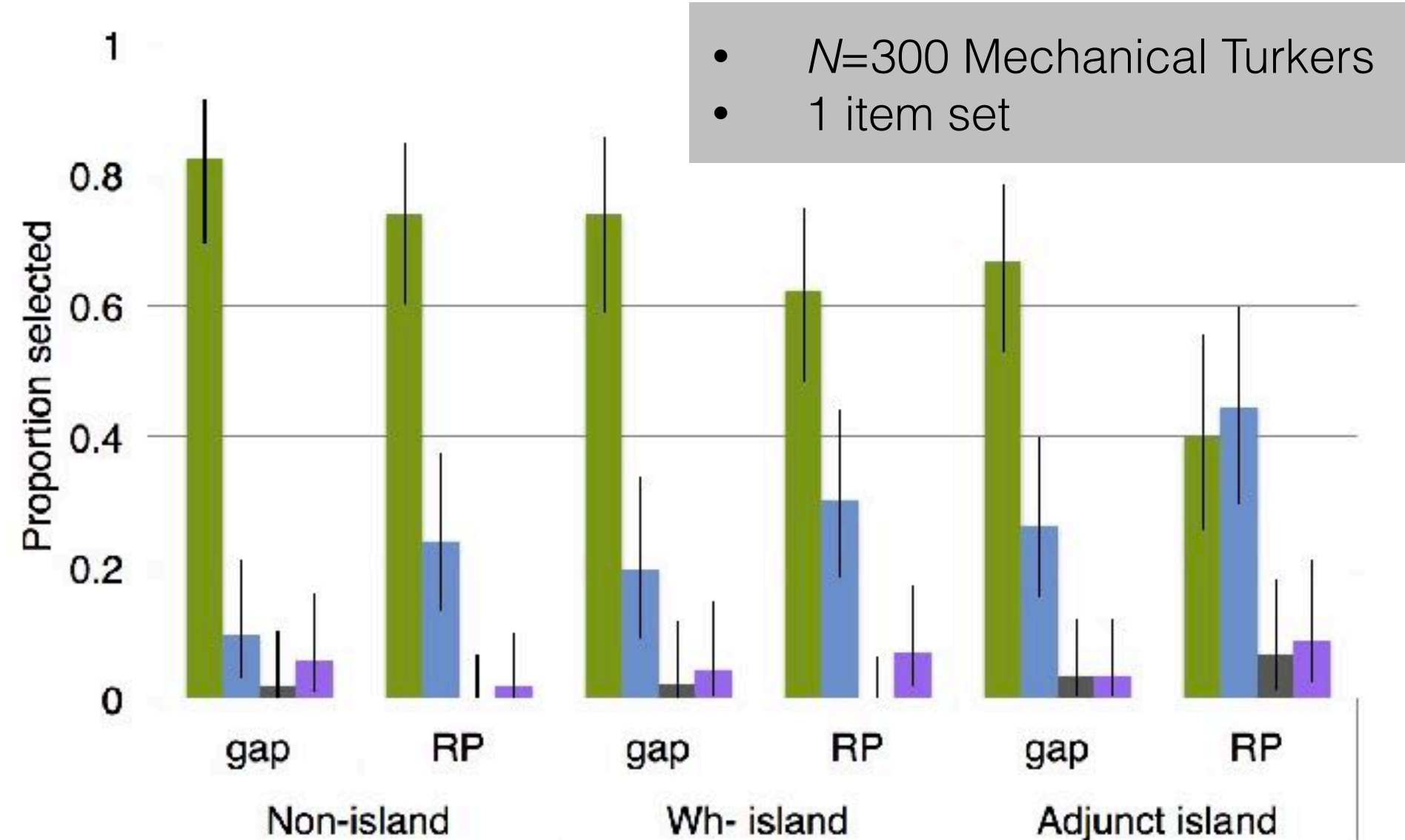
EXPERIMENT 2: Self-paced reading

Reading time results
- Faster reading times after RPs vs. gaps (p < 0.05)

- Gap, Non-island
- Gap, Wh- island
- Gap, Adjunct island
- RP, Non-island
- RP, Wh- island
- RP, Adjunct island

N=96 MTers
48 item sets

Comprehension Question Results
- RPs increase LOCAL interpretations (p < 0.05)
- Islands decrease TARGET interpretations (p < 0.05)
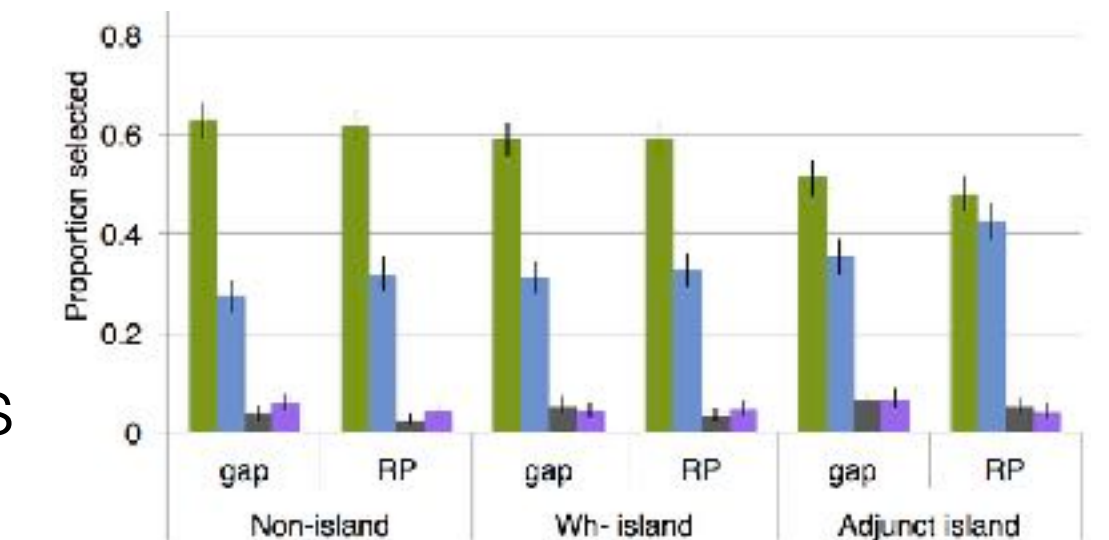
EXPERIMENT 3: Visual world eyetracking with auditory presentation

N=89/96 UCSD students

- head noun
- mid subj
- low subj
- not present
- gap
- RP
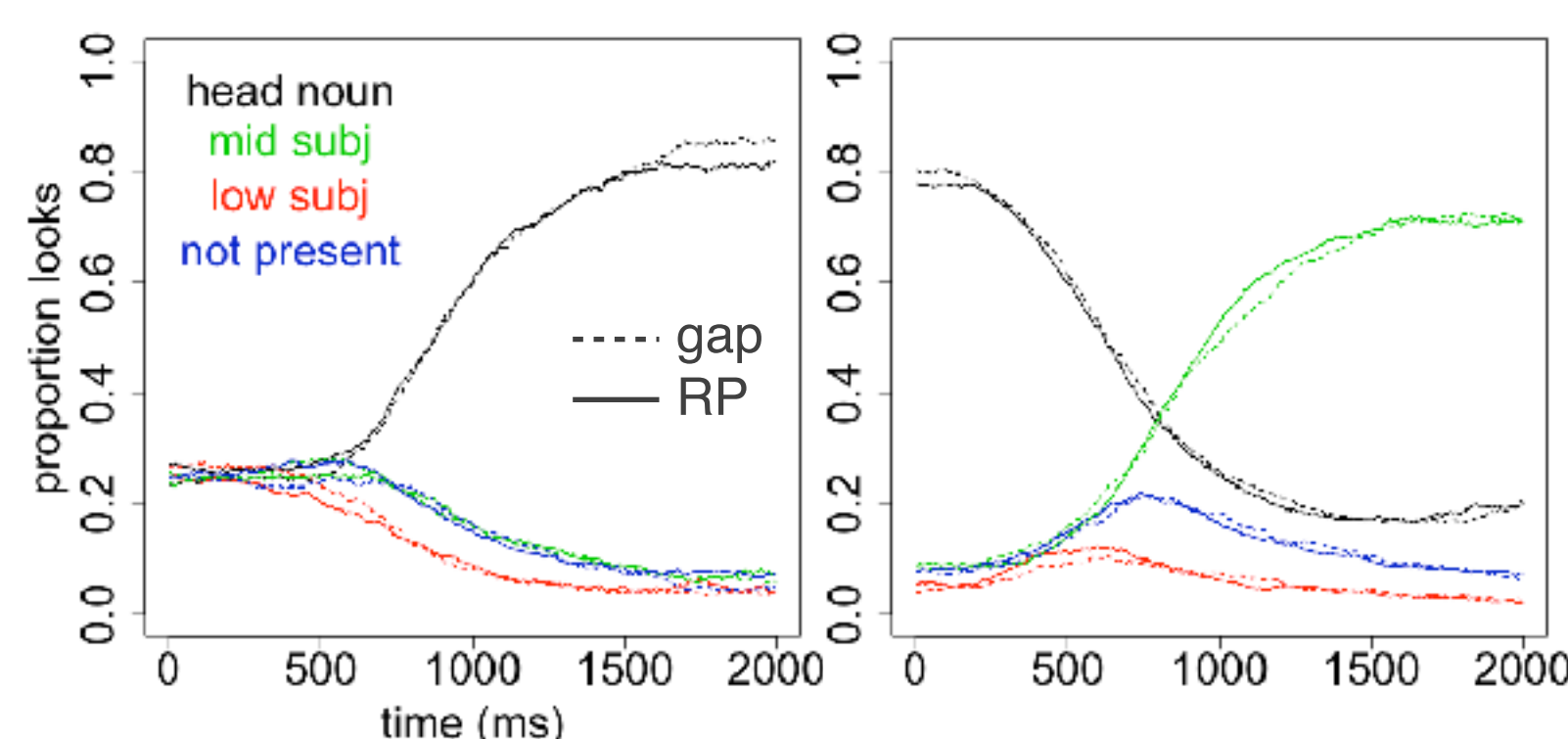
"It is **Miss Dino** that **Miss Rabbit** said that **Mr. Piggy** tickled (**her**) with a feather."
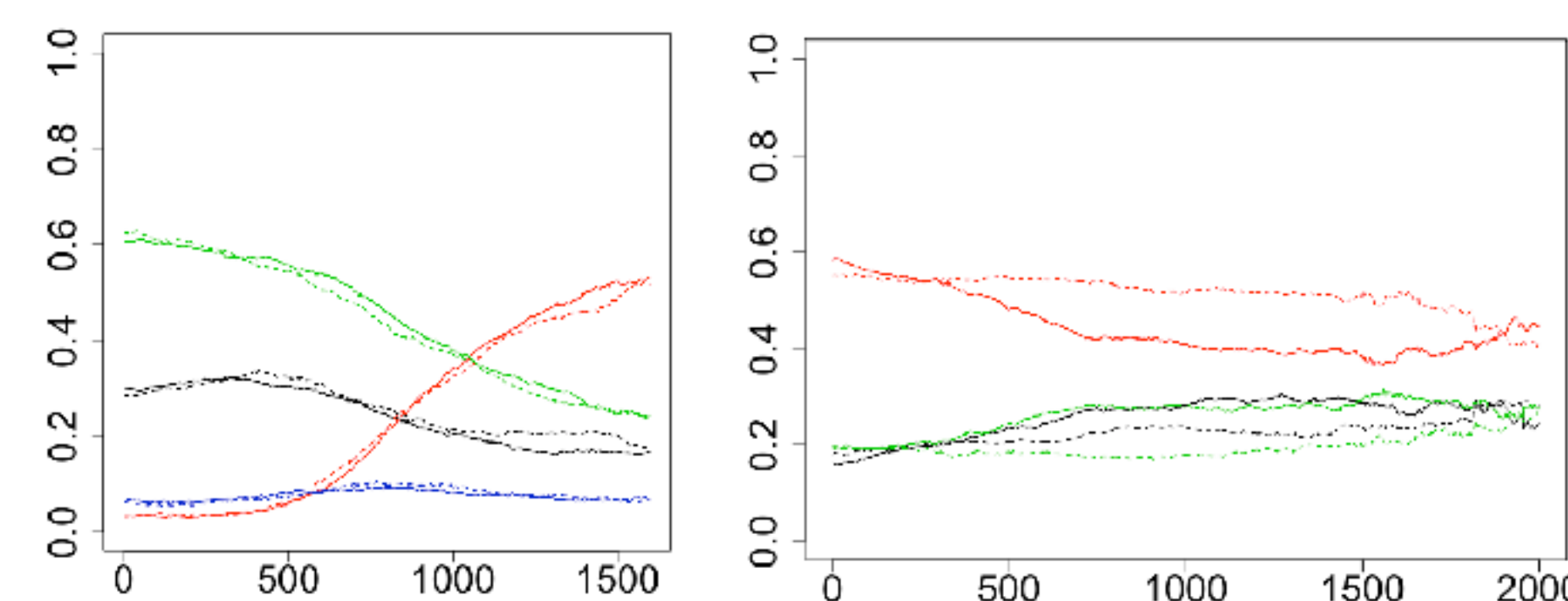
Results
- RPs encourage more looks to potential referents than gaps.
- RPs result in chance looking to target/local.
- Gaps result in more looks to target than local interpretation.

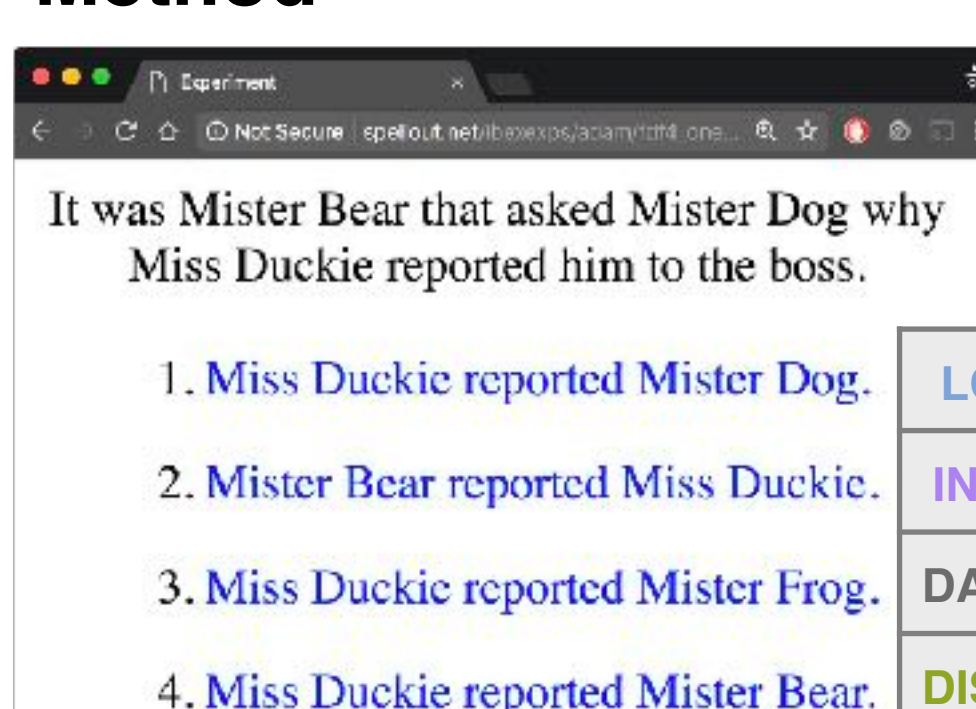## EXPERIMENT 4: 1-shot interpretation of gaps, RPs, & ordinary pronouns

Question: Why are gaps & RPs interpreted differently?
- RPs may be ordinary pronouns (ie, not voiced gaps).[1,5]
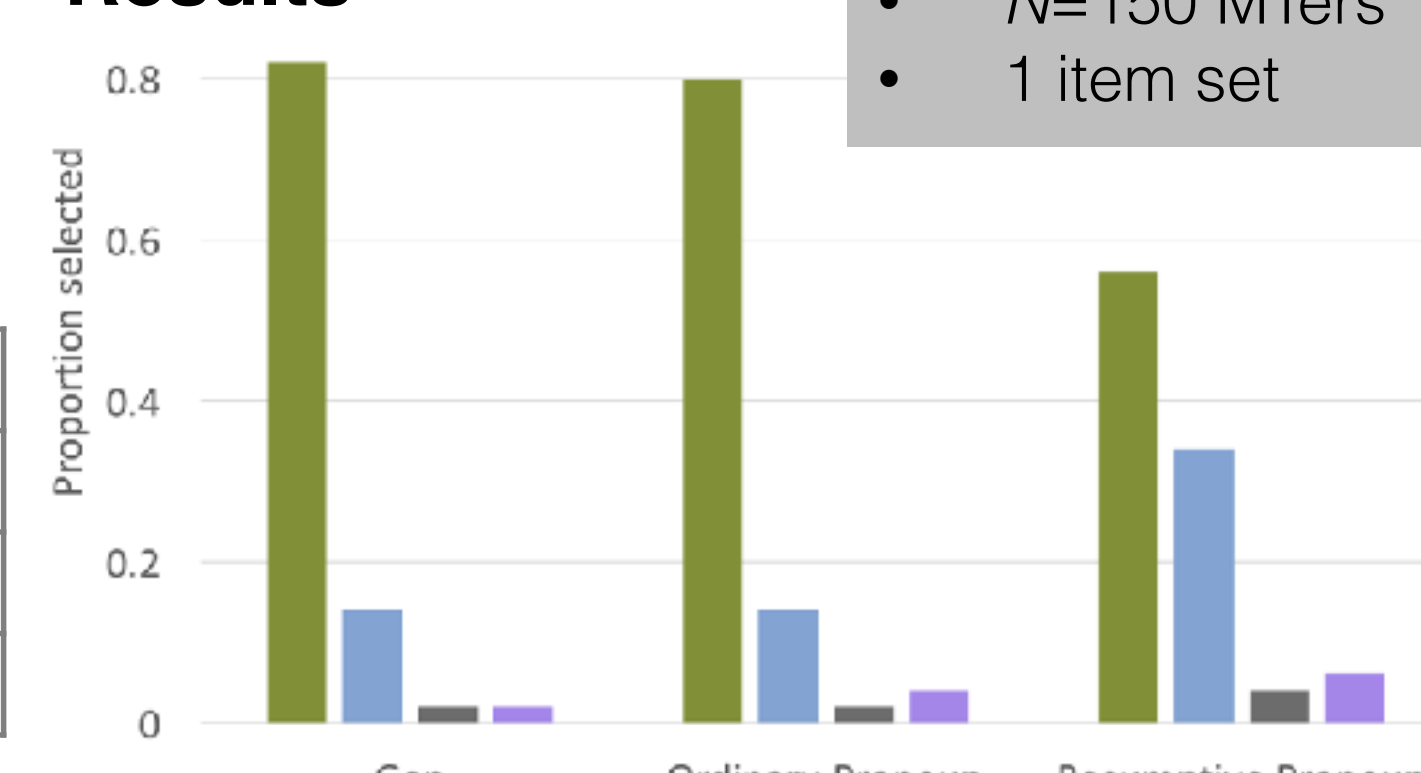- If so, RPs should be interpreted like ordinary pronouns.
- Are they?

Stimuli

GAP	It was Mr. Bear that I asked Mr. Dog why Miss Duckie reported _ to the boss.
RESUMPTIVE PRONOUN	It was Mr. Bear that I asked Mr. Dog why Miss Duckie reported him to the boss.
ORDINARY PRONOUN	It was Mr. Bear that _ asked Mr. Dog why Miss Duckie reported him to the boss.

Method

It was Mister Bear that asked Mister Dog why Miss Duckie reported him to the boss.

1. Miss Duckie reported Mister Dog. — LOCAL
2. Mister Bear reported Miss Duckie. — INSANE
3. Miss Duckie reported Mister Frog. — DANGLE
4. Miss Duckie reported Mister Bear. — DISTANT

Results

N=150 MTers
1 item set

- RPs are not interpreted like ordinary pronouns.
- RP interpretation approaches chance between local and distant options.
- Probably reflects confusion.

DISCUSSION

Resumptive pronouns hinder comprehension
- RPs result in more non-target interpretations offline and chance interpretation online.
- RPs encourage locally coherent—but globally infelicitous—parses.
  - True even in islands, where RPs are more commonly heard.

- RPs are not interpreted like gaps OR ordinary pronouns.
- RPs appear instead to lead to confusion and chance performance.
- Our data are consistent with a production account of English resumption.[1,5]

REFERENCES

[1] Asudeh 2004 [2] Alexopoulou & Keller 2007 [3] Keffala & Goodall 2012 [4] Hofmeister & Norcliffe 2013 [5] Morgan & Wagers submitted [6] Polinsky et al. 2012 [7] Prince 1990 [8] Ross 1967

ACKNOWLEDGMENTS