

What happened (and what didn't): Discourse constraints on alternative sets



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Comprehenders consider **salient alternatives** to **prominent** information in a discourse^{1,2}:

“**DUANE** didn't break the eye-tracker.”
(*but someone else did*)

Present study:

- What cues lead to consideration of alternatives?
- What constrains set of alternatives encoded?

Past work³:

- Contrastive (L+H*) prosody leads listeners to encode salient alternative
- Helps reject the alternative on a memory test
 - But doesn't help reject unmentioned item

EXPERIMENT 1 (N = 48)

STUDY: Read 48 stories with pairs of alternatives

“Both the *British* and the French biologists were searching Malaysia and Indonesia for the endangered monkeys. Finally, the *British* spotted one of the monkeys in Malaysia and planted a radio tag on it.”

True item: **British** 
Salient alternative: **French** 

Manipulate **font emphasis** on critical word:

- **No emphasis:** *British*
- **CAPS:** **BRITISH**
- **Italics:** *British*

Collapsing across **CAPS** and **italics**—no difference

TEST: (30 min later)

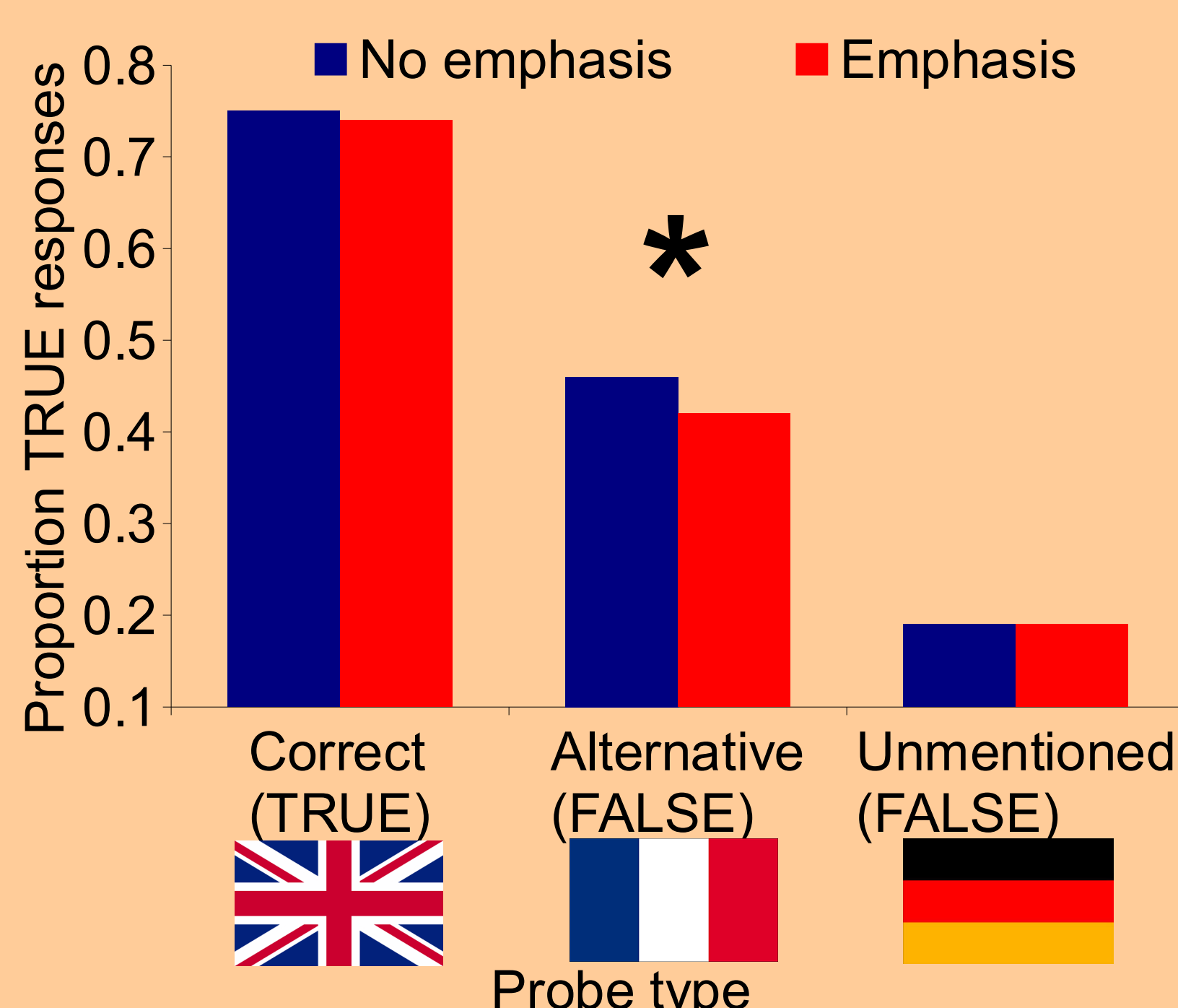
True/false memory test with 3 kinds of probes:

TRUE: The endangered monkey was found by the *British*. 

ALTERNATIVE: The endangered monkey was found by the French. 

UNMENTIONED: The endangered monkey was found by the Germans. 

RESULTS



Emphasis:

- **Helps** reject **alternative** on later memory test
- **Doesn't help** reject completely **unmentioned** items

Suggests encoding of alternative

Generalizes effect³ from contrastive (L+H*) pitch accents

EXPERIMENT 2 (N = 48)


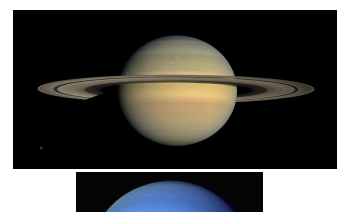
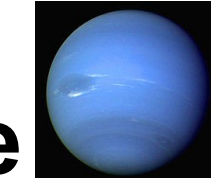
What constrains alternative set?

- Mere mention in discourse?
- Situation model?

Either would have helped reject a totally unmentioned item.

NEW MATERIALS: Include **mentioned but poor alternative**.

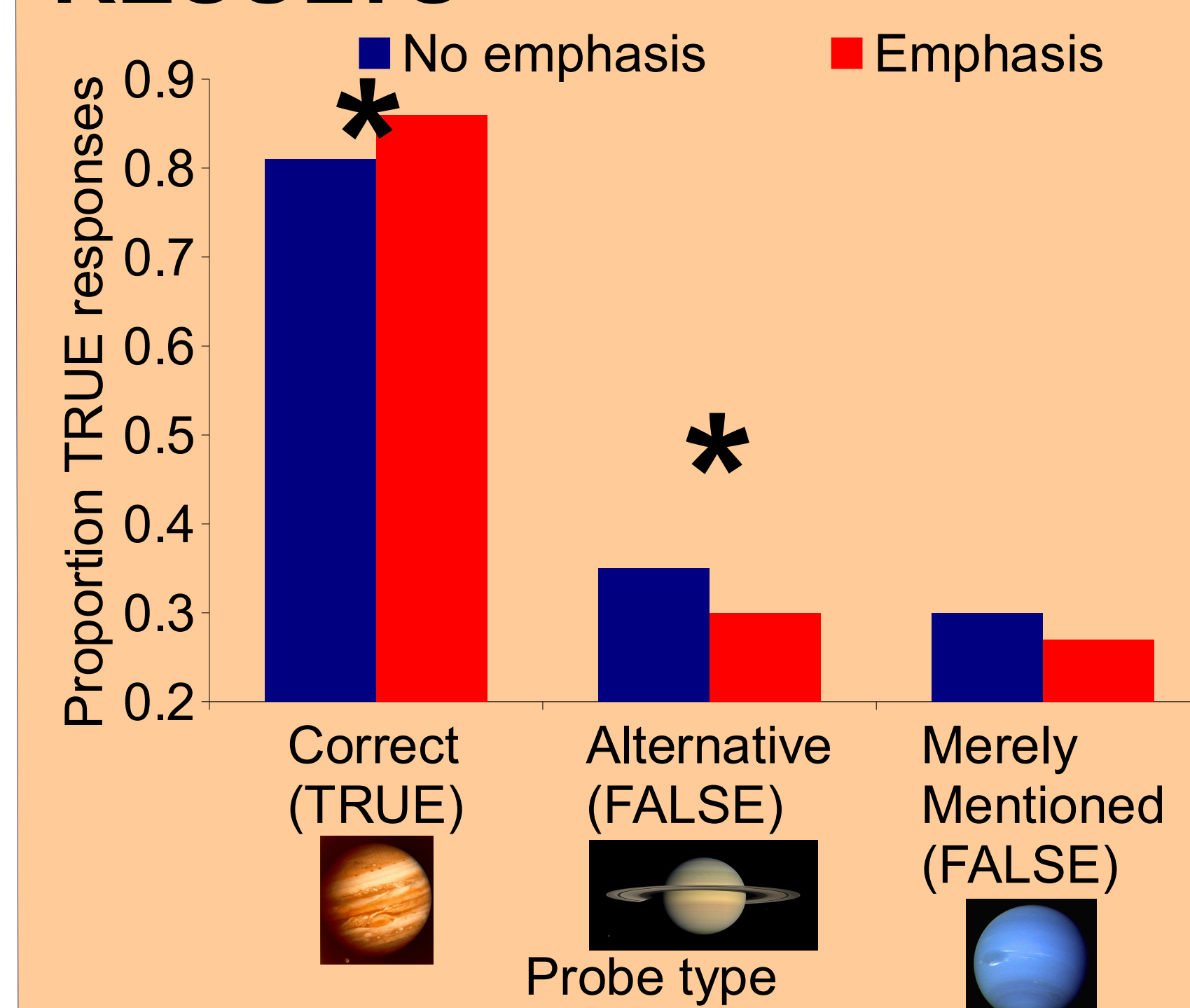
“Originally, the space probe *Cosmo III* was designed to fly past Jupiter and Saturn and send photos and measurements back to NASA from both planets. NASA needed this information to guide the videos they were going to take of Neptune on a future mission. However, due to a glitch in the programming of the *Cosmo III*, it lost the photos taken of *Jupiter* and put the future mission in trouble.”

True item: **Jupiter** 
Salient alternative: **Saturn** 
Merely mentioned: **Neptune** 

Same procedure as Experiment 1

Except only **CAPS** or **no emphasis**

RESULTS



Emphasis:

- **Helps** reject **salient alternative**
- **But not merely mentioned** item

Alternative set narrowly defined, constrained by situation model

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CONCLUSION

Salient alternatives contribute to **long-term comprehension**

- Not exclusive to contrastive (L+H*) pitch accents
- Set of alternatives narrowly defined by situation in discourse