Lexical processing is not influenced by pragmatic expectations Dale J. Barr

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Pragmatic cues are often arbitrary and situation specific.

Louise wants to order a sandwich; Arthur wants to buy some sandals.

Linguistic and semantic cues tend to be stable and situation independent.

Sandals and sandwiches can be bought, but only sandwiches can be eaten.

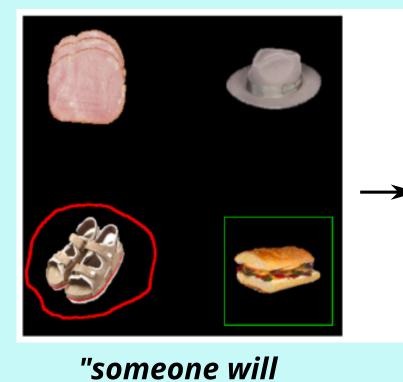
Language comprehenders use both semantic and pragmatic cues to make predictions about upcoming speech. Many theories of language processing treat both kinds of top-down information identically: as constraints that modify subsequent processing, without any specific limitations. Is this correct?

TL;DR: no!

A visual-world eyetracking experiment tested whether pragmatic constraints can modulate phonological competition. Participants (N=64) completed two blocks of trials, with each block in one of two conditions (counterbalanced).

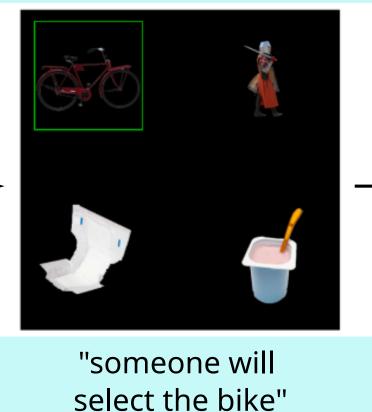
LOCATION block

Does learning an arbitrary situational cue attenuate lexical competition?



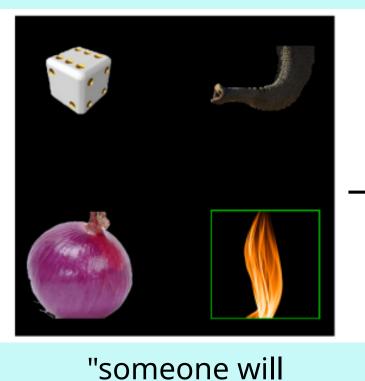
select the sandwich"

test



filler

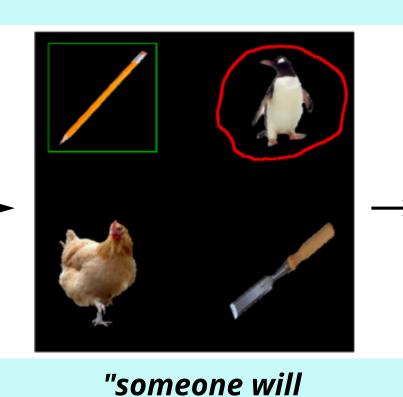
filler



select the fire"

filler

target



select the pencil"

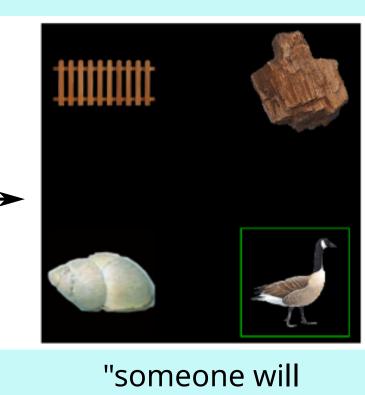
test

test

not appear on participants

NB: these highlights did

displays



select the goose"

filler

either top left or bottom right - target name preceded by neutral verb ("select")

- participants learn to predict target location, always

- 16 test trials with phonological competitors (e.g., target: sandal; competitor: sandwich); competitors always in 'unfavored' position

- 32 fillers without competitors

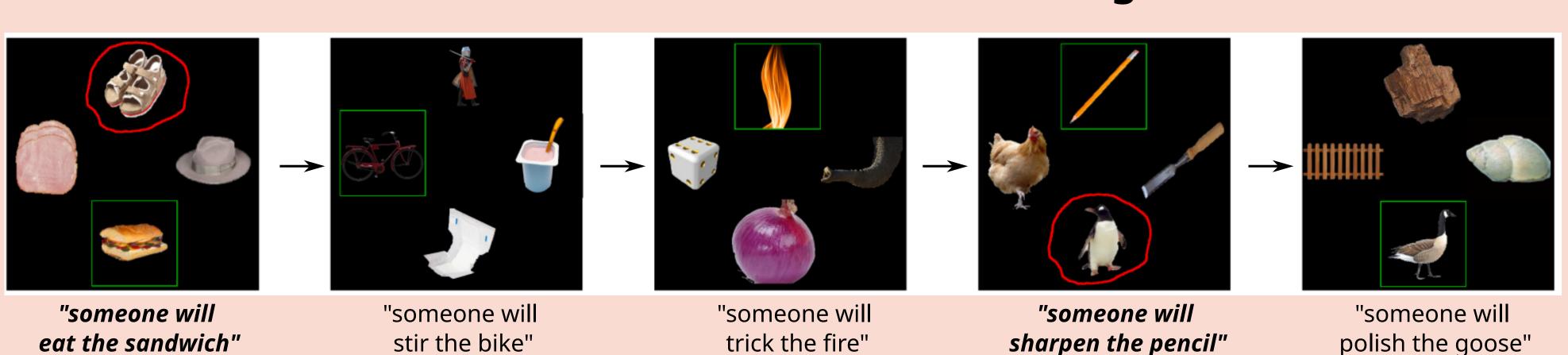
- prediction: as block progresses, increased looks to the target prior to onset of critical spoken word (e.g., sandal)

What happens to lexical competition?

SEMANTIC block

test

Can semantic cues be unlearned, and does doing so enhance semantically-incongruent competition?



filler

target

time from word onset (ms)

polish the goose" filler

time from word onset (ms)

- target name preceded by semantically biased verb ("eat the sandwich [target]"; competitor = sandal)
- participants learn that verb semantics (eat) no longer predict targets
- 16 test trials with targets that meet verb selection restrictions but competitors that don't
- 32 fillers with verbs that don't make sense for targets
- prediction: as block progresses, decreased predictive effect of verb

What happens to lexical competition?

anticipatory baseline effect competition effect trial position — first half — second half trial position — first half — second half location location 1.0 0.5 0.0 ratio (preference) ratio (preference) "...select the sandwich" semantic semantic 0.5 -0.5 **-**"...eat the sandwich" -0.5600 -200200 200

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