

Lexical processing is not influenced by pragmatic expectations

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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?

"someone will select the sandwich"
test

"someone will select the bike"
filler

"someone will select the fire"
filler

"someone will select the pencil"
test

"someone will select the goose"
filler

NB: these highlights did not appear on participants' displays

- participants learn to predict target location, always either top left or bottom right
- target name preceded by neutral verb ("select")
- 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

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

"someone will eat the sandwich"
test

"someone will stir the bike"
filler

"someone will trick the fire"
filler

"someone will sharpen the pencil"
test

"someone will polish the goose"
filler

NB: these highlights did not appear on participants' displays

- 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

"...select the sandwich"

"...eat the sandwich"

competition effect

"...select the sandwich"

"...eat the sandwich"

location

semantic

time from word onset (ms)

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