Introduction
Listeners integrate top-down and bottom-up cues in speech perception
But cues are distributed differently in different contexts (e.g., between speakers)
Do listeners adaptively change cue weightings given new exposure distributions?
...the ?ent in the fender/forest...
/d/-like VOT /t/-like

Methods
Manipulate acoustic cues and semantic cues in a sentence
Task: did you hear "tent" or "dent"?
Vary distribution of cues between subjects

Mechanical Turk subjects (N = 106)
VOTs used: 10, 30, 35, 40, 50, 85ms (based on norming)
7 sentence frames repeated for each semantics, distance, & VOT combination = 168 total trials (no fillers)

Results
Listeners integrate acoustic & semantic cues in their responses

High conflict leads to incremental down-weighting of semantic cues
High conflict group shows smaller effect of semantic cue
High conflict also (weakly) leads to down-weighting of acoustic cues

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Conclusions
Humans cumulatively track cue distributions in their exposure
Listeners can dynamically re-weight cues in response
Listeners selectively re-weight cues (i.e., don’t converge to 50/50 responses)
Important for future cue integration experiments: most designs create conflict!

Future Work
Why are semantic cues the ones that are down-weighted?
→ Less reliable in natural speech?
→ Task-dependent?
How are semantic & acoustic cues distributed in natural speech?

Empirical context effect actually pretty comparable early in experiment – likely artifact of scaling trial for modeling purposes