How Adult Canadian English Speakers Process Prosody in Novel Compound Words

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English listeners can use prosodic cues to correctly identify known compound words and phrases, but they are not successful with novel compounds, even when produced with clear prosodic cues [1-4]. This has been explained in the literature to be due to a strong lexical bias towards phrasal interpretations when a lexical entry for the compound is not present [2,5]. This bias overrides the prosodic cues available to listeners in favour of phrasal interpretations [2,5].

In our two eye tracking experiments we investigate two **research questions**: (1) Is there a phrasal bias when identifying novel compound words in Canadian English speakers? (2) Can this phrasal bias be overridden in favour of prosodic cues in certain contexts?

Experiment 1: In a trial, participants (N=37) were first introduced to two pictures (Fig.1) sequentially; one highlighted an object (compound interpretation of the target) and the other an action (phrasal interpretation). During this introduction, we explained what each picture shows without using the target phrase or compound (*baking shoes*). Next, they saw both pictures together and heard an ambiguous sentence with either compound or phrasal prosody (*I see her baking shoes in the kitchen* for Fig.1 example). At the end, they were asked to choose the picture mentioned in the sentence. Filler trials contained unambiguous sentences. Accuracy was 93% in the Phrasal Prosody condition (Phr. Prosody), but only 34% in Compound Prosody condition (Comp. Prosody). Fillers had 97% accuracy.

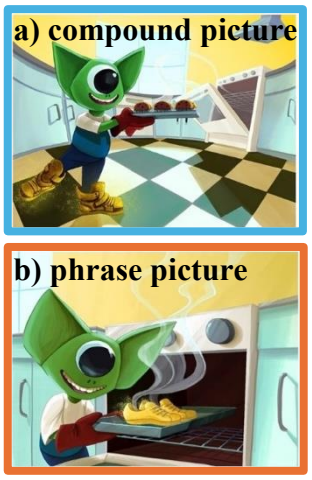

Figure 1: baking shoes

Experiment 2: Participants (N=23) completed the same task as in Exp.1, but they heard each version of the ambiguous sentence during the introduction of the pictures. Accuracy was 93% in Phr. Prosody, and 73% in Comp. Prosody. Fillers had 96% accuracy.

Gaze patterns (Fig.2) were different in the two prosody conditions for both experiments, showing that the prosodic information was processed and thus perceived in both, even when biases for phrasal interpretations exist.

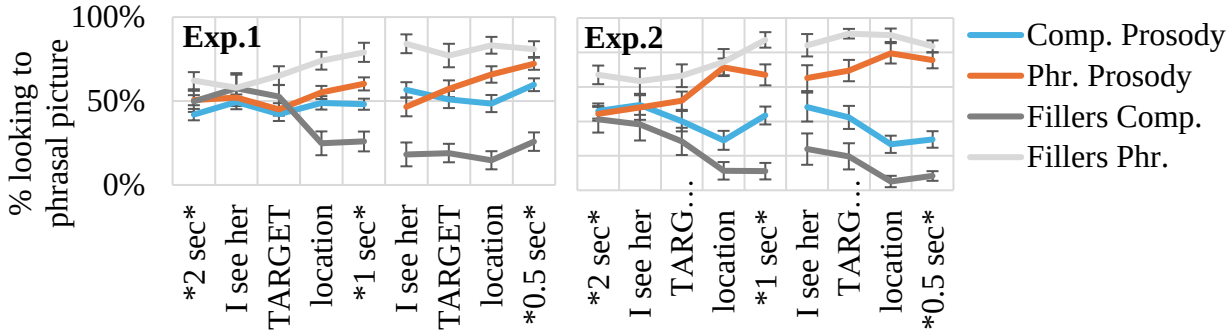

Figure 2: Gaze patterns for each experiment.

Overall, our results confirm a phrasal bias in novel compounds, despite the presence of prosodic information indicating a different interpretation. This bias can be overridden in favour of prosodic cues in some contexts.

References

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