

Taking the accent off accessories: De-accenting as a cue during reference resolution

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In certain symmetric configurations, elements are routinely de-accented that would in other circumstances bear an accent, such as the first occurrence of *farmer* in (1) from Rooth (1992).

- (1) An AMERICAN farmer met a CANADIAN farmer.

The first *farmer* is head of its phrase and new, thus is ordinarily expected to be accented rather than, or in addition to, *American*. The identity of the two nominal heads is crucial; compare to (2), with different Ns:

- (2) #An AMERICAN farmer met a CANADIAN trucker.

As Rooth suggests, (1) seems to set up a contrastive interpretation for the two NPs. Accounting for this effect in a principled theory of focus has challenged analysts from Chomsky (1971) to the present day. Unlike Chomsky, who invoked a notion of ‘contrastive intonation,’ Rooth derives the contrastive interpretation from more general principles of interpretation, and thus does not require extraordinary intonational marking. In fact, the accents on the adjectives in (1) can be ordinary H* (using ToBI notation: Silverman, et. al., 1992); de-accenting of the nouns seems to be the crucial factor.

We present an experiment that exploits patterns like those above to investigate on-line effects of prosody – de-accenting in particular – on interpretation. We monitored eye movements in a computerized visual world experiment. On each trial, two different scenes depicting pairs of animals wearing accessories appeared on the screen. Simultaneously, participants heard a recording of a speaker describing the target scene (e.g., *There’s a cow with shoes and a pig with glasses*). The task was to click on the scene that matched this description.

There were three experimental conditions: de-accented late-lexical; accented late-lexical; and accented early-lexical (see examples below). In the de-accented condition, the accessory was the same for both animals, and both occurrences were de-accented. If listeners use the early de-accenting as a cue during online comprehension, they would be expected to have a bias toward the target scene before hearing the second accessory. In the late-lexical condition, the accent on the first accessory is retained, resulting in a stress pattern consistent with two animals having either the same accessory or different accessories. Therefore, listeners should have to wait until hearing the second accessory. Finally, in the early-lexical condition, information about the target becomes available at the second animal, allowing participants to identify the target based on lexical, as opposed to prosodic, disambiguation.

The data were consistent with these predictions. Mouse clicks were faster in the de-accented condition than in the late-lexical condition ($p < 0.05$). In the de-accenting condition, looks to the

target increased *before* the onset of the final accessory, indicating that participants were able to use prosodic information as a cue to the correct scene. In the late-lexical condition, target looks began to increase only after the onset of the final accessory. As expected, in the early-lexical condition, target looks increased at the second animal. These results suggest that listeners are able to use de-accenting as a cue during reference resolution.

Examples of conditions:

De-accented Late Lexical: “There’s a COW with shoes, and a PIG with shoes.”

Display: Cow/shoes and pig/shoes; cow/shoes and pig/glasses

Accented Late Lexical: “There’s a COW with SHOES, and a PIG with SHOES.”

Display: Cow/shoes and pig/shoes; cow/shoes and pig/glasses

Accented Early Lexical: “There’s a COW with SHOES, and a PIG with GLASSES.”

Display: Cow/shoes and pig/glasses; cow/shoes and horse/hat

References

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