Toward an accommodation account of deaccenting under nonidentity

It is commonly reported that certain constituents can be deaccented not only when they correspond to an identical antecedent, but also when they can be inferred from an antecedent [1-7]. For instance, in "She thought I played the viola, but I don't even *like* string instruments," *string instruments* might be deaccented because it is a hypernym of *viola* and is "discourse-given" [6]. Two approaches to the licensing of such deaccenting have arisen in the literature. One approach is to develop a single grammatical constraint on deaccentable material that subsumes both antecedent-identical and inferable constituents [1-4, i.a.]. The second approach holds that deaccenting is grammatically licensed only under identity, but ungrammatical deaccenting of inferable material can be marked as acceptable because an identical antecedent can be accommodated [5-7]. In four experiments systematically investigating the prosodic properties of discourse-inferable verbs, we observe that inferable constituents are deaccented less readily than suggested in the literature and propose that an accommodation approach is the most likely licensing mechanism.

In **Experiment 1**, 10 native English speakers (5 female, mean age 21.9) read carrier paragraphs containing sentences of the form *SVO and SVO*, where the second subject was discourse-new and the second object was repeated from the first clause. Relative to the first verb, the second verb could be *new*, *inferable*, or *repeated*. In 6 items, the *inferable* relation means that the existentially closed denotation of the first verb *entails* that of the second verb, while in the other 6, it makes the existentially closed denotation of the second verb pragmatically available (*implicational bridging*, [2]). A separate norming study established the strength of the inferencing relationship between the two verbs; these scores and sample stimuli are shown in Table 1. Mean intensity, mean f_0, and duration were extracted for the stressed nucleus of each second-clause verb and relativized to the values for the nucleus of the second-clause subject (Figure 1). Of interest is whether the prosodic pattern for the inferable verb conditions is more similar to the canonical pattern for the new verb conditions (pre-nuclear accent on subject, contrastive/narrow focus on verb) or for the old verb conditions (contrastive/narrow focus on subject, deaccented verb). Linear mixed-effects analysis for both sets of items revealed a significant effect of the second verb's discourse status in determining the relativized intensity and f_0 (p's<.001), with paired comparisons indicating that the values for repeated verbs were significantly lower than the values for new and inferable verbs (p's<.001), while the values for new and inferable verbs were not significantly different (p's>.1). This suggests that the paradigm successfully detected the verbs' emphasis status, but that inferable verbs were not deaccented. A follow-up **Experiment 2** showed that these phonetic measures align with native listeners' phonological judgments of emphasis. Participants (n=177) listened to clipped recordings of the second clauses from Experiment 1 and made a forced choice rating of the verb as *emphasized* or *not emphasized*, yielding qualitatively identical results to Experiment 1 (Figure 1).

Experiment 3 tested the felicitousness of deaccented inferable verbs in perception using an expanded set of 36 items recorded by 2 (1 female, 1 male) reliable Experiment 1 participants. The recordings were cross-spliced so the repeated-verb production of the second clause (canonically deaccented) could follow all three first clauses; a deaccented verb could appear in a context making it discourse-new, -inferable, or -repeated. Native English-speaking AMT users (n=144) rated the naturalness of the resulting recordings on a Likert scale with 7 representing the most natural. Both item groups showed a significant effect of the verb's discourse status (Figure 2). Paired comparisons showed that the ratings for deaccented inferable verbs were not different from those for new verbs (p>.2), but were lower than those for repeated verbs (p<.01).

Experiment 4 tested the effect of a supportive discourse context on felicitousness ratings in perception. The design was the same as Experiment 3 (n=144), but subjects first read a sentence that could construe the two verbs as being pragmatically identical (e.g., for *hugged-embraced*,
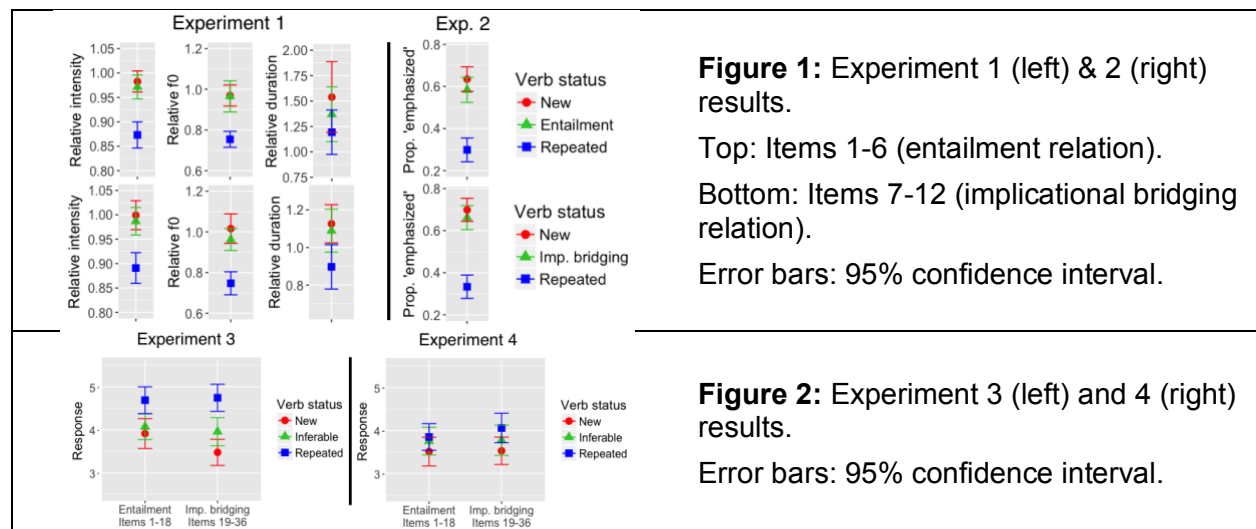
"The high school reunion was very successful, with many people seeing each other for the first time in ten years"). The effect of verb relationship was significant for the implicational bridging items ($p<.05$), but not the entailment items ($p>.2$). In paired comparisons, the difference between inferable and repeated verbs was no longer significant (p's$>.1$) for either set of items (Figure 2)

In summary, we found that in production, speakers are unlikely to deaccent discourse-inferable verbs even when their meanings are strongly lexically inferable from the antecedent (Experiments 1 & 2). In perception, in out-of-the-blue utterances, listeners find deaccented inferable verbs relatively infelicitous; discourse-inferable verbs pattern with discourse-new verbs to the exclusion of repeated verbs (Experiment 3). In a supportive discourse context, the difference between inferable and repeated verbs is neutralized (Experiment 4), but the compressed score range suggests that participants' intuitions may have been eroded in this task in general.

The empirical differences between repeated and inferable verbs in both production and perception cast doubt on the notion that they should receive a uniform grammatical treatment. The more likely explanation is that deaccenting inferable material is ungrammatical, but extragrammatical processes such as accommodation can rescue acceptability ratings, particularly after prolonged introspection. We further note that in Experiment 3, the mere presence of non-antecedent-contained deaccented material was not sufficient to trigger such an accommodation operation (cf. Fox's *accommodation-seeking material*, [6]). It remains to be determined what features of the discourse might support an accommodation operation to a sufficient degree for deaccented inferable material to receive acceptability ratings comparable to deaccented repeated material. In this vein, a replication of Experiment 3 with the addition of the presupposition trigger *too* is underway to determine whether this type of support for identical readings of the antecedent and inferable verbs improves naturalness ratings in perception.

Items	Verb relation	Sentence	Mean verb inferability
1-6	New	Andrea **rebuffed** Laura, and Ron **embraced** Laura.	1.8 / 7
	Entailment	Veronica **hugged** Laura, and Ron **embraced** Laura.	6.7 / 7
	Repeated	Christina **embraced** Laura, and Ron **embraced** Laura.	N/A
7-12	New	Madeline **offended** Noah, and Al **seduced** Noah.	2.1 / 7
	Implicational bridging	Angelina **charmed** Noah, and Al **seduced** Noah.	5.5 / 7
	Repeated	Jocelyn **seduced** Noah, and Al **seduced** Noah.	N/A

Table 1: Sample stimuli for Experiment 1

Figure 1: Experiment 1 (left) & 2 (right) results.

Top: Items 1-6 (entailment relation).

Bottom: Items 7-12 (implicational bridging relation).

Error bars: 95% confidence interval.

Figure 2: Experiment 3 (left) and 4 (right) results.

Error bars: 95% confidence interval.

Selected references: [1] Rochemont (1986). [2] Rooth (1992). [3] Schwarzschild (1999). [4] Büring (2016). [5] Tancredi (1992). [6] Fox (1999). [7] Wagner (2012).