Inferable Constituents Are Not Deaccented: Phonetic and Perceptual Evidence

Jeffrey Geiger & Ming Xiang

Introduction

- In American English, deaccenting is licensed when a constituent corresponds to an identical antecedent in a structurally isomorphic position. [1-8]
- John likes Mary, and Bill likes Sue.
- Also proposed, but with less reliable judgments: Deaccenting is licensed when an antecedent makes a constituent available via an inferencing relation: [4-6]
  - Entailment: e.g. x Verb1 y entails y Verb2
  - First John told Mary about the budget cuts, and then Sue heard about them. [4]
  - Implicational bridging: x Verb1 y makes x Verb2 y pragmatically available
  - (3) She called him a Republican, and then he insulted her. [4-5]
- Research goal: Empirically investigate the felicitousness of deaccenting licensed by inferring relations compared to by overt repetition

Stimuli & Norming

- Two-clause sentences of the form SVO and SVO
- Second clause constant by item
- Constant number of syllables before Clause 2 onset across all items
- Clause 2 subject always discourse-new; Clause 2 object same as Clause 1
- Clause 1 verb varies to condition discourse status of Clause 2 verb:
  - Verb status: Sentence

| Items 1-6      | New Andrea rebuffed Laura, and Ron embraced Laura. |
|               | Entailment Veronica hugged Laura, and Ron embraced Laura. |
|               | Repeated Christina embraced Laura, and Ron embraced Laura. |
| Items 7-12     | New Madeline offended Noah, and Al seduced Noah. |
|               | Implicational bridging Angelina charmed Noah, and Al seduced Noah. |
|               | Repeated Jocelyn seduced Noah, and Al seduced Noah. |

Experiment 1

Question

- Do speakers produce inferable verbs with phonetic correlates typical of discourse-new verbs, discourse-old verbs, or with a unique phonetic pattern?

Task

- Participants read aloud 72 critical sentences embedded in carrier paragraph
- Instructed to read full paragraph and plan production ahead of time

Participants

- 10 participants (5 female, mean age 21.9) recruited from campus community

Results

- Phonetic correlates measured for nucleus of Clause 2 verb: absolute intensity, f0, duration, intensity, f0, duration relativized to Clause 2 subject [9-11]

- Experimental items:
  - Items 1-6
  - Items 7-12

Experiment 2

Question

- Do the phonetic correlates measured in Experiment 1 match native speakers' perceptions of whether the critical verbs were accentuated or deaccented?

Task

- Participants listened to 24 clipped recordings of Experiment 1 second SVO clauses and rated verb as “emphasized” or “not emphasized”

Participants

- 200 self-reported native English-speaking Amazon Mechanical Turk users (62 female, mean age 34.3)

Results

- Significant effect of verb status on emphasis perception (Logistic MIER, p < .001)
- Proportion “emphasized” lower for repeated than new or inferable (EMM, p’s < .001)
- Proportion “emphasized” not different for new and inferable (EMM, p’s > .2)
- Repeated verbs perceived as deaccented, but inferable verbs perceived the same as new

Experiment 3

Question

- Are deaccented inferable verbs perceived as felicitous even though they appear not to occur in production?

Task

- 2 reliable Experiment 1 participants (1 male, 1 female) returned and recorded an expanded stimulus set (24 entailment items, 24 implicational bridging items)
- Productions of new verbs were labeled as accentuated; productions of repeated verbs were labeled as deaccented
- Recordings were cross-spliced so accentuated and deaccented verbs appeared in each of 3 conditioning environments: new, inferable, repeated
- For 48 sentences, MTURK participants rated prosody (“tune or melody of sentence”) on a 7-point Likert scale, where 1 was least natural

Participants

- 144 self-reported native English-speaking Amazon Mechanical Turk users (67 female, mean age 36.7)

Results

- Significant interaction of pronounced accent and verb status (LMER, p < .001)
- Accented verbs: repeated < new, inferable (EMM, p’s < .001); new vs. inferable n.s. (EMM, p’s > .3)
- Deaccented verbs: repeated > new, inferable (EMM, p’s < .01); new vs. inferable n.s. (EMM, p’s > .2)
- In perception, inferable verbs pattern with discourse-new verbs when they are accentuated and deaccented
- No evidence that inferable verbs can be deaccented more felicitously than discourse-new verbs

Conclusion

- Inferable verbs were not deaccented in production. (Experiments 1 & 2)
- Deaccented inferable verbs were not more felicitous than deaccented new verbs. (Experiment 3)
- No evidence that discourse inferability licenses deaccenting beyond baseline.
- However, deaccenting felicitousness is not categorical. More work is needed to fully model the mechanisms of deaccenting licensing.

Selected references

- This work was funded by NSF grant #BCS-1827404.