Using hyperarticulation to quantify interaction between discourse functions

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Research Questions
- Do speakers hyperarticulate when expressing attitudes?
- Do speakers hyperarticulate when expressing stance?

Design
- Speakers selected from the DARPA Global Autonomous Language Exploitation (GALE) project.
- Design involves three factors: Novelty, Evaluation, and speaker.

Hypothesis
- H1: Novelty: speakers hyperarticulate
- H2: Evaluation: speakers hyperarticulate
- H3: Interaction between Novelty & Evaluation:

Background
- Cooperative speakers (Grice 1967) convey information to listeners.
- Non-cooperative speakers (Grice 1967) convey information to listeners in a way that is not comprehensible.

Methods & Results

Experiment 1: Speaking rate & Stressed vowel duration

- Measures of hyperarticulation:
  - Peak excursion (CF 2000)
  - Number of tokens recorded in vowel silence

Results:
- Novelty has a greater effect on speaking rate than Evaluation.
- Evaluation has a greater effect on vowel duration than Novelty.

Experiment 2: Pitch excursion

- Measures of hyperarticulation:
  - Pitch excursion (CF 2000)
  - Number of tokens recorded in vowel silence

Results:
- Novelty has a greater effect on pitch excursion than Evaluation.
- Evaluation has a greater effect on pitch excursion than Novelty.

Experiment 3: Vowel formants

- Measures of hyperarticulation:
  - Number of tokens recorded in vowel silence

Results:
- Novelty has a greater effect on vowel formants than Evaluation.
- Evaluation has a greater effect on vowel formants than Novelty.

Discussion
- The results indicate that speakers hyperarticulate when expressing attitudes.
- Hyperarticulation is greater when expressing Novelty than Evaluation.
- Evaluation has a greater effect on vowel formants than Novelty.

Conclusion
- Speakers hyperarticulate when expressing attitudes.
- Novelty has a greater effect on hyperarticulation than Evaluation.
- Evaluation has a greater effect on hyperarticulation than Novelty.

References