ENCODING A SEMANTIC CONTRAST REQUIRES A PHONOLOGICAL CONTRAST IN ENGLISH BUT NOT IN FRENCH
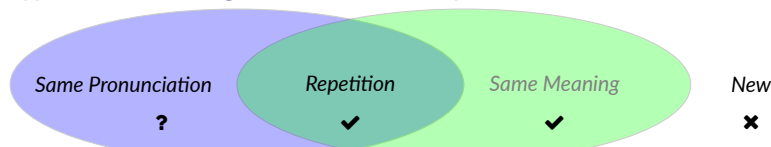
Michael Wagner 🆔

McGill University ✉ chael@mcgill.ca

HOMOPHONES AND REDUCTION

Types of contextual givenness that leads speakers to deaccent:

Same Pronunciation	Repetition	Same Meaning	New
?	✔	✔	✘

Repetition: Fowler and Housum 1987; T. Lam and D. Watson 2010, i.a. **Same meaning:** Rooth 1992; T. Q. Lam and D. G. Watson 2014, i.a.

Prior findings pointing to phonological effect on accentuation:
1. Gradient reduction if the same motor plan was heard/produced before
Jacobs et al. 2015: auditory homophone prime leads to gradient reduction
Kahn and Arnold 2015: saying/hearing word aloud leads to greater reduction
2. Phonological contrast can be marked within words
Bolinger 1961, p. 93, Artstein 2004:
*In such a case, our first concern is to persuade the patient that he is a stalag***mite**.
3. Encoding a semantic contrast requires a phonological contrast:
Williams 1980; Williams 1997; Wagner and McCurdy 2010; Wagner 2012:
 # John invited Sue, and then JOHN was invited by SUE.
 # He invited her, and then HE was invited by HER.
4. Accenting phonologically identical words causes infelicity in rhymes:
Wagner and McCurdy 2010 (perception):
 # The agony is hard to bear, when one is eaten by a bear.
5. Generalizations 2-4 are true in English but not in French
See Ladd 2008 for (2) and Wagner and McCurdy 2010 for (3,4)

This study: Production experiment (12 item sets, 3 conditions): *audio examples:*
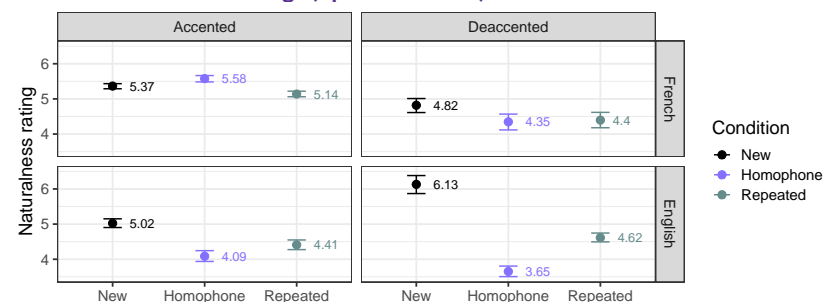**New:** *John was very scared. He really did not like that bear.* ✘; ✔
Homophone: *The fear was hard to bear. He really did not like that bear.* ✘; ✔
Repeated: *John was attacked by a bear. He really did not like that bear.* ✘; ✔

Production results (16 participants/language): Deaccentuation of target word
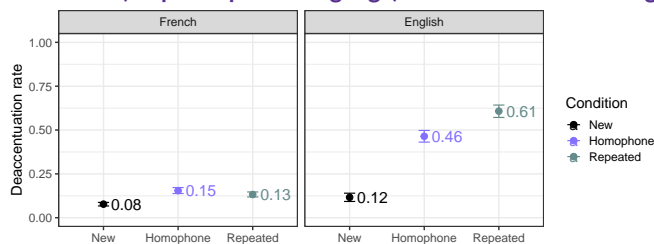
Results: Naturalness ratings (8pt Likert scale)

HYPOTHESES

- There is a **phonological constraint** against ending two phrases with accented homophonous words (Williams 1980; Williams 1997; Wagner and McCurdy 2010; Wagner 2012; Tachikawa Shapiro and Anttila 2020)
- This is true in English, but not in French Wagner and McCurdy 2010
- Deaccented material has to be semantically given (even if motivation for deaccentuation is phonological) (following Wagner 2012)

PREDICTIONS

1. When two adjacent phrases end in homophones, the second homophone can get deaccented; it sounds odd if it doesn't
2. This is true in English but not in French
3. Deaccenting a homophone will also sound odd because its meaning is not contextually given.

FINDINGS

- ✓ Homophones are (fairly) likely to deaccent, but less likely than repetitions, and failing to deaccent results in lower naturalness
- ✓ This is true in English but not in French
- ✓ Deaccenting homophones sounds a bit odd
- ⚠ Repetitions overall less natural than controls
- ⚠ There were item sets for which deaccenting a homophone was fine, and others were it was very bad, more factors seem to be at play

✓ = predicted & significant in logistic/ordinal MEM
⚠ = not predicted & significant]

DISCUSSION

- A homophone antecedent can cause deaccentuation (and not just gradient reduction as in Jacobs et al. 2015).
- Accenting a word sounds infelicitous if it doesn't 'sound' new (even if its meaning is!)
- Marking a word as semantically new/contrastive by accenting it requires for it to be phonological new/contrastive
- This effect was called a 'givenness illusion' in Wagner 2012: Accented epistrophe sounds odd because *it sounds like* an accent was placed on given information
- Since there is no deaccentuation when an entire sentence is repeated (Klassen and Wagner 2017), it seems a phonological contrast elsewhere is necessary, and deaccentuation cannot simply be due to the reuse of a salient motor-plan
- Open question: When does deaccenting a homophone sound good? Possibly when semantic givenness is easy to accommodate...

REFERENCES

- Artstein, Ron (2004). "Focus Below the Word Level". In: *Natural Language Semantics* 12.1, pp. 1–22. DOI: `10.1023/B:NALS.0000011145.76954.0b`.

- Bolinger, Dwight (1961). "Contrastive accent and constrastive stress". In: *Language* 37, pp. 83–96. DOI: `10.2307/411252`.

- Fowler, CA and J. Housum (1987). "Talkers' signaling of new and old. words in speech and listeners' perception and use of the distinction". In: *Journal of memory and language* 26.5, pp. 489–504. DOI: `10.1016/0749-596X(87)90136-7`.

- Jacobs, Cassandra L, Loretta K Yiu, Duane G Watson, and Gary S Dell (2015). "Why are repeated words produced with reduced durations? Evidence from inner speech and homophone production". In: *Journal of memory and Language* 84, pp. 37–48. DOI: `10.1016/j.jml.2015.05.004`.

- Kahn, Jason and Jennifer E. Arnold (2015). "Lexical activation effects on spoken word reduction". In: *Language and Cognitive Processes* 39.1–2, pp. 103–119. DOI: `10.1080/01690965.2013.848989`.

- Klassen, Jeffrey and Michael Wagner (2017). "Prosodic Prominence Shifts are Anaphoric". In: *Journal of Memory and Language* 92, pp. 305–326. DOI: `10.1016/j.jml.2016.06.012`.

- Ladd, D. Robert (2008). *Intonational Phonology*. 2nd. Cambridge: Cambridge University Press. DOI: `10.1017/cbo9780511808814`.

- Lam, T.Q. and D.G. Watson (2010). "Repetition is easy: Why repeated referents have reduced prominence". In: *Memory & cognition* 38.8, pp. 1137–1146. DOI: `10.3758/MC.38.8.1137`.

- Lam, Tuan Q and Duane G Watson (2014). "Repetition reduction: Lexical repetition in the absence of referent repetition." In: *Journal of Experimental Psychology: Learning, Memory, and Cognition* 40.3, p. 829. DOI: `10.1037/a0035780`.

- Rooth, Mats (1992). "A Theory of Focus Interpretation". In: *Natural Language Semantics* 1.1, pp. 75–116. DOI: `10.1007/BF02342617`.

- Tachikawa Shapiro, Naomi and Arto Anttila (2020). "Deaccentuation: Semantics or phonology?" Talk presented at AMP2020, UC Santa Cruz.

- Wagner, Michael (2012). "A Givenness Illusion". In: *Language and Cognitive Processes* 27.10, pp. 1433–1458. DOI: `10.1080/01690965.2011.607713`.

- Wagner, Michael and Katherine McCurdy (2010). "Poetic Rhyme Reflects Cross-Linguistic Differences in the Grammar of Information Structure". In: *Cognition* 117, pp. 166–175. DOI: `10.1016/j.cognition.2010.08.007`.

- Williams, Edwin (1980). "Remarks on Stress and Anaphora". In: *Journal of Linguistic Research* 1.3, pp. 1–16.

- – (1997). "Blocking and Anaphora". In: *Linguistic Inquiry* 28.4, pp. 577–628.