# The differences between and within BEG and BAG: Phonological, morphological, and lexical effects in prevelar raising Joseph A. Stanley



# Pre-velar raising

Some varieties of North American English raise /ε/ or /æ/ before /g/: Upper Mid-west, Pacific Northwest, and Canada. (Zeller 1997; Labov et al 2006, Wassink 2015, Swan 2016, Stanley 2017, McLarty et al 2016, Gunter et al. 2017, etc.)

### Vowel classes

VAGUE: /eg/ (plague, flagrant)  $\rightarrow$  [eg]  $/\epsilon g/$  (egg, legs, regular)  $\rightarrow$  [eg, eig] /æg/ (snag, flag, dragon)  $\rightarrow$  [ $\epsilon$ g,  $\epsilon$ g] Relatively few words: difficult to study.

### Usually co-occur

Varieties that have BAG-raising usually also have BEG-raising. However:

- Some in BC raise BAG but not BEG (Mellesmoen 2018)
- Some in NV raise BEG but not BAG (Gunter et al. 2017) If raising is driven by a common underlying cause, why get one without the other?

# This Study

#### Remaining questions

Most of what we know is based on common monosyllabic words (beg, keg, flag, drag), usually from a word list or reading passage. What about...

- Polysyllabic (hexagonal, stegosaurus, protagonist)
- Borrowings (allegro, reggae, oregano)
- Names (Lego, Winnipeg, Skagway, Pythagorean)
- Polymorphemic (zigzagging, begged, baggy)
- Rare words (interregnum, lollygag, scallywag)
- Orthographic <ex> (exit, existential, exile)

#### Anecdotal observation

- I'm from St. Louis and I have BEG-raising in most words, except a few like integrity, segregate, negligent, and regulate.
- St. Louis is not known to have BEG-raising, and these words have not been included in other studies.

### Hypotheses

- 1. Based on my exceptions, BEG-raising is less common when it is followed by a sonorant.
- 2. BEG- and BAG-raising have different patterns.

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## Data and Methods

### Word selection

- 197 words (24 VAGUE, 68 BEG, and 107 BAG)
- Not limited to common/short words.
- Underlying vowel based on CMU Dictionary

### Online survey

Question: How do you pronounce \_\_\_\_?

- ☐ Like the vowel in *bake*
- ☐ Like the vowel in *deck*
- ☐ Like the vowel in *back*
- ☐ Somewhere between *bake* and *deck*
- ☐ Other [space provided]

### Survey format

- Showed 69 words to everybody in a random order with vowel underlined.
- Age, gender, ethnicity, and "Where are you from?" as fill-in-the-blank boxes.
- If they wanted to continue, 4 more blocks with additional words were available. (About 10% continued past the first block.)

#### Distribution

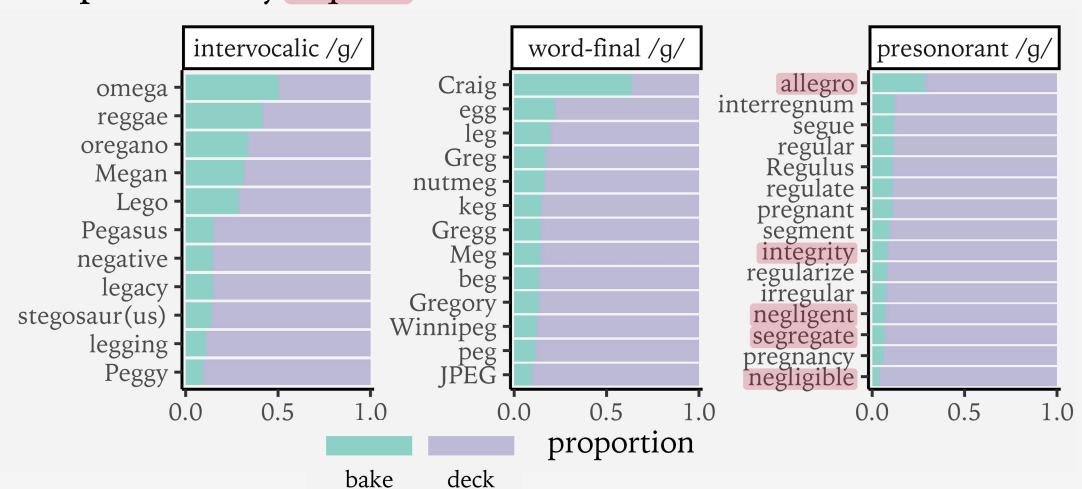
- Posted in the subreddit for each US state and Canadian province/territory
- 6,987 participants and 567,831 observations

### Main Analysis

lme4::glmer(is\_bake ~ is\_borrowing + environment + log\_frequency + word-final /g/ (leg, bag) intervocalic /g/ (legacy, baggage) (1|person) + (1|word))

# **Phonological Effects**

- No difference between intervocalic /g/ and word-final /g/.
- For BEG only, significantly less raising before sonorants, particularly liquids:



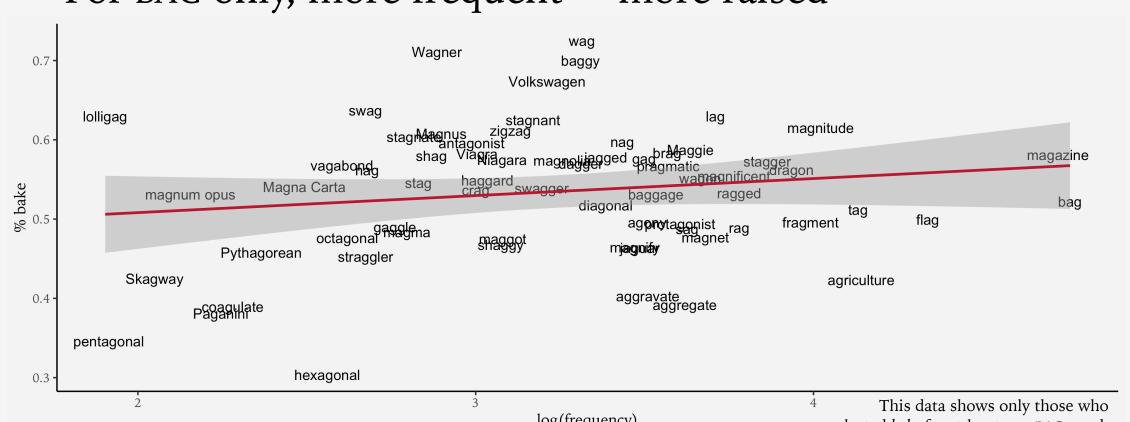
# Morphological Effects

- Adding -s was had a negligible effect for both vowels.
- There was more raising reported after adding *-ing*.
- For BAG only, there was more raising in words with –ed.

### **Lexical Effects**

### **Word Frequency**

• For BAG only, more frequent = more raised



### Borrowings

• For BEG only, borrowings were raised more.

### Orthographic <ex>

- A near 50-50 split in voicing: [ɛksɪt] vs. [ɛgzɪt]
- Even among those who voiced the cluster, these were rarely raised (<10%) even if they raise BEG and/or BAG.

# Conclusions

### Many language-internal factors

- Despite relatively few words with BEG and BAG, there are phonological, morphological, and lexical effects.
- A small word list may not have captured all this.
- (For regional and other sociolinguistic patterns, see my ADS presentation in January.)

#### Limitations

- Survey data (and variable reference words) is unreliable.
- Absolutely need acoustic data to confirm these patterns

### BEG and BAG are different

- BEG is raised less when followed by a sonorant and raised more in borrowings.
- BAG is raised more when *-ed* is added, and in more frequent words.

### Big picture

- Even infrequent linguistic variables are interesting.
- Include more words and in more environments in word lists.
- Reddit is a great way to get a lot of data fast.

# References

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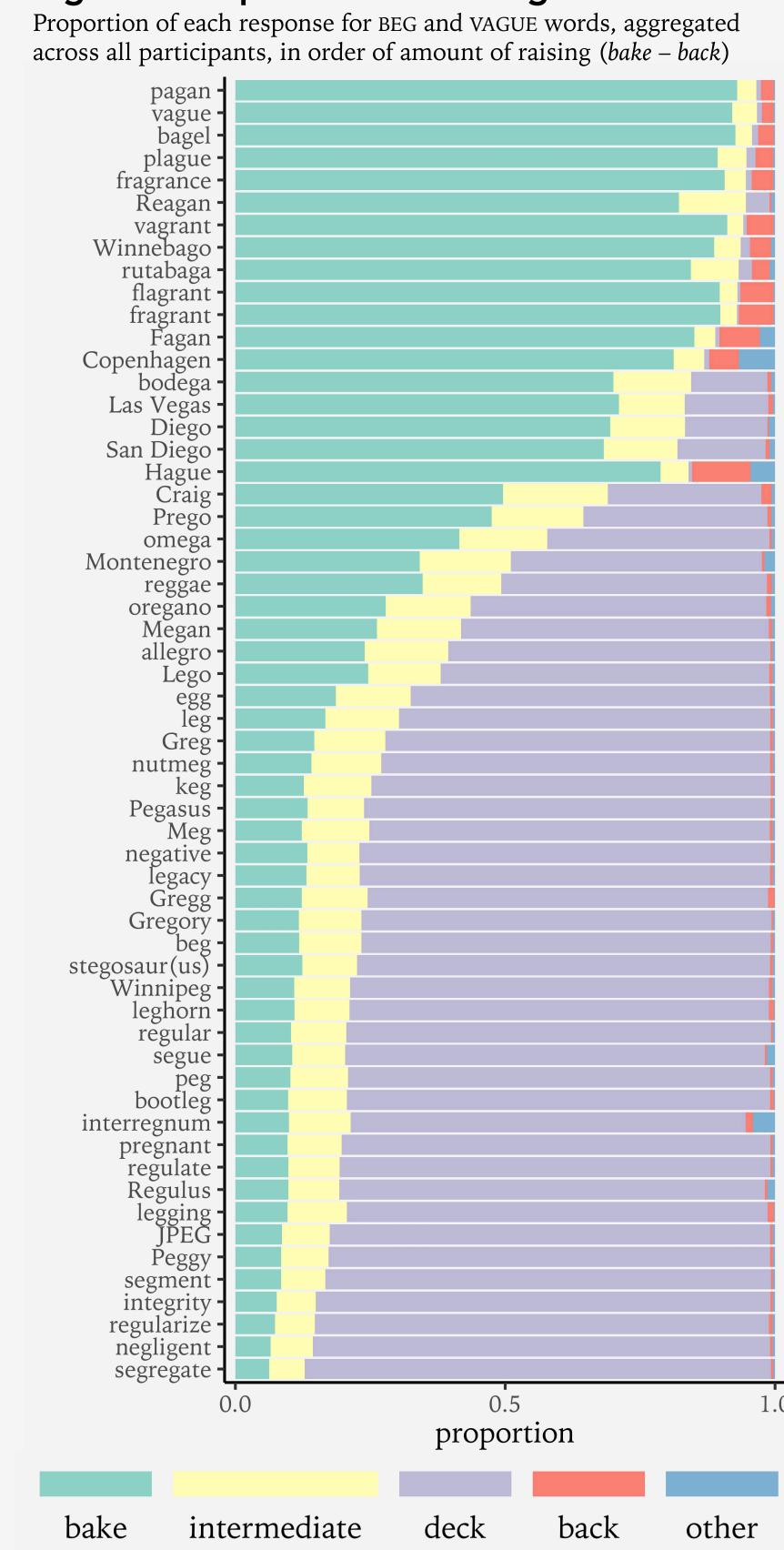
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### Figure 1: Reported BEG-raising



## Figure 2: Reported BAG-raising

Proportion of each response for BAG words, aggregated across all participants who indicated bake in at least one BAG word, in order of amount of raising (bake – back)

