Pinning Down Social Meaning: How Listener Phonology Shapes Social Perception

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Introduction

In linguistic perception, social information shapes what phoneme we hear. In sociolinguistic perception: How does what phoneme we hear shape the social information we derive about a speaker? 

Sociolinguistic perception: What happens when different listeners have different phonemic representations of the same sound?

The PIN-PEN Merger

- merger of /ɪ/ and /ɛ/ before nasals
- common among Southerners, African Americans
- merged vowel can be realized as [ɪ], [ɛ], or somewhere in between
- West Coast speakers more likely to merge to [ɪ], but no other social differences in phonetic realization

Social Meaning

- stigmatized in some communities, not in others
- associated with Black speakers, Southerners, lower class whites, less education, non-standardness

Questions & Predictions

Q: Do merged and non-merged listeners differ in their social perceptions of the PIN-PEN merger? 
... of the merger to [ɪ]? ... of the merger to [ɛ]? 

PREDICTIONS

all listeners: 
- merger to [ɪ] = prestige, solidarity, Southern & Black
- merger to [ɛ] = prestige, solidarity, Southern & Black

non-merged listeners: 
- merger to [ɪ] = prestige, solidarity, Southern & Black
- merger to [ɛ] = prestige, solidarity, Southern & Black

merged listeners: 
- merger to [ɪ] = prestige, solidarity, Southern & Black
- merger to [ɛ] = prestige, solidarity, Southern & Black

"Hypercorrection" in social perception

- don’t know which vowel a word is “supposed” to have 
- but hear non-merged talkers produce [ɛ] more than [ɪ] (HEN words 4x more common than TWIN words)
- assign social meanings associated with non-merged talkers to [ɛ], regardless of prescriptively “correct” vowel

Methods

Participants

- Amazon Mechanical Turk
- 167 M, 141 F
- ages 21-71 (median: 35)
- 123 merged, 185 non-merged

Determining Merger Status

- merger in perception
- word identification task
- 8 pairs of words
- all correct = non-merged
- missed 2 or more = merged

Social Evaluation: Matched Guise Test

2 pairs of guises:

<table>
<thead>
<tr>
<th></th>
<th>HEN</th>
<th>TWIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ɪ]</td>
<td>[ɪ]</td>
<td>[ɛ]</td>
</tr>
<tr>
<td>[ɛ]</td>
<td>[ɛ]</td>
<td>[ɪ]</td>
</tr>
</tbody>
</table>

8 sentences per lexical set (% with competitor) x 4 talkers
- vowel spliced from opposite guise
- each listener heard both guises (not at the same time) of 4 HEN sentences & 4 TWIN sentences + 16 fillers
- 6 Likert scales: educated, working/upper class, pretentious, friendly, Southern, & Black

Results

Dependent variable: [ɛ] rating – [ɪ] rating

Factor Analysis

- prestige = educated + upper class + pretentious
- Southern
- Black

Modeling

- linear mixed effects model
- predictors considered:
  - lexical set (HEN or TWIN)
  - listener demographics (age, education level, ethnicity, gender, hometown population)
  - potential confounds (which guise spliced, which guise in first block, fillers)

Prestige

- main effect of lexical set: no difference between merged and non-merged listeners

Southern

- main effect of lexical set: no difference between merged and non-merged listeners

Black

- main effect of lexical set: no difference between merged and non-merged listeners

Summary

As predicted, hypercorrection in sociolinguistic perception:

- Merged listeners hear [twɛn] as more prestigious than [twɛn], even though it has the prescriptively “wrong” vowel
- However, this doesn’t happen for Southern or Black

Merged listeners: 
- merger to [ɪ] (flown for hen) = prestige, Southern & Black
- merger to [ɛ] (flown for twin) = prestige, Southern & Black

Non-merged listeners: 
- prestige, Southern & Black

Takeaways

Hypercorrection exists in social perception, not just production (prestige results)

Not all social dimensions behave the same way (prestige vs Southern & Black)
- invoke different sociolinguistic variables?
- invoke different levels of representation?

Merged listeners know on some level—what vowel a word is “supposed” to have (Southern & Black results)
- orthography?
- separate underlying representations?
- track social information on a word-specific level?

Both phonemic & word-specific (or orthographic) information are relevant to social perception.