PHONOCOLICAL ENVIRONMENT CONDITIONS
SOCIAL PERCEPTION OF SIBILANTS
Jacob B. Phillips & Hillel Steinmetz
University of Chicago

Introduction

Broad research questions
1. Are identical sounds perceived differently in different phonological environments?
2. Are identical sounds undergoing language change assigned different social meaning in expected vs. unexpected environments?

Focus: /s/-retraction

- An ongoing sound change in American English is /s/-retraction, where /s/ is realized approaching /ʃ/. Most robustly reported in /st/ clusters, and are largely agnostic to the role of vocalic /s/ and /ʃ/.
- A number of studies have examined /s/-retraction, including those by Lawrence, W. F. 2006. "A study of /s/-/ʃ/ assimilation in a distance: An acoustic study of /s/-/ʃ/ assimilation in American English." Journal of Phonetics 34(1). These studies typically examine perception of /s/-retraction assigned different social meaning in different phonological environments.

Social perception of sibilants

Fronted /s/:
- More middle class (Stuart-Smith 2007).
- More feminine (Stuart-Smith 2007).
- More gay (Levon 2014).

Retracted /s/:
- More lesbian (Podesva and Van Hofwegen 2014).

- However, these studies typically examine pronunciation and do not consider the role of phonological environment.
- Specific examinations of /s/-retraction found that, when asked directly about the phenomenon, listeners view it as a retracted /st/ as more Southern/country/non-native (Hirnrichs et al. 2015).

Narrow research question

Is a retracted /s/ perceived differently in different phonological environments?

Predictions

1. If social perception is mediated by phonological environment, a retracted /s/ pre-consonantal may have distinct socio-indexical meaning.
2. If social perception is mediated by sound change, a retracted /st/ may have different socio-indexical meaning that a retracted /s/[p,k,ʃ]/.

Results

No across-speaker models show significant main effects of condition, however interaction effects with pitch emerged as trends in some models.

SEXUALITY ~ ORDER + (CONDITION*PITCH) + (1 | SPEAKER) + (1 | LISTENER)

Figure 1: SPR. Perceived sexuality (left) and perceived masculinity (right) for /spritz/ with onsets cross-spliced from prevocalic /s/ and /ʃ/.

Figure 2: STR. Perceived sexuality (left) and perceived masculinity (right) for /string/ with onsets cross-spliced from prevocalic /s/ and /ʃ/.

Figure 3: SKR. Perceived sexuality (left) and perceived masculinity (right) for /script/ with onsets cross-spliced from prevocalic /s/ and /ʃ/.

Figure 4: Perceived rurality for /spritz/ (left) and /string/ (right) with onsets cross-spliced from prevocalic /s/ and /ʃ/.

Methods

Stimuli
- Target words recorded in the phrase: “Please say X again”.

Panel
- Participants: 17 American English speakers (8 male, mean age 30).
- Stimuli: Unmodified target words
- Procedure: Open-ended responses: “What can you tell me about the speaker?”

Rating task
- Participants: 226 American English speakers (140 males, mean age 30).

- Stimuli: Onset sibilant in target words was cross-spliced from either /st/ or /ʃ/ and created six conditions.

Sample survey matrix

Please provide your impression of the speaker on the scales below:
- Attractive
- Unattractive
- Masculine
- Unmasculine
- Casual
- Formal
- Shy
- Outgoing
- Heterosexual
- Homosexual

Where does it sound like the speaker might be from? (select all that apply):
- The South
- The Midwest
- The Northeast
- The West coast
- East coast
- The Southwest
- The City
- The Country
- The Suburbs

Conclusions

- Trends suggest a possible role of phonological environment in the social perception of /s/.
- Increased perceived rurality in /st/ clusters contrasts with previously reported urban associations of /st/-retraction but supports general retracted /s/- perception.
- Future work may shed light on these processes.
- A rating task with non-manipulated targets containing naturally varying degrees of retraction is in progress.