



"SHTRIKING" CHANGE IN RALEIGH'S SPEECH: ACOUSTIC ANALYSIS OF (STR) RETRACTION

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1. INTRODUCTION

(str) retraction is an ongoing sound change in English in which /s/ retracts to [ʃ] ("sh") in (str) clusters. This sound change has been attested in areas across the US, the UK, and New Zealand, but the status of this sound change in Raleigh has not yet been investigated. The current study contributes to our knowledge of the systematic processes governing sound change by examining (str) retraction as it emerges in the speech of Raleigh natives.

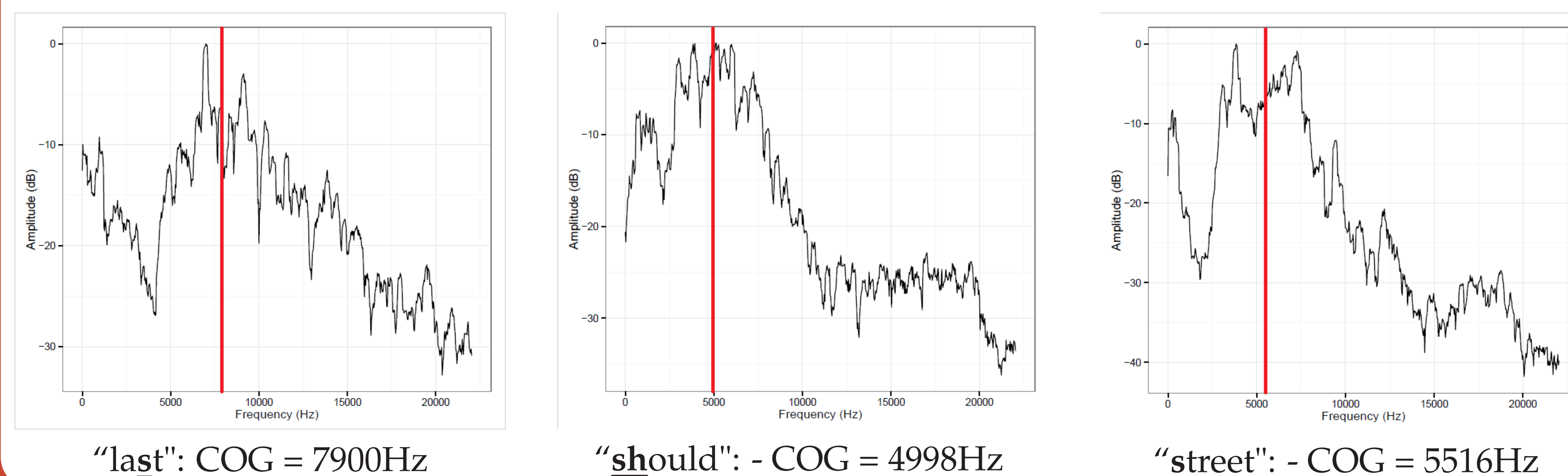
2. RESEARCH QUESTIONS

- Is (str) retraction present in Raleigh speech? If so, when did it emerge?
- What social factors affect realization of retracted /s/?
- What linguistic factors affect realization of retracted /s/?

3. METHODOLOGY

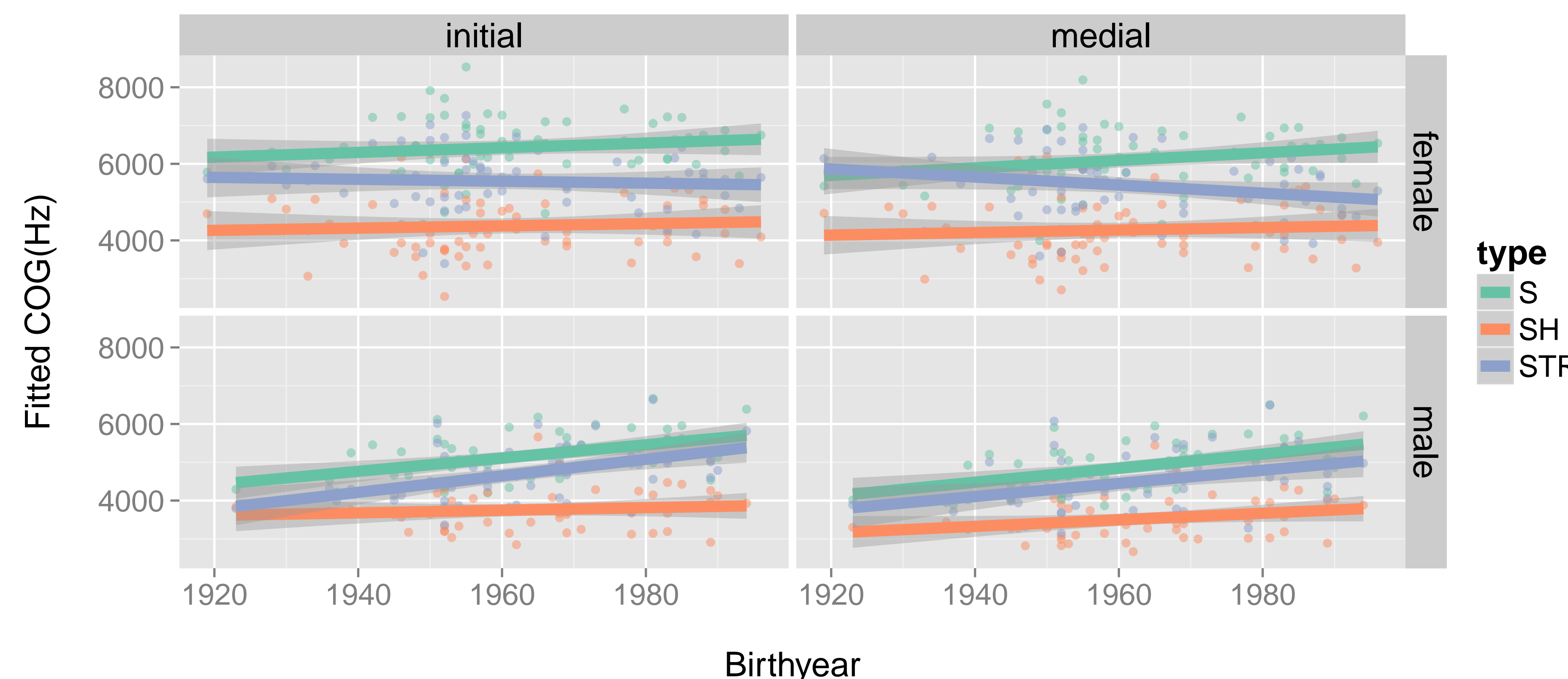
- Data from sociolinguistic interviews with 132 Raleigh natives (Dodsworth and Kohn, 2012).
- Interviews were force-aligned and all /s/ and /ʃ/ tokens automatically extracted.
- For each of the 103,033 tokens, a power spectrum was centered on midpoint.
- Center of Gravity (COG) calculated.
- COG is a useful measure of the spectral distribution. A lower COG corresponds to [ʃ] and a higher COG corresponds to [s].
- Words classified as either **initial** (e.g. "striking") or **medial** (e.g. "restroom") position

4. ACOUSTIC ANALYSIS



5. RESULTS

Fitted COG by Birthyear, Type, Sex, and Position (speaker means)



- Linear mixed effects models constructed in nested fashion, incrementally adding variables of interest.
- AIC decrease of 2+ indicates of significant model improvement (Burnham and Anderson, 2004).
- **Best fit model** includes: 5 way interaction between Sex, Birthyear, Type, Position, and Duration.
- Left and Right context, Random effect of word, Random by-speaker slopes for duration and type

6. DISCUSSION

- Starting in 1950s, women begin to retract (str) in medial position.
 - Corresponds with influx of non-Southerners to RTP for tech boom
 - Same time as community retreat from Southern vowels and other features (Dodsworth and Kohn, 2012).
 - Medial position also found to lead in Durian (2007) and Gylfadottir (2015).
- Men's fricative space expanding in general, distinction between /s/ and /ʃ/ increasing.
 - This expansion unattested in previous studies.
- **Importantly, (str) is not retracting in male speech in any positions.**

7. CONCLUSION

- These results have added evidence to the role of women as leaders of sound change (Labov, 2001).
- Linguistic factors influencing (str) retraction replicated.
- Importantly, we're observing the very first stages of a change in progress.
 - As (str) retraction spreads through the community and expands to more linguistic environments, we'll be able to evaluate theories on the principles of sound change.

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8. FUTURE RESEARCH

- Articulatory variability: how are lip rounding, tongue body retraction, etc. implicated in this change?
- Comparisons of oldest male fricative spaces to data from other corpora. Can we find evidence of the fricative space expansion in other communities?
- Interaction between production and perception - is contrast between [s] and [ʃ] harder to perceive in medial position?