Compensation for coarticulation

- Listeners compensate for coarticulation, filtering out context-induced variation to recover the intended message
  
  E.g.: Mann & Repp (1980)
  - /s/ has a lower center of gravity preceding /a/ due to coarticulatory lip rounding
  - When listeners are presented with an ambiguous stimulus between /s/ and /ʃ/, they are more likely to give /s/ responses preceding rounded vowels

Compensation & sound change

- Sound change is thought to begin when listeners do not compensate for extreme coarticulatory information (Oghala 1993)
- Instead, listeners encode a new speech target, which may influence later productions, even in environments without coarticulatory triggers
- Yet, little experimental work has examined the role of compensation a sound change in progress

Focus: /s/-retraction

- An ongoing sound change where /s/ approaches [ʃ] due to anticipatory coarticulatory to /s/ (Shapiro, Baker 1995, Baker 2015)
- Robustly reported in /s/ clusters:
  - ‘string’ /stʃmp/ → [ʃ[mn]]
  - Rarely reported for other clusters:
    - ‘script’ /stʃmp/ → [ʃ[kmp]]
    - ‘sprit’ /spʃtʃ/ → [ʃ[ptʃ]]
- However, while /t/ slightly lowers /s/ in /s/ clusters (Baker 2011), there is no clear coarticulatory explanation for the asymmetric distribution of the phenomenon
- English phonotactics do not permit /ʃ/ preceding stops, potentially encouraging more extreme coarticulation without the need to maintain a phonological contrast between /s/ and /ʃ/

Research question

Unlike /s/-fronting, /s/-retraction is still limited to one coarticulatory environment, so: do listeners compensate for retraction in /s/ clusters but not /sp/ or /sk/ clusters?