Against Gradual Phonologization

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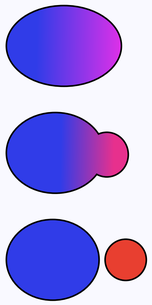
Background

Conventional wisdom holds that the natural pathway of sound change moves from a physiological/perceptual bias



which becomes gradiently exaggerated,

and eventually categorically differentiated.

e.g. Ohala's Hypocorrection (Ohala, 1981; *inter alia*)
Evolutionary Phonology (Blevins, 2004)
Exemplar Theory (Pierrehumbert, 2001; Garret & Johnson, 2001
Lifecycle of Phonological Change (Bermúdez-Otero, 2007)

Proposal

There has not been evidence from language change in progress to support this conventional wisdom. Investigation using the Philadelphia Neighborhood Corpus (Labov, Rosenfelder & Fruehwald; 2013) found that:

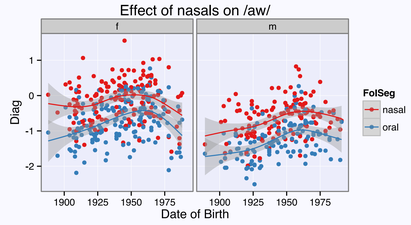
- Gradient phonetic changes can exhibit categorical, phonological conditioning at their *onset.*
- Phonetic favorability is a weaker predictor of which contexts will undergo a phonetic change than the conventional wisdom would predict.

The Philadelphia Neigborhood corpus

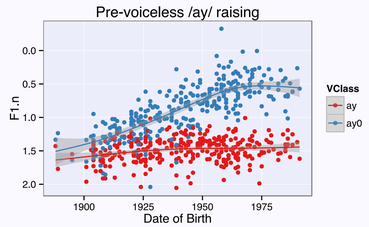
Sociolinguistic interviews carried out between 1973 and 2012. Dates of birth range from 1888 to 1991. Vowel formants have been automatically estimated (N=735,408, from 308 speakers).

Phonologization and Non-Phonologization

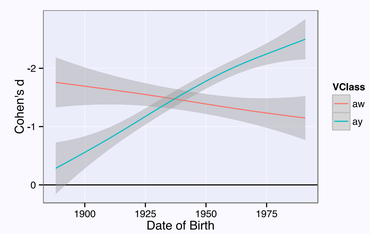
/aw/ exhibits strong conditioning according to the nasality of the following segment, but this doesn't phonologize.



/ay/ initially exhibits weak conditioning according to the voicing of the following segment, but this phonologizes.



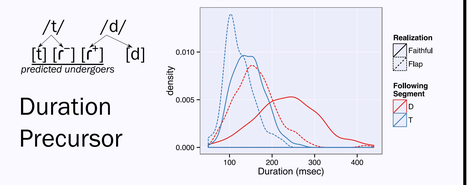
The initial effect of nasals on /aw/ was much stronger.



These two cases exhibit a strong mismatch between phonetic favorability and ultimate phonologization

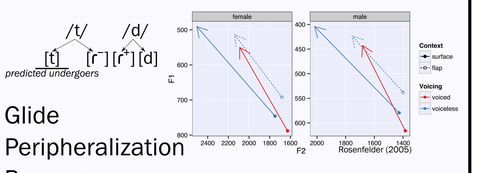
Early Phonological Conditioning (Opacity)

Early phonetic conditioning on /ay/ predicts different sets of undergoers.



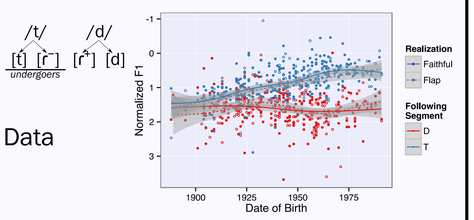
Duration Precursor

Joos (1942), Chambers (1973), Braver (2013)

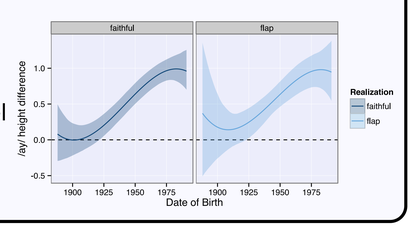


Glide Peripheralization Precursor

Moreton & Thomas (2007)



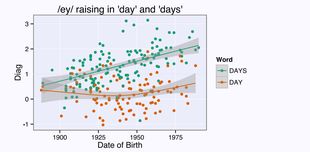
Data

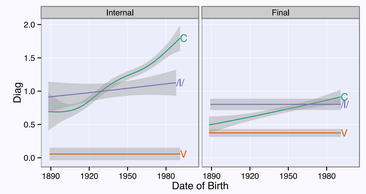


Model

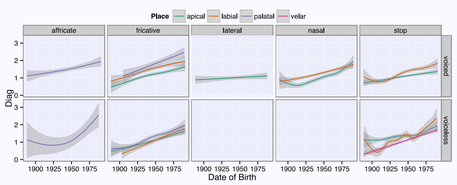
First Not Always Fastest

/ey/ is also raising in Philadelphia. It occurs pre-consonantally, and interacts transparently. It may also apply across word boundaries.





This change affects /ey/ followed by all consonants, except /l/. It doesn't appear to start in one voicing/place/manner context then spread to the rest.



In word internal context, /l/ is significantly more raised in 1900, but does not undergo the change.

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Diag ~ Decade * FolSeg * Context + (FolSeg | File) + (Context | File) + (1 | Word)
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parameter	estimate	std error	bootstrap CI	
(Intercept)	0.669	0.039	0.5993, 0.7464	
per Decade	0.023	0.001	0.0203, 0.0261	
/l/	0.271	0.099	0.0736, 0.4669	
Decade x /l/	-0.017	0.003	-0.0235, -0.0098	
/l/ per Decade	0.007	0.004	-0.0008, 0.0138	

Conclusions

This data from language change in progress suggests that phonological conditioning is an early feature of conditioned sound changes, not a late or mid-stage reanalysis.