

Allophonic Emergence: three ways allophonic rules come to be

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May 14, 2015

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Phonological processes

- Are categorical, and operate over featural representations
- Are part of the mental representation of language

Introduction

In this talk, we'll argue that there are at least three ways that allophonic categories can emerge. We provide evidence that they have all been attested in recent sound changes, and outline a research program with the goal of supporting or falsifying these hypotheses.

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Traditionally assumed scenario (?)

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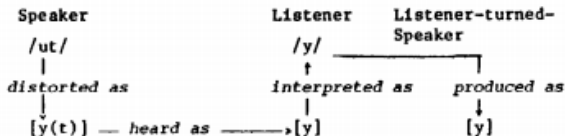
- A **mechanical**, subgrammatical effect skews the distribution of outputs perceived by the learner
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 - Perceptual

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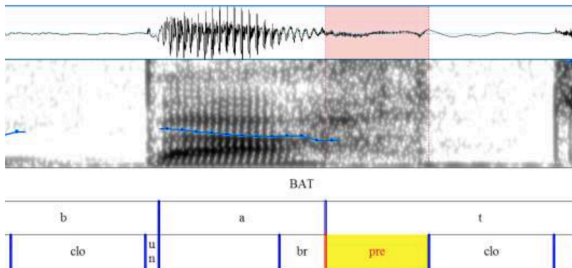
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(3) Scenario 2.

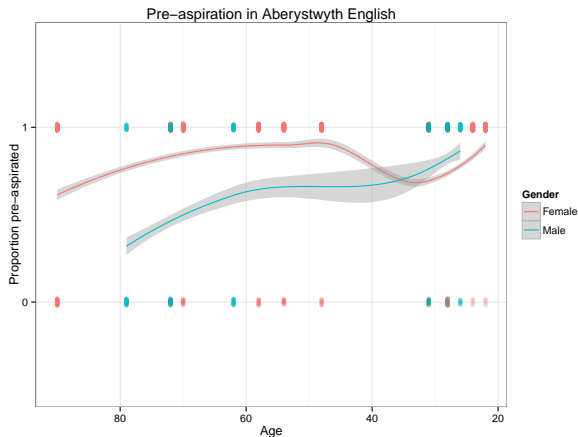


Mechanical Means

Preaspiration in Aberystwyth English (?)



Mechanical Means: Preaspiration in Aberystwyth English (?)



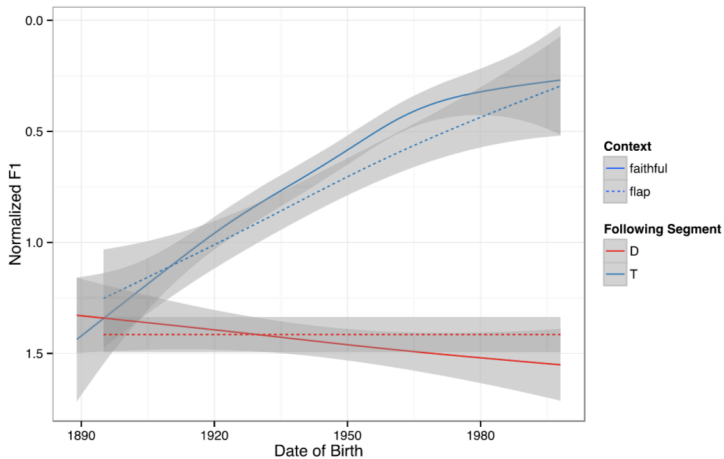
Spontaneous Phonologization

Scenario proposed by (??)

- Speakers **spontaneously** create an allophone without any phonetic motivation.
 - Allophonic categories emerge in individual speakers' grammars before any phonetic motivation

Spontaneous Phonologization:

PRICE-raising in Philadelphia English (Fruehwald 2013)



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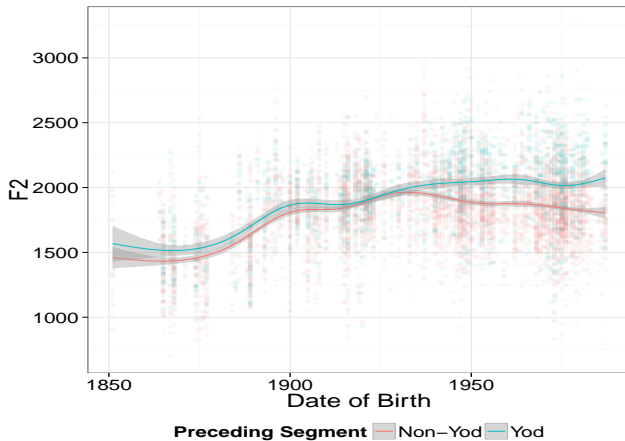
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 - Different from (??) because phonetics still play a role

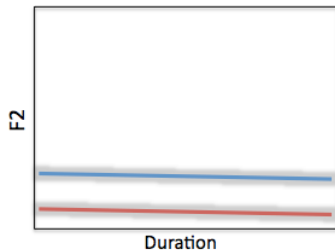
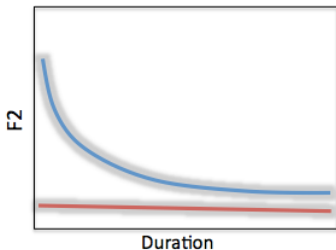
Phonological Specialization:

GOOSE-NEW split in New Zealand English (Seyfarth and Sneller 2014)



Effect of duration: coarticulation vs. allophony

- If a difference in acoustic output is caused by coarticulation rather than allophony, then the difference will be bigger for shorter tokens
- If the difference is caused by allophony, then long and short tokens will all show a difference



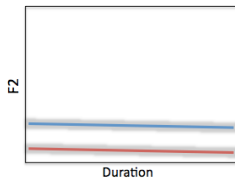
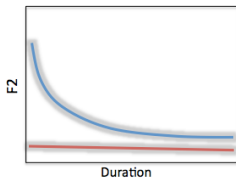
Effect of duration: Mechanical means

Mechanical means

- Because the allophonic split is the result of accruing phonetic effects, we should see an effect of duration for most speakers, until a reanalysis has been made

Effect of duration: Mechanical means

Mechanical means



Effect of duration: Spontaneous phonologization

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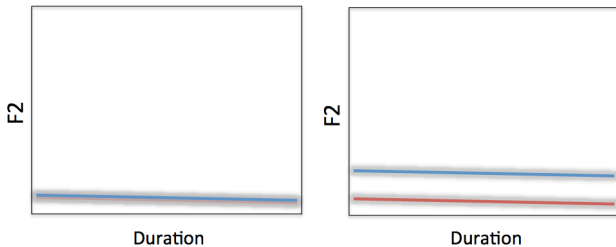
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- Because there is no phonetic effect that precedes the phonological effect, we should see no effect of duration at any time
 1. Speakers with one category show no coarticulation (no difference to be found)
 2. Speakers with two categories show two phonological categories (no effect of duration)

Effect of duration: Spontaneous phonologization

Spontaneous phonologization



Effect of duration: Phonological specialization

Phonological specialization

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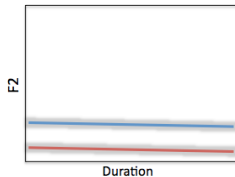
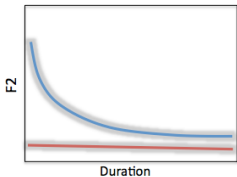
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- and younger speakers with two distinct categories for tokens of all duration

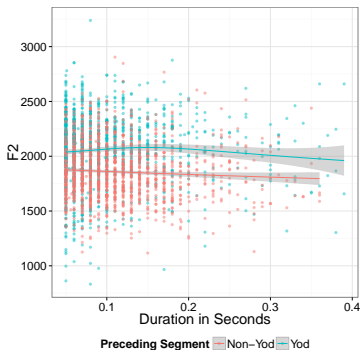
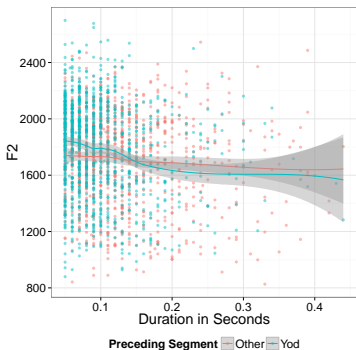
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Effect of duration: Phonological specialization

Phonological specialization in New Zealand English



Rate of change: coarticulation

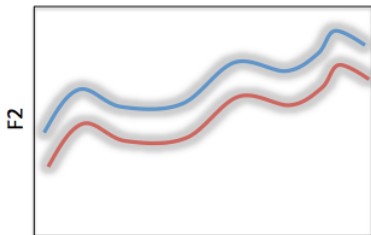
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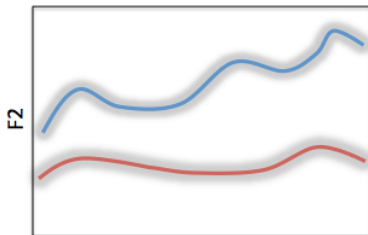
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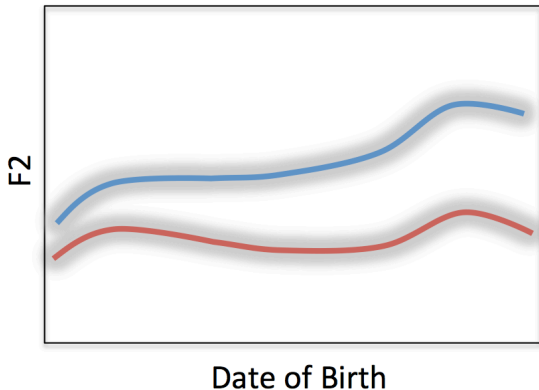
Rate of change: Mechanical means

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- Because the allophonic split is the result of accruing phonetic effects, we should see a gradual drift in the two variables

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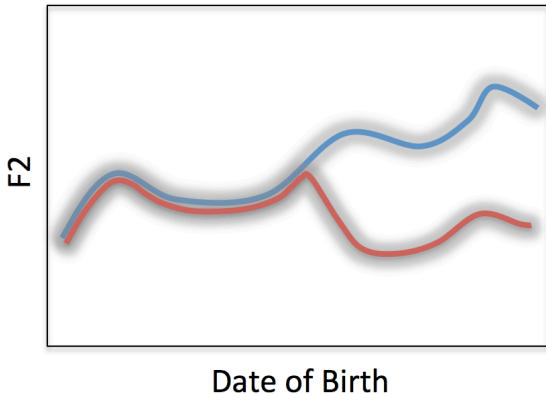
Rate of change: Spontaneous phonologization

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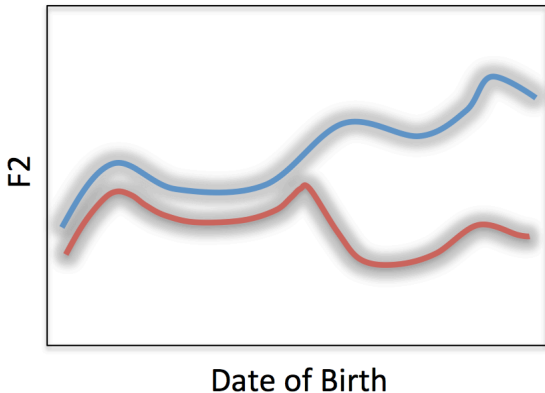
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- Because the allophonic split occurs suddenly, we should see both variables in lock step until the community spontaneously creates a new category
- However, we may still see an effect of coarticulation for the early speakers

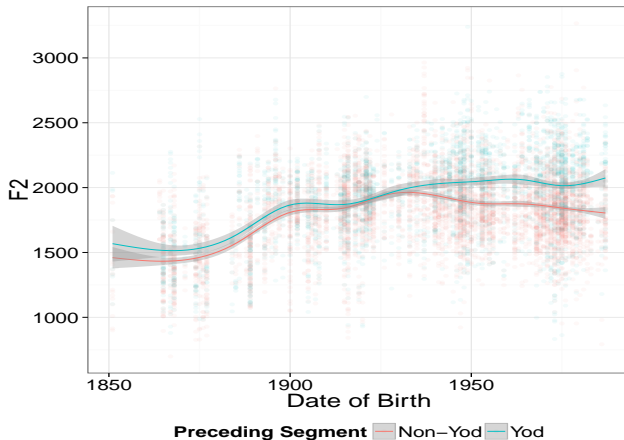
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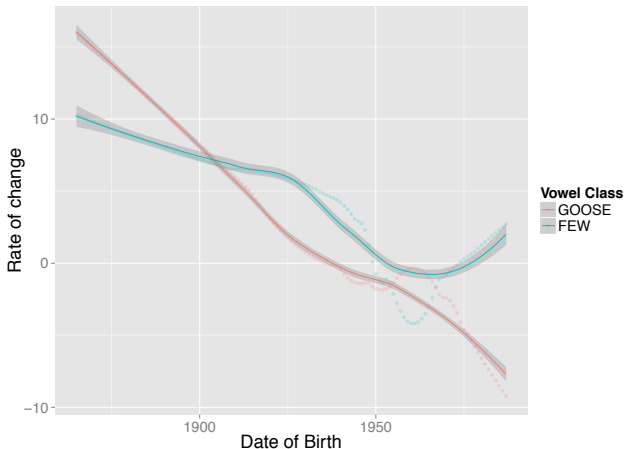
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Phonological specialization in New Zealand English /u/-fronting



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 - Duration and ROC are good metrics for vocalic and consonantal change
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- Questions going further: how does allophone emergence relate to phoneme emergence?

References I

Thank you!