The apple doesn’t fall far from the tree: Incremental change in Philadelphia families

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Outline

• Introduction

• Short-a systems

• Low back merger

• Discussion
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• Discussion
Parents vs. Peers

- Children initially acquire the vocalic system of their parents, but change to match peer input before adolescence (Payne 1980, Johnson 2010).
- Children’s systems can be projections of their parents’ systems (Sankoff 2008).
Higher Education

• Higher education affects individual language use (DeDecker 2006).

• Type of college attended affects whether local norms are maintained (Prichard & Tamminga 2012).
• How does the initial (parental) pattern acquired affect the transition to new (peer) grammatical systems?

• We examine parent-to-child transmission of the short-a system and low back merger in Philadelphia using the families of 3 undergraduate women at the University of Pennsylvania.
Variables

• Philadelphia short-a system
  – Recent work in Philadelphia describes a shift in the phonology of the short-a system: some native Philadelphia college students are abandoning the local split system in favor of the more geographically-widespread nasal system (Labov et al. 2013)

• Low-back distinction
  – Previous work has also noted a parallel weakening of the low-back vowel distinction (Prichard and Tamminga 2012).
Methods

• Data
  – IHELP (the Influence of Higher Education on Local Phonology)
    • Interview: modules on social networks, growing up in Philly, transition to college
    • Formal methods: semantic differential, wordlist, and minimal pairs conducted by trained interviewers.
  – 2,632 tokens were automatically extracted using the FAVE suite (Rosenfelder et al. 2014).

• Analysis
  – Pillai score
The Lyons Family

- Penn interviewer: Christine, age 20
- Dad: Antonio, age 55
- Mom: Theresa, age 55
- Brother: John, age 22
- Brother: Rocco, age 15

- Irish/Italian American
The Vos Family

• Penn interviewer: Percia, age 19
• Dad: Harry, age 53
• Brother: Nate, age 10

• Jewish/Persian American
The Chase Family

• Penn interviewer: Athena, age 18
• Mom: Farrah, age 41
• Sister: Fabiola, age 15
• Sister: Danielle, age 14

• African American
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Traditional Philadelphia Short-a System

- Split between tense (aeh) and lax (ae)

<table>
<thead>
<tr>
<th>TENSE</th>
<th>LAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tautosyllabic /n/ or /m/ MAN, SPAN</td>
<td>Intervocalic nasals FAMILY, PLANET</td>
</tr>
<tr>
<td>Tautosyllabic voiceless fricative PASS</td>
<td>Word initial and learned tautosyllabic voiceless fricatives ASPIRIN, ALAS</td>
</tr>
<tr>
<td>Lexical Items BAD, MAD, GLAD</td>
<td>Elsewhere SAD</td>
</tr>
</tbody>
</table>
Nasal Short-a System

- Split between tense (aeh) and lax (ae)

<table>
<thead>
<tr>
<th>TENSE</th>
<th>LAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before ALL nasals</td>
<td>Elsewhere</td>
</tr>
<tr>
<td>HAND, PLANET*, BANG*</td>
<td>PASS*, MAD*, HALF*, CLASSIC,</td>
</tr>
</tbody>
</table>
AAVE Short-a System

- Neutralized system
Lyons family
Lyons family – parents

- Strong Philadelphia system

Pillai Philadelphia = 0.74
Pillai Nasal = 0.12

Pillai Philadelphia = 0.62
Pillai Nasal = 0.11
Lyons children – John (age 22)

Pillai Philadelphia = 0.51  
Pillai Nasal = 0.06
Lyons children – Rocco (age 15)

Pillai Philadelphia = 0.45

Pillai Nasal = 0.15
Lyons children – Christine (age 20)

Pillai Philadelphia = 0.33

Pillai Nasal = 0.26
Lyons family – (ae)

- Parents give strong system as input
- Children have either weak system or strong system

National University  Regional University  Catholic High School
Vos family
Vos family – Dad

Pillai Philadelphia = 0.29

Pillai Nasal = 0.20
Vos children – Nate (age 10)

Pillai Philadelphia = 0.06
Pillai Nasal = 0.73
Vos children – Percia (age 19)

Normalized F1 vs. Normalized F2

Pillai Philadelphia = 0.02

Pillai Nasal = 0.68
Vos family – (ae)

- Parents give weakened system as input
- Children have nasal system
Chase family
Chase family - Mom

- Neutralized system
Chase children – Fabiola (age 15)

Pillai Philadelphia = 0.11

Pillai Nasal = 0.12
Chase children – Danielle (age 14)

Pillai Philadelphia = 0.03

Pillai Nasal = 0.06
Chase children – Athena (age 18)

Pillai Philadelphia = 0.01  
Pillai Nasal = 0.68
Chase family – (ae)

- Parents give neutral system as input
- Children have neutral system or nasal system
3-step change of (ae) system

Attested:
- strong $\rightarrow$ weak
- weak $\rightarrow$ nasal
- neutral $\rightarrow$ nasal

NOT attested:
- strong $\rightarrow$ nasal

Conclusion:
- strong $\rightarrow$ weak $\rightarrow$ nasal
- neutral $\rightarrow$ nasal
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Low back merger

- Philadelphia traditionally maintains the phonemic distinction between LOT (o) and THOUGHT (oh)
Lyons – united in metalinguistic judgment of cot/caught and hawk/hock pairs

- Antonio (dad)
- Theresa (mom)
- John (son)
- Rocco (son)
- Christine (Penn daughter)
Vos – generational change?

- Harry (dad)
- Nate (son)
- Percia (Penn daughter)
  - *Not recorded, but judged pairs as “same”*
Vos Dad

Normalized F2
Normalized F1

Vowel
- o
- oh

Percia
N Vos

0.67
0.30
0.23

Vowel
- o
- oh
Chase – united in metalinguistic judgment

- Farrah (mom)
- Fabiola (daughter)
- Danielle (daughter)
- Athena (Penn daughter)
Chase Mom produces and identifies a difference in caught/cot and hawk/hock
3-stage development of merger?

• Strong → weak → ...merged?

• So far only “weak” stage attested:
  – Percia & Nate don’t identify a difference, but produce slight differences
    – Labov et al. 2006 found that perception often leads production in the low-back merger
  – Athena perceives a difference but has inconsistent production and lower (oh)
    – Phonetic correction away from stigmatized variant?
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Short-\textit{a} and low-back parallels?

Not really. Short-\textit{a} seems to be changing between generations in identifiable steps, but the low-back change is more gradient.

Is that the result of:

- (a): different peer influence (peers are doing different things with these variables)
- (b): a deeper difference between the way that phonemic collapse happens vs. allophonic restructuring?
Conclusions

• Input from parents is important: social aspirations / higher education can only work with what children have been given – to push them toward the new system but not past a certain threshold

• Input from peers is also important: children will not move away from their parents’ system unless socially-motivated (see Lyons kids)


Thanks!

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Percent Secondary stress of Future Marker *bai*
by adults and children in Tok Pisin, 1971
(Children connected with respective parents)

![Graph showing frequency of secondary stress on BAI for children and adults.](image)

Regression Line, $R^2 = .57$