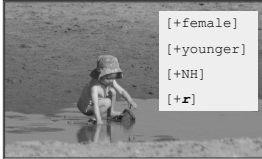



[-female]  
[-younger]  
[-NH]  
[-r]



[+female]  
[+younger]  
[+NH]  
[+r]

### Boston R: Neighbo(r)s Nea(r) and Fa(r)

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with much contributed by  
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### Outline of talk

- Production of post-vocalic (R)
- Two options: Transmission/diffusion** dichotomy (Labov 2007)
- ~11,000 tokens & Multivariate analysis confirms that (R) is undergoing change, BUT
  - not a straight-forward pattern of inter-generational transmission,
  - not diffusion, which entails simplification
  - the change toward rhoticity has progressed further in NH than in Boston, suggesting dis-accommodation by NH speakers
  - replicating findings reported for vowel mergers (Nagy 2001)
- A third option: Speech Accomodation Theory** (Niedzielski & Giles 1996)
- Also highlights that we need a method of quantifying how similar two grammars are
  - stay tuned for *Heritage Language Variation & Change* results
  - [http://individual.utoronto.ca/ngn/research/heritage\\_lgs.htm](http://individual.utoronto.ca/ngn/research/heritage_lgs.htm)

2

### Transmission

- Family tree model
- change from within the dialect
- kids & acquisition
- incrementation
- change continues in same direction



### Diffusion

Labov 2007 (Language 83)

- Wave model
- contact between dialects (when people move)
- adults & learning
- simplification
- change may flip-flop

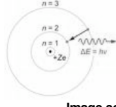





Image sources:  
commons.wikimedia.org  
aalexjacob.blogspot.com  
en.wikipedia.org/?title=Photons

3

### Settlement and r-lessness

a Kurath mash-up




<input type="checkbox"/>	Traditional r-less region (Kurath & McDavid 1961)
<input type="checkbox"/>	Settled (by English speakers) before 1675
<input type="checkbox"/>	Settled by 1725
<input type="checkbox"/>	Settled by 1750 (Lenney 2003:6, based on Kurath 1939-43 map)

### Dependent variable: Coda r

- caR and carRd
- 2 variants
  - constricted ([ɹ]) = [r-1]
  - vocalized (∅ or [ə] or [a:]) = [r-0]

$$\begin{array}{c} \sigma \\ / \quad \backslash \\ V \quad (r) \quad (C_0^2) \end{array}$$




5

### Phono-morphological contexts

		Following segment is in the ....			Following segment
		Same morpheme	Same syllable	Same word	
Non-linking contexts (Deletion)					
often favor [r-1]	1 cart	✓	✓	✓	C
	2 carton	✓		✓	C
	3 cars		✓	✓	C
	4 cartlike			✓	C
	5 car goes	← disfavors [r-1] most			C
favor [r-1] most (no syllabification problems)	6 car.				pause
	Linking context (Insertion?)				
	v car is				V

6


## Methods



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## Speakers

- 3 towns
- 2 ethnicities
  - White (W)
  - African American (AA)
- 55 speakers
  - Boston W (24)
  - Boston AA (15)
  - Manchester, NH (all W) (8)
  - Dover, NH (all W) (8)



Thanks, Jim Wood!


**ANAE Map 16.1:**  
r-vocalization in Eastern New England

Atlas of North American English  
Labov, W., Ash, S., & Boberg, C. (2006). Atlas of North American English. Paris: Mouton de Gruyter.

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## Data collection & analysis

- 3-page reading passage
  - "Blizzard of '78"
  - 224 words with post-vocalic /r/
  - Based on "real texts" from the WWW
- Auditory and acoustic analysis
- Multivariate analysis
  - Comparison within and across communities
  - Linguistic and social factors



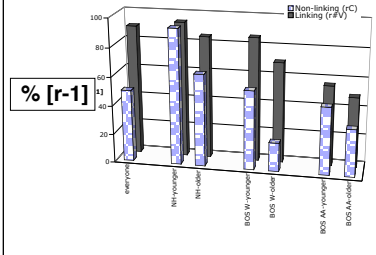
9

## Tokens

- Geographic & Ethnic distribution:
  - Boston (white): 4,959
  - Boston (African American): 3,216
  - Dover, NH (white): 1,599
  - Manchester, NH (white): 1,389
- Total N = 11,163 tokens

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## Results



Speaker Group	Non-linking (rC)	Linking (rV)
east young	~95	~95
NH young white	~95	~95
NH older white	~95	~95
BOS W young white	~95	~95
BOS W older white	~95	~95
BOS AA young white	~95	~95
BOS AA older white	~95	~95

- younger > older
- NH > Boston
- White > African-American
  - (except older speakers in non-linking environment)
- linking > non-linking  
(*car is*    *car goes*)

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## Intra- and inter-speaker variation

- Overall, 53% [r-1] (N = 11,163; Input = 0.56)
- No speaker was categorically r-ful
- No speaker was categorically r-less
  - The range:
    - Most [r]-ful speaker: 92% [r]
    - Least [r]-ful speaker: 5% [r]

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### Very variable

- No environment was categorically [r-1]
  - Not even stressed, linking environments

*"... part of the allure # of New England..."*
- No environment was categorically [r-0]
  - Not even unstressed, non-final, reduced environments
  - "wintertime"

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### Plan of discussion:

Many 2x comparisons of Factor Weights to see if we can interpret as Transmission or Diffusion

- Older vs. Younger
  - to see that there is a change in progress
- Sex, Education, Linguistic marketplace
  - to see that it's a change from above
- NH vs. Boston
  - to see that it's progressed further in NH
- Whites vs. African-Americans
  - to see differences between AAVE and White r-lessness
- Linking vs. Non-linking Environments
  - to see if it's 1 or 2 processes (Insertion & Deletion)
- Northern New England vs. other North American dialects
  - to see if the shared effects in NNE are universal
  - to see if there are common trends as this change progresses

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### Education effect:

More educated speakers: more [r-1]

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### Age effect

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### Multivariate comparisons

- The following arguments are based on Factor Weights (FW).
- FWs are computed to show the relative strength of each linguistic or social factor on the probability of (R) surfacing as [r-1] in a particular context.
- Factors are (putatively) independent of each other.

Factor

/

Sex

Female	.74
Male	.35

Constraint

/

Factor Weight

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### How do age & region interact?

Dividing the speakers by region and age group simultaneously, we can see that this is yet another case where young NH speakers are moving quickly to differentiate themselves from MA speakers.

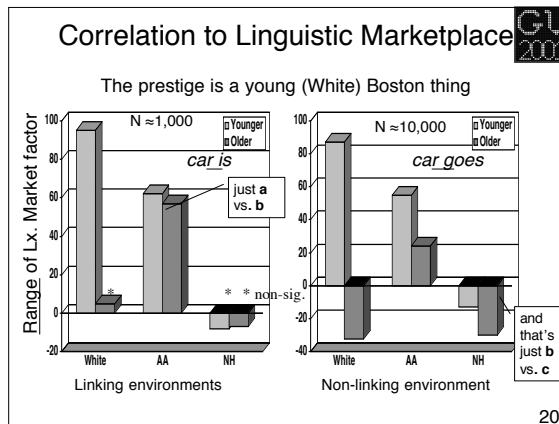
18



### Linguistic marketplace (a,b,c,d)

	Academic	Bureaucrat	Blue Collar	Developing/ Don't know
Female	7	9	8	8
Male	1	7	9	6

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## Back to the Transmission vs. Diffusion Question

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- ### Comparing Ages: Boston Whites
- Strongest factors
    - Younger
      - Linguistic Marketplace
      - Preceding Vowel
    - Older
      - Preceding Vowel
      - Age
  - Other differences
    - Frequency only sig. for younger speakers
- Different grammars:

  - No transmission
    - 2 different factors are significant
    - Factors are ordered quite differently
    - Within most factors, constraints are ordered differently
    - Overall rates differ
      - Younger 55%
      - Older 20%
- 22

- ### Comparing Ages: New Hampshire
- Strongest factors
    - Younger
      - Preceding Vowel
      - Lexical frequency
    - Older
      - Linguistic Marketplace
      - Preceding Vowel
  - Other differences
    - Frequency only sig. for younger
    - Lx. contexts rank differently
- Similar grammars ?:

  - Transmission ?
    - 2 different factors are significant
    - Factors are ordered quite differently
    - Within factors, constraints are ordered similarly
    - Overall rates differ
      - Younger 94%
      - Older 64%
- 23

- ### Comparing Ages: Boston African-Americans
- Strongest factors
    - Younger
      - Preceding Vowel
      - Age
    - Older
      - Age
      - Preceding Vowel
  - Other differences
    - Frequency only sig. for younger
- Similar grammars:

  - Transmission
    - Except frequency, same factors are significant
    - Factors are ordered similarly
    - Within factors, constraints are ordered the same
    - Overall rates differ a little
      - Younger 47%
      - Older 33%
- 24



### Comparing Ethnicities (Boston)

**Whites**

- Strongest factors
  - Younger
    - Linguistic Marketplace
    - Preceding Vowel
  - Older
    - Preceding Vowel
    - Age

**African-American**

- Strongest factors
  - Younger
    - Preceding Vowel
    - Age
  - Older
    - Age
    - Preceding Vowel

Similar grammars (comparing across similar ages):

- Same factors are significant
- Factors are ordered very similarly
- Within factors, constraints are ordered the same
- Overall rates differ
  - Whites 34%\*
  - AA 45%

\*Note: Skewing: More older speakers in White sample, more younger in AA sample

### Comparing Places (Whites)

**Boston**

- Strongest factors
  - Younger
    - Linguistic Marketplace
    - Preceding Vowel
  - Older
    - Preceding Vowel
    - Age

**NH**

- Strongest factors
  - Younger
    - Preceding Vowel
    - Lexical frequency
  - Older
    - Linguistic Marketplace (inverse corr.)
    - Preceding Vowel

Similar, not same, grammars (comparing across similar ages)

= Diffusion:

- Same factors are significant
- Factors are ordered differently
- Within factors, constraints are ordered the same, except context
- Overall rates differ! Boston 34% NH 86%

### Comparing Linking & Non-linking environments

Ranking of factors

<p><b>Linking</b> <i>car is</i></p> <p>Town</p> <p>Linguistic Marketplace</p> <p>Preceding Vowel</p> <p>Lexical Frequency</p> <p>Age</p> <p>Sex (not significant)</p>	<p><b>Non-Linking</b> <i>car goes</i></p> <p>Town</p> <p>Age</p> <p>Preceding Vowel</p> <p>Linguistic Marketplace</p> <p>(Context) *not relevant for linking</p> <p>Lexical Frequency</p> <p>Sex</p>
---	--

### Frequency effects in 2 contexts

AMERICAN NATIONAL CORPUS

**Linking**

FW for [r-1] (all speakers)

**Non-linking**

FW for [r-1] (all speakers)

As predicted...

Rare <100, <1,000, <10,000, <100,000, >100,000, Common

### Comparing Linking & Non-linking environments

- Lexical Frequency has a stronger/more orderly effect in the non-linking environments.
- Why is this difference important?
  - Lexical frequency is claimed to affect lenition (e.g., deletion) processes but not others (Phillips 1984, Dinkin 2008, Abramowicz 2007)

### Summary: Many 2x comparisons

- Age**
  - change in progress, but not simple incrementation
- Place**
  - progressed further in NH
  - patterns differ in each place
  - Not transmitted geographically
- Ethnicity:** Whites vs. African-Americans
  - no difference between White and AA
  - Transmission within the City
- Prestige:** Higher vs. Lower Linguistic Marketplace / Education
  - [r-1] is prestigious for younger Boston speakers (only)
  - the increase in [r-1] is a change from above (against Transmission)
- Context:** Linking vs. Non-linking Environments
  - Age & Sex only sig. in the Non-linking (deletion) context
  - Lexical Frequency only sig. in the Non-linking context
  - "Simplification" of effects in the Linking context (only)
  - "Simplification" supports a Diffusion account (or it might just be too little data)



## Transmission or Diffusion?

	For	Against
Transmission	Incrementation in all subsectors	Change from above
Diffusion	Different patterns of effects in different places and ages	Increasing complexity for younger speakers (effect of Lexical Frequency)

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Speech Accommodation Theory  
(Giles 1973)

- Convergence and **Divergence** of Individual Speaker
- Response to Addressee & Audience
- A paradigm that attends to:
  1. social consequences (**attitudinal**, attributional, behavioral, communicative)
  2. **ideological** and macro-societal factors
  3. intergroup variables & processes
  4. discursive practices in naturalistic settings
  5. **individual life span and group-language shifts**  
(Giles, Coupland & Coupland 1991:4, cited in Niedzielski & Giles 1996)
- (Welsh, Flemish, Fijian) **speakers shown to diverge from a group they don't like/approve of** (reported in Niedz. & Giles 1996:336)

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## Thank you

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