The changing state of the New England dialect: The case of southeastern New Hampshire

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Background

- Traditional New England dialect features appear to be dissipating among younger New Hampshire speakers (Stanford et al 2012, among others)
- Contemporary research is incomplete
  - New Hampshire not well represented in Atlas of North American English (Labov, Ash, Boberg 2005)
  - Localized studies varied in areas covered and methods used (Stanford et al 2012, 2014; Madan 2010; Nagy 2001; Nagy & Irwin 2010)
    - Not all variables were acoustically analyzed in all areas of New Hampshire

Research Question

Are the traditional New England features receding among younger speakers in southeastern New Hampshire?

Traditional New England Variables

Variable	IPA	Example Words
FATHER-LOT distinction	FATHER [ɑ]	FATHER: *father, palm, ma*
	LOT [ɑ]	LOT: *lot, cot, bother*
START-LOT distinction	START [ɑ]	START: *start, farm, barn*
	LOT [ɑ]	LOT: *lot, cot, bother*
HORSE-HOARSE distinction	HORSE [ɔ]	HORSE: *horse, for, forty*
	HOARSE [o]	HOARSE: *hoarse, four, sports*
MARY-MARRY-MERRY distinction	MARY [e]	MARY: *Mary, scary*
	MARRY [æ]	MARRY: *marry, Larry*
	MERRY [ɛ]	MERRY: *merry, cherry*
non-rhoticity	absence of [ɹ]	*park, start, yard*
BATH-TRAP distinction	BATH [ɑ]	BATH: *bath, pass, aunt*
	TRAP [æ]	TRAP: *trap, gas, ant*

Methods

Speakers (26)

- 12 females, 14 males
- Southeastern New Hampshire
- Born after 1970

Tokens

- Data come from word list, reading passage, read sentences
- All tasks pooled together

Acoustic Measures

- Measured F1, F2, and duration for each of the vowels involved in the distinctions above
- Preceding and following formant transitions included in vowel
- 50% time point used to plot midpoint vowels and measure merger

Measuring Merger

- **Spectral Overlap Assessment Metric (SOAM)** (Wassink 1999, 2006)
  - Advantageously uses both spectral and temporal measurements simultaneously to calculate overlap (Nycz & Hall-Lew 2015)
  - Provides an *overlap fraction* (Ω) that represents the extent of overlap of two vowel distributions in two dimensions (F1 x F2) and three dimensions (F1 x F2 x duration)
  - Categorical cutoff points (Wassink 2015):
    - No overlap (0 – 0.25)
    - Partial overlap (0.5 – 0.75)
    - Complete overlap (≥ 0.75)

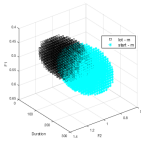
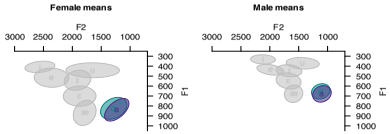


Figure: SOAM 3D Ellipsoids for male speaker productions of START and LOT (partial overlap, Ω = 0.56)

Results

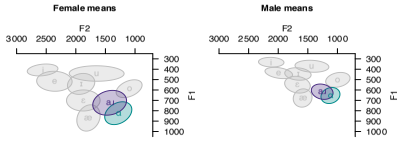
FATHER-LOT



Females		Males	
SOAM 2D	SOAM 3D	SOAM 2D	SOAM 3D
0.82	0.85	0.88	0.85

Complete overlap in 2D and 3D for females and males.

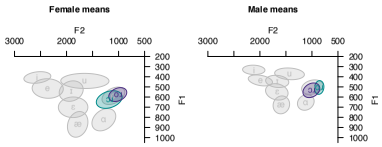
START-LOT



Females		Males	
SOAM 2D	SOAM 3D	SOAM 2D	SOAM 3D
0.56	0.30	0.59	0.56

Partial overlap in 2D and 3D for females and males.

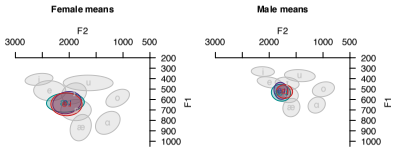
HORSE-HOARSE



Females		Males	
SOAM 2D	SOAM 3D	SOAM 2D	SOAM 3D
0.64	0.52	0.60	0.41

Partial overlap in 2D and 3D for females and males.

MARY-MARRY-MERRY



	Females		Males	
	SOAM 2D	SOAM 3D	SOAM 2D	SOAM 3D
MARY-MARRY	0.92	0.86	0.92	0.72
MARY-MERRY	0.96	0.89	0.72	0.67
MARRY-MERRY	0.89	0.87	0.95	0.68

Gender-specific patterns (see discussion

Discussion

- Traditional New England variables are **receding** among younger southeastern New Hampshirites at different rates.
  - FATHER-LOT demonstrate complete overlap regardless of gender
  - START-LOT and HORSE-HOARSE demonstrate partial overlap, regardless of gender.
  - MARY-MARRY-MERRY demonstrates gender-specific patterns:
    - Females: Complete overlap for females 2D and 3D for all pairings.
    - Males: Complete overlap in 2D for MARY-MARRY and MARRY-MERRY. Partial overlap for MARY-MERRY in 2D. Partial overlap in all 3D parings. Duration plays a role in maintaining some distinction for males.
    - Without use of SOAM, the temporal distinction maintained by males would have been missed.

9th Annual Meeting of the Northwest Phonetics and Phonology Conference (NWPhon), the University of British Columbia, May 19 – 21, 2017

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