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 dissolving among younger New Hampshire speakers (Stanford et al. 2012, among others).
- Contemporary research is incomplete.
- 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?

Methods

Measuring Merger

- Spectral Overlap Assessment Metric (SOAM) (Meuse 1998, 2006)
  - Advantageously uses both spectral and temporal measurements simultaneously to calculate overlap (r & s in 2013).
  - Provides an overlap function (0-1) 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 (r=0, s=0.25)
    - No overlap (0 – 0.25)
    - Partial overlap (0.25 – 0.75)
    - Complete overlap (0.75 – 1.0)

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

Results

- **FATHER-LOT**
  - Complete overlap in 2D and 3D for females and males.

- **START-LOT**
  - Partial overlap in 2D and 3D for females and males.

- **HORSE-HOARSE**
  - Complete overlap in 2D and 3D for females and males.

- **MARY-MARRY**
  - Complete overlap in 2D for MARY and MARRY.

Discussion
- Traditional New England variables appear to be receding among younger southeastern New Hampshireites at different rates.
  - **FATHER-LOT** demonstrate complete overlap regardless of gender.
  - **START-LOT** and **HORSE-HOARSE** demonstrate partial overlap, regardless of gender.
  - **MARY-MARRY** 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-MARY. Partial overlap for MARY-MARRY in 2D. Partial overlap in all 3D pairings. Duration plays a role in maintaining some distinction for males.
    - Without use of SOAM, the temporal distinction maintained by males would have been missed.

Figure: SOAM 3D Ellipses for male speaker productions of **START-LOT** (partial overlap, D = 0.58)