

# Rising Pitch Accent Realization in Appalachia



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# Introduction



- Recognized a fellow Appalachian by speech
  - What was it that I noticed?
- Was this a feature of Appalachian English?
  - If so, was it distinct? How stable is it?
- Appalachian English has been shown to be a divergent variety in many aspects, could this be another?

# Appalachia

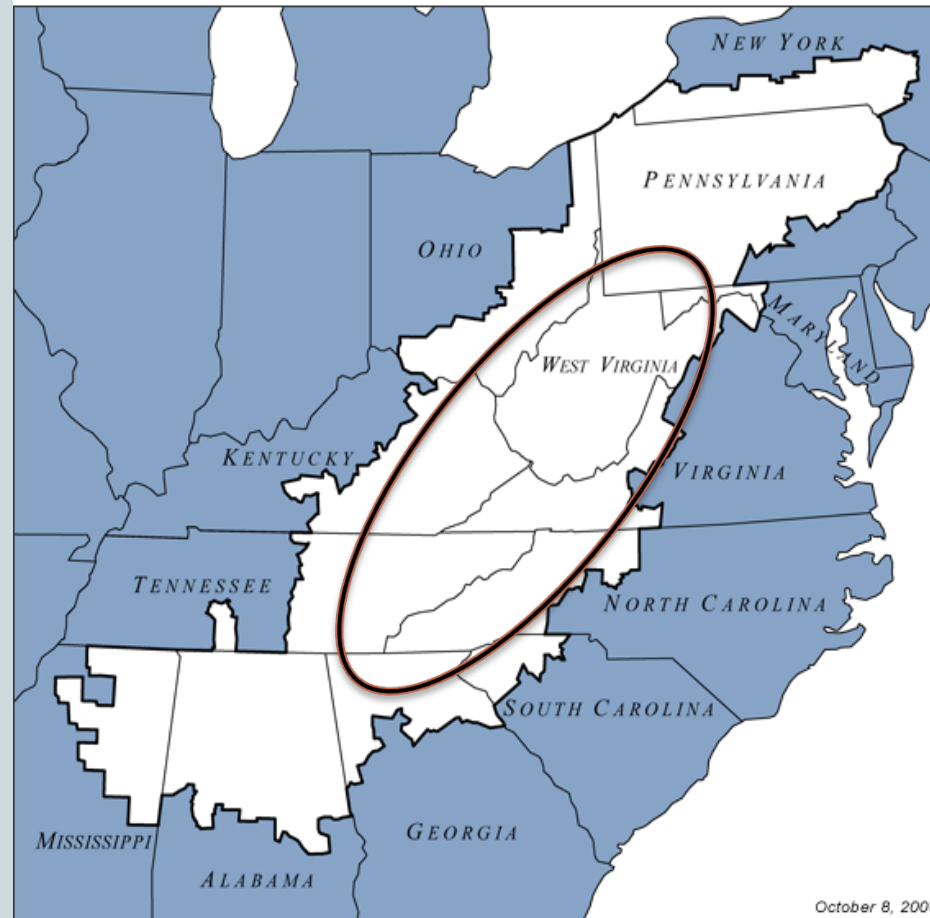


- The mountainous region that stretches from roughly North Georgia to Pennsylvania
  - The Appalachian Regional Commission (ARC) has a different demarcation of where Appalachia is. However, this is based on both geography and social indexes (poverty mainly).
- When I am referring to Appalachia, I am referring to the core, the cognitive map region identified as Appalachia by both outsiders and natives (Raitz and Ulack 1981)

# Appalachia



*The Appalachian Region*



Source: Appalachian Regional Commission

# Appalachian English (AppEng)



- Has been called one of the most divergent, but least studied varieties of American English (Wolfram and Christian 1976)
  - However, this is changing
- Widely recognized as a distinct variety
  - Kephart (1922), Berry (1940), Hall (1942), Wise (1957), Wolfram and Christian (1976), Williams (1992), LAGS, Montgomery and Hall (2006), Irons (2007), Greene (2010), among others
- Differs in phonology and morphosyntax
  - E.g. /ay/ monophthongization, *a*-prefixing, etc.

# Intonation



- Botinis (2000) ‘Intonation is the most characteristic vocal means for communicating paralinguistic and indexical information’ (2)
  - But, there is a paucity of sociolinguistic attention paid to intonation in American English as a whole, and practically none on Appalachia
- In other languages and parts of the world, more attention has been devoted
  - E.g. Atterer and Ladd (2004), Kugler (2004) – German, Grice et al. (2005) – Italian, Grabe (2004) and Grabe et al. (2000), Ladd et al. (2009) – British English, among many others

# Intonation Variation in American English



- Arvaniti and Garding (2007)
  - Minnesota and California Speakers may have different tonal inventories
    - ✦ Minnesota speakers may lack a distinction between L+H\* and H\*
  - California speakers had later alignment of H tones in general
- Clopper and Smiljanic (2011)
  - Gender and Dialect were factors in differences between Midland and Southern
    - ✦ Females used more L\*+H, Southern females used more H- (intermediate phrase) than Midland females

# Lay Ideas of Intonational Variation in Appalachia



- **Williams (1992)**
  - ‘forming the rhythmic patterns of the speech of the people of the Southern mountains are low intonations [and] leisurely pace’ (17).
  - The low intonations have to be contrasted with high
- While completely based on his intuitions, but it is interesting that he finds this to be a feature of Southern Mountain speech (the title of his book)



# Intonation Variation in Appalachia



- **Greene (2006)**
  - Pitch accent realization in Appalachian English
- **No evidence for L\*+H**
  - However, she was using conversational data, so less chance for emphatic speech
- **AppEng speakers used more L+H\* than Southern or Mainstream American English speakers**
  - This pitch has been associated with emphasis, but Greene did not find that her respondents were being more emphatic
  - However, she didn't investigate the phonetic realization of this rising pitch

# Current Study and Research Questions



- Preliminary Pilot Study into the phonetic realization of rising pitch (L+H\* and L\*+H)
- Compare AppEng with General Southern
  - Do AppEng speakers use more L+H\*?
  - Is there evidence for L\*+H?
- Is there a difference in the anchoring of pitch?

# Current Study



- **4 female AppEng Speakers**
  - All from northern East Tennessee
  - College Educated
  - Age range – 31-85
  
- **4 Southern English Speakers**
  - From the Nationwide Speech Project (Clopper and Pisoni 2006)
  - College students from KY (not the Appalachian region) and TX
  - All 18

# Methodology

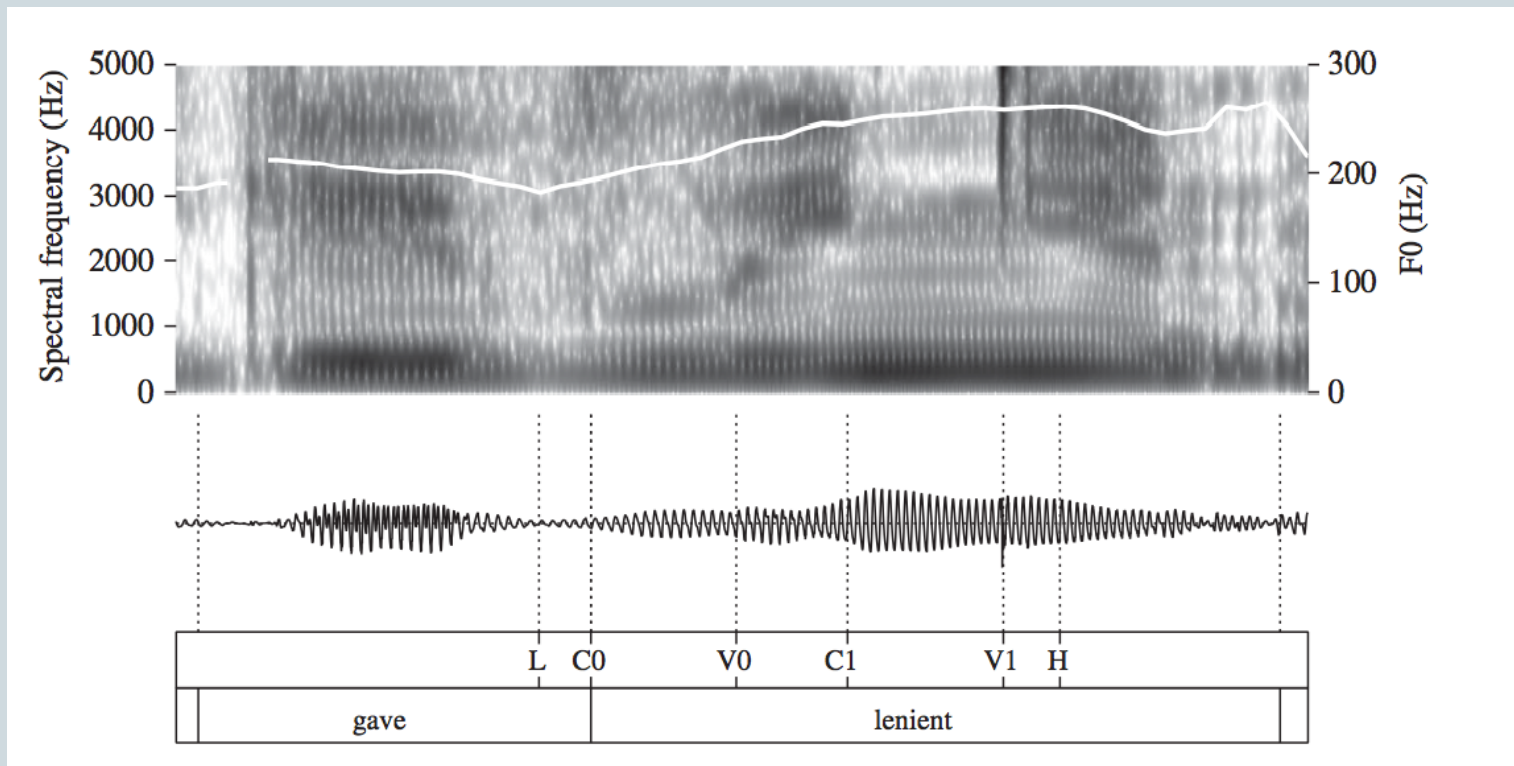


- I wanted to be comparable to Greene (2006), so I used a very similar methodology
- 1-2 minute section of speech from the middle of the interview section
  - 70 pitch accents
- ToBI Labeling (Beckman and Ayers 1997)
- Counted the incidence of pitch accents
- Used adapted methodology from Thomas (2011) and Ladd et al. (2009) for pitch anchoring
  - Pitch Accent Onset (to have all positive numbers)

# Methodology con't



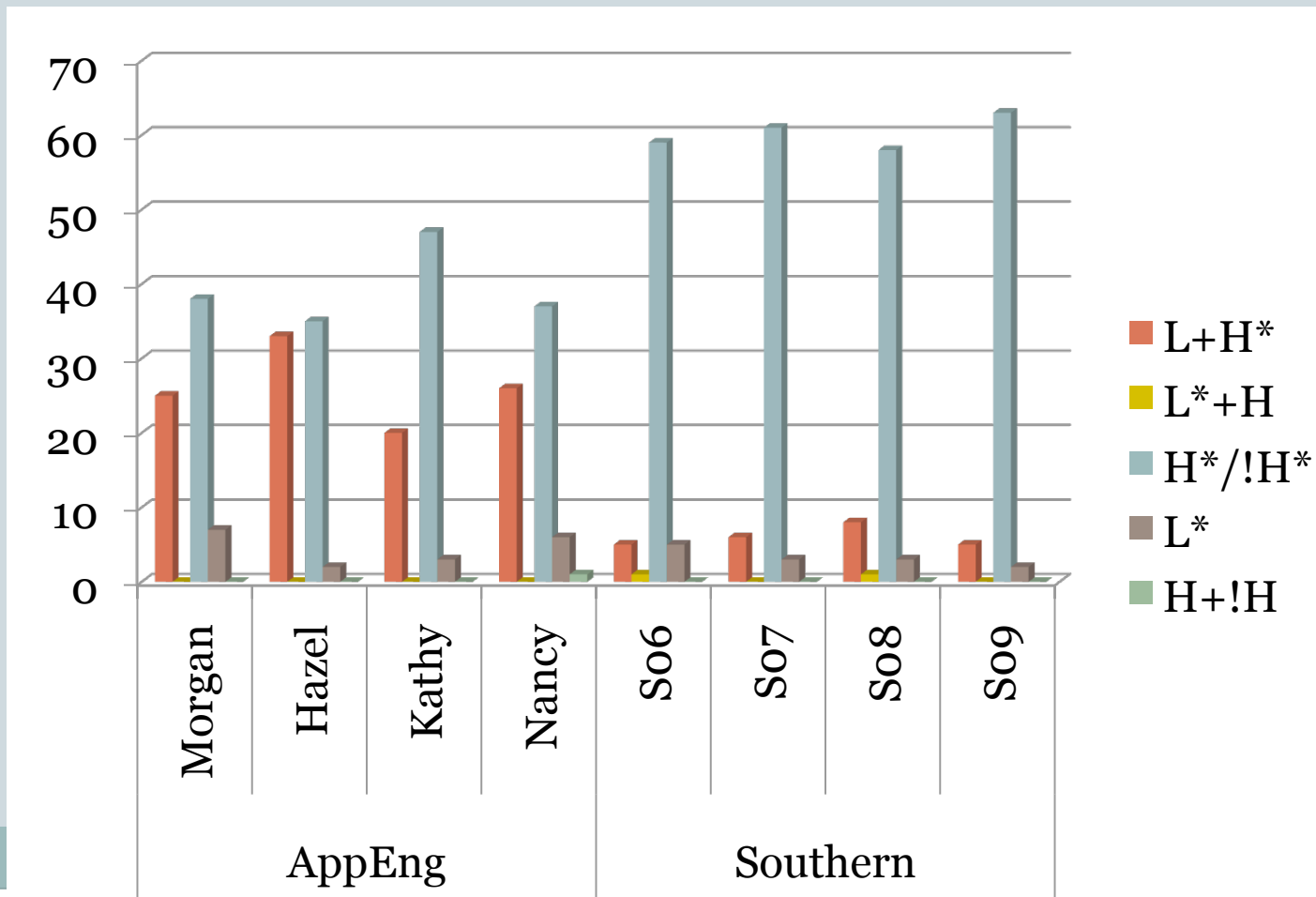
- Example from Ladd et al. (2009)



# Results



- Pitch Accent Distribution



# Distribution Results



- The AppEng speakers used L+H\* at a greater rate than the Southern speakers
  - Chi-Square Results
    - ✦  $\chi^2 = 299.175, p = <.0001$
- This adds support to Greene's claim that AppEng uses more L+H\* than Southern English

# Pitch Accent Anchoring Results



- The AppEng speakers had an average PA-Onset of 23ms
- Southern speakers had an average PA-Onset of 14.5ms
- $t$ -test results =  $t(182)=10.1978$ ,  $p<.0001$



# Conclusions



- AppEng speakers from this small sample used L+H\* at a greater rate than Southern speakers
- AppEng had a later PA-Onset
- This suggests that AppEng has a slightly different pragmatic usage of L+H\*
  - Considered an emphatic pitch accent, but like Greene (2006), these speakers weren't using an inordinate amount of emphasis
- These results also suggest that AppEng realizes this rising pitch slightly differently

# Future Directions



- **More speakers and more speech from each speaker**
  - This was an extremely small sample from roughly 1-2 minutes of speech, and the conclusions are tentative.
- **Controlling for vowel length and syllable**
  - Ladd et al. (2009) found vowel length changed PA anchoring
  - Kugler (2004) found syllable structure (vowel duration and whether or not there was a coda) to be important
- **Excursion and scaling**
- **Perception of this**
  - Was my experience from the opening anecdote generalizable?

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# Thank you!



- Questions? Comments?
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