

Mountain Intonation: Using Pitch in Appalachian Englishes

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What is linguistics?

- ▶ The scientific study of language
 - ▶ This means we look for the system behind language
 - ▶ Not the do's and the don'ts, rather the why
- ▶ Sociolinguistics is my specialty
 - ▶ We convey social information about ourselves with language
 - ▶ Thus, sociolinguistics studies how speakers express social information with their language

Sociophonetics

In particular, I am a sociophonetician. There are two parts to this:

- ▶ Phonetics
 - ▶ This is the study of sounds, how they are produced, how they travel through a medium, and how they are interpreted
- ▶ Socio
 - ▶ This refers back to the social information
- ▶ Sociophonetics
 - ▶ This is the study of how speakers express social information phonetically

Introduction

- ▶ This paper presents an introduction to the uses of intonation in Appalachian English (AE), demonstrating that pitch accent use is a defining feature of the variety.
- ▶ I also show that the use of intonation by speakers of AE can reflect their local attachment (rootedness) to the region.
- ▶ Preliminary results suggest that AE speakers have a later pitch alignment and a larger pitch change, and those AE speakers with the latest alignment and a greater change are more 'rooted'

Some quotes to keep in mind...

- ▶ 'Let us come now to the highlands – a land of promise, a land of romance, and a land about which, perhaps, more things are known that are not true than of any part of the country'
(Campbell, 1921, xxi)
- ▶ 'Two defining stereotypes are lodged in the American mind: the Appalachian mountaineer, noble and stalwart, rugged and independent, master or mistress of the highlands environment, and the profligate hillbilly, amusing but often also threatening, defined by a deviance and aberration, a victim of cultural and economic deprivation attributable to mountain geography'
(Williams, 2002, 17)

Why Appalachia?

- ▶ First off, I'm from here!
- ▶ Many scholars have investigated the region, and its language varieties are considered some of the more divergent in the US (Wolfram and Christian, 1976; Labov et al., 2006; Montgomery and Hall, 2004; Greene, 2006, 2010, among many others)

Why intonation?

- ▶ I recognized a fellow Appalachian by speech alone, specifically intonation
- ▶ Botinis (2000) writes 'Intonation is the most characteristic vocal means for communicating paralinguistic and indexical information' (2)
- ▶ 'The array of structured variation available to an individual, coupled with other factors such as ideology... can be seen as a rich resource from which the individual can choose elements in order to project their identity and achieve particular communicative goals' (Foulkes et al., 2010, 717)

Overview

The current study uses sociolinguistic interviews to analyze the intonation (the change in pitch over a sentence) of Appalachian English (AE) speakers from Upper East Tennessee, and compares this intonation to other Southern varieties and Mainstream American English.



Background Literature

- ▶ There is a paucity of sociolinguistic attention paid to intonation in American English as a whole, and this is especially true for Appalachia.
- ▶ For other languages and parts of the world, more attention has been devoted
 - ▶ Atterer and Ladd (2004) and Kügler (2004): regional variation in German
 - ▶ Grice et al. (2005): differences in northern vs. southern varieties of Italian
 - ▶ Grabe et al. (2000), Grabe (2004), and Ladd et al. (2009): regional differences among British English varieties
- ▶ There have been a few studies in the US
 - ▶ Arvaniti and Garding (2007): differences between CA and MN
 - ▶ Clopper and Smiljanic (2011): variation in Midland and Southern Englishes

Intonation in Appalachian English

- ▶ Williams (1992) anecdotally describes the intonation in AE as distinct
 - ▶ 'forming the rhythmic patterns of speech of the people of the Southern mountains are low intonations [and] leisurely pace' (17)
 - ▶ These low intonations would have to be contrasted with high ones
 - ▶ While based on his intuitions, it is interesting that he finds this to be a feature of Southern Mountain English (the title of his collection of essays)
- ▶ Greene (2006), a more rigorous study, found that pitch accent realization in AE was distinct from other Southern and Mainstream English varieties
 - ▶ In particular, AE had more rising pitches



Participants

- ▶ 24 participants all from the same town in Northeast TN
 - ▶ Participants were stratified by age (Older, Younger), gender (12 male, 12 female), and education
 - ▶ Additionally, speakers were categorized by their rootedness, based on their responses to interview questions (e.g., Haddican et al., 2013) and responses to a survey instrument
- ▶ Demographically similar Southern speakers from the SLAAP archives (Kendall, 2007) and Mainstream speakers from the Nationwide Speech Corpus (Clopper and Pisoni, 2006) were used as controls

Data Collection

- ▶ Data was drawn from sociolinguistic interviews
 - ▶ These are semi-structured interviews designed for participants to provide conversational speech. Certain questions were posed, and natural follow-ups were also included.
 - ▶ I asked several questions related to local attachment, 'rootedness'
- ▶ I compare these speakers to speakers from other Southern English areas (Kendall, 2007) and Mainstream English (Clopper and Pisoni, 2006)

Acoustic Methodology

The acoustic analysis required a two step process.

1. ToBI labelling of a 1-2 minute section of speech from the middle of the interviews
 - ▶ This is roughly 70 pitch accents
 - ▶ Count the occurrence of pitch accents
2. Measured the Pitch Accent Onset
 - ▶ I adapted methodology from Thomas (2011) and Ladd et al. (2009), measuring where the highest pitch was in relation to the beginning of the vowel.

Results

Pitch Accent Distribution by Variety

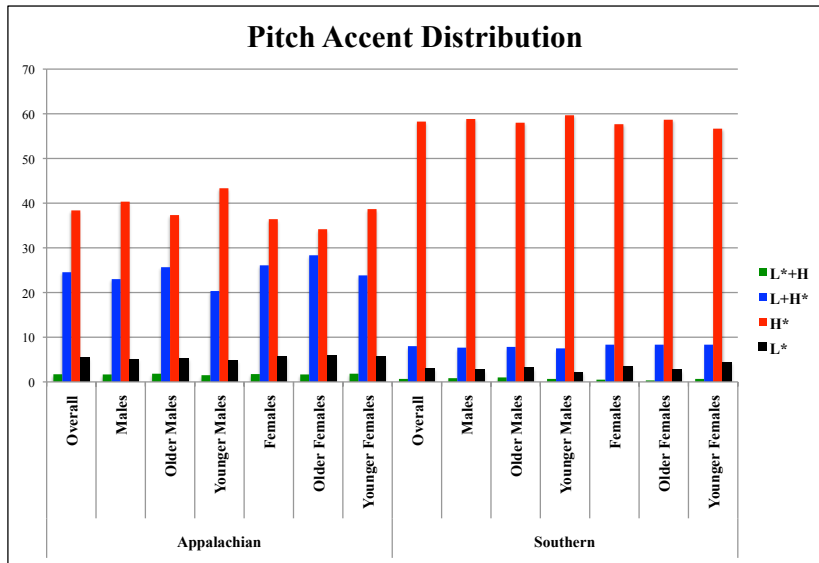


Figure: Pitch accent distribution for Appalachian and Southern English speakers.

Pitch Accent Distribution by Variety

- ▶ The Appalachian speakers were significantly different from the Southern speakers
 - ▶ The Southern speakers were not significantly different from the Mainstream speakers, thus I am not displaying their results
- ▶ Chi-squared test results were significant at the $p < .0001$ level

Pitch Accent Distribution by Rootedness

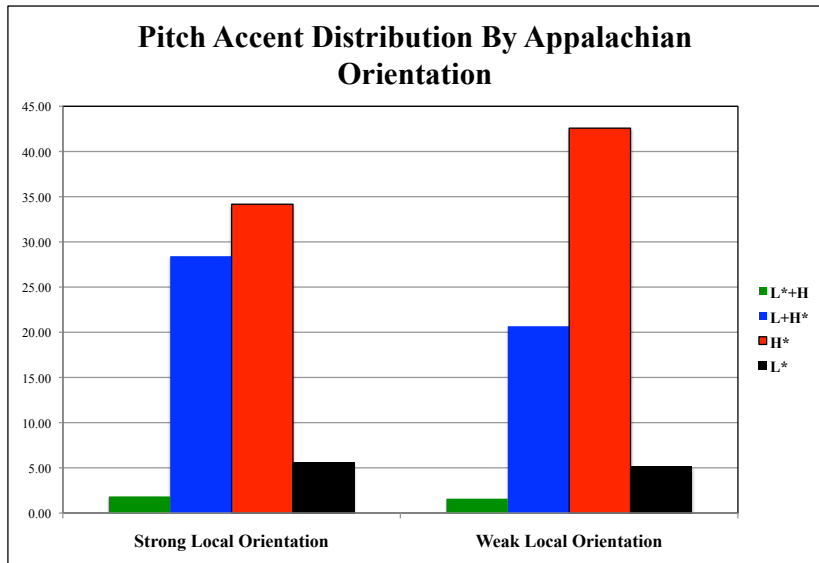


Figure: Pitch accent distribution for AE speakers, comparing Stronger vs. Weaker Rootedness.

Pitch Accent Distribution by Rootedness

- ▶ The Appalachian speakers with stronger Rootedness were significantly different from speakers with weaker Rootedness
- ▶ Chi-squared results were significant at the $p < .0001$ level

Pitch Accent Onset by Variety

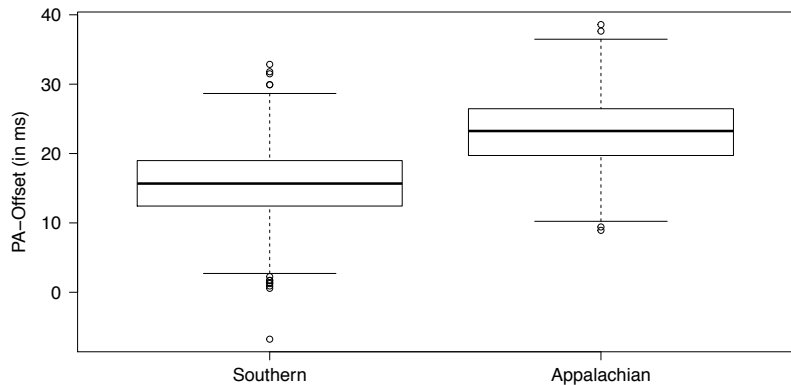


Figure: Pitch Accent Onset for Southern and Appalachian English speakers.

Pitch Accent Onset by Variety

- ▶ The Appalachian speakers were significantly different from the Southern speakers
 - ▶ The Southern speakers were not significantly different from the Mainstream speakers, thus I am not displaying their results
- ▶ The AE average PA-On was 23.1ms; the Southern average was 15.7ms
- ▶ T-test results were significant at the $p < .0001$ level

Pitch Accent Onset by Rootedness

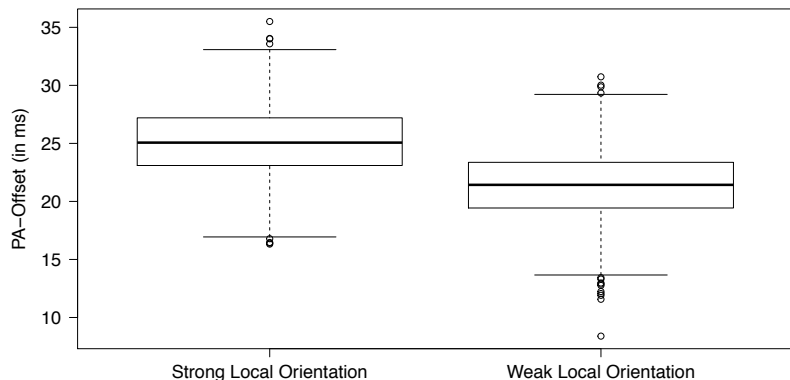


Figure: Pitch Accent Onset for AE speakers with Stronger and Weaker Rootedness.

Pitch Accent Distribution by Rootedness

- ▶ The AE speakers with stronger Rootedness were significantly different from the speakers with weaker Rootedness speakers
 - ▶ The stronger Rootedness average PA-On was 25.1ms; the weaker Rootedness average was 21.4ms
 - ▶ T-test results were significant at the $p < .00001$ level

Discussion of Results

- ▶ The Appalachian speakers' frequency of rising pitches and PA-On is greater than other varieties
- ▶ Those AE speakers with stronger Rootedness have the most rising pitches and the longest PA-On
 - ▶ This may mean that this pitch accent is a way to signal an allegiance to the region and that this is a socio-pragmatically useful feature
- ▶ Since other AE features tend to be stigmatized (a-prefixing, vowel features, lexical items), this may be a strategy to signal an Appalachian identity without using stigmatized features

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