Appalachia, Monophthongization, and Intonation: Rethinking Tradition

Paul E. Reed

University of South Carolina

UNIVERSITY OF
SOUTH CAROLINA

Introduction

- This paper argues that monophthongization and intonation in Appalachian English (AE) are hard to capture and model using traditional sociolinguistic grouping, such as SES, age or gender/sex.
- Both features can be better explained by including rootedness, i.e., local attachment to the region as one of our social factors.
- Preliminary results suggest that AE speakers with stronger rootedness have more :
  - more monophtongal realizations
  - a later pitch alignment
  - larger pitch change

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 these features?

- ▶ Monophthongization is 'the most notable unchanging element in Southern states' pronunciation' (Feagin, 2000: 342)
  - ▶ In the metalinguistic portion of my study, many participants specifically mentioned this pronunciation as the feature that others have also noticed and caricatured
- ▶ Botinis (2000) writes 'Intonation is the most characteristic vocal means for communicating paralinguistic and indexical information' (2)
  - ▶ I recognized a fellow Appalachian by speech alone, specifically intonation
- ▶ '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 monophthongization of /aɪ/ and intonation, specifically rising pitch accents, of speakers from Upper East Tennessee

Methodology

Participants

- ▶ 24 participants all from the same town in Northeast TN
  - ▶ Participants were stratified by age (Older, Younger) and gender (12 male, 12 female)
  - ▶ Additionally, speakers were categorized by their rootedness, based on their responses to interview questions (e.g., Haddican et al., 2013)

Data Collection

- ▶ Data was drawn from sociolinguistic interviews
  - ▶ I asked several questions related to local attachment, 'rootedness'
    - ▶ Do you like (Hometown, Home County)? Why/why not?
    - ▶ Where do you consider to be 'home'? Why?
    - ▶ Do you think that is part of who you are? Part of your identity?
- ▶ Each interview took place in a quiet room in a participant's home or workplace
- ▶ Interviews were recorded on a Tascam DR-40 digital recorder using either an AT BP896 or Shure MX183 omnidirectional condenser lavalier mic
- ▶ Interviews were transcribed and force-aligned using FAVE (Rosenfelder et al., 2014)

Background on Monophthongization

- ▶ Monophthongization is associated quite broadly with the South
  - ▶ Wolfram and Schilling-Estes (1998) write 'Southern Americans are perhaps more well known for their pronunciation of /ay/ as [a]...than for any other dialect feature' (69)
  - ▶ Thomas (2001) finds /aɪ/ weakening (in varying degress) from Texas to North Carolina
- ▶ Noticed by both insiders and outsiders
  - ▶ Plichta and Preston remark that it is 'one of the principal caricatures of US speech' (2005: 107)
  - ▶ Listeners can reliably place a speaker on a North-South continuum based on the articulation of /aɪ/
  - ▶ Many lay dictionaries (e.g., Venable, 2013) use examples, such as *arn* for 'iron'

Monophthongization Background

- ▶ It is subject to both geographic and social differentiation
  - ▶ Thomas (2003) outlines two broad systems
    1. Pre-voiced and open syllables, PRIZE/PRY
    2. All contexts, PRIZE/PRICE/PRY
  - ▶ Linguistic atlas data show a prevalence of System 1 across the South (Pederson et al., 1993 and Labov et al., 2006)
  - ▶ However, System 2 is more restricted, and stigmatized (Bernstein, 2006)
- ▶ Monophthongization in Appalachian English is System 2

Monophthongization Background

Monophthongization in Appalachia

- ▶ Appalachian English is characterized by monophthongization (Kephart, 1922; Berrey, 1940; Hall, 1942; Wise, 1957; Jones, 1973; Miller, 1973; Wolfram and Christian, 1976; Reese, 1977; Pederson, 1983; Williams, 1992; Irons, 2007; Greene, 2010)
- ▶ Some studies (Labov et al., 2006; Jacewicz et al., 2011a,b) argue that monophthongization is receding cross-generationally in Appalachia
- ▶ Irons (2007) found it was advancing across rural and Appalachian KY, particularly in pre-voiceless contexts
- ▶ Greene (2010) suggests pre-voiceless monophthongization may be a local identity marker
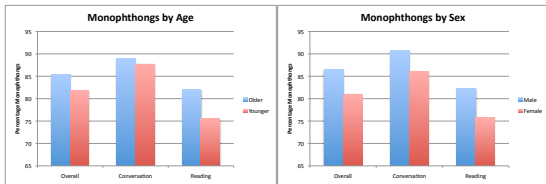
Introduction	Overview of Study	**Monophthongs**	Intonation	Conclusions	References
	OO	OOO●	OOO		
		OOOOOO	OOOOOO		
		O			

Monophthongization Background

Monophthongization Methodology

- 30 pre-voiceless tokens in the reading passages were extracted and impressionistically coded as diphthong/monophthong
- 30 pre-voiceless tokens were extracted from the conversational portion of the interview and impressionistically coded
- I also measure the first and second formants at 25% and 75% of the duration of the vowel and get the Euclidean Distance (ED) using the formula:
  $$\sqrt{(F1_{onset} - F1_{glide})^2 + (F2_{onset} - F2_{glide})^2}$$
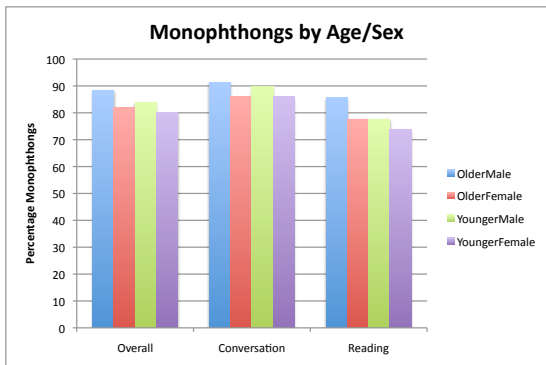
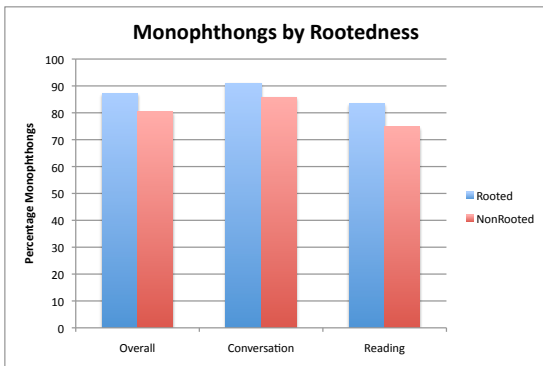# Monophthongization Results

Monophthongs Results and Discussion

(a) Distribution of Monophthongization by Age Group, Older and Younger

(b) Distribution of Monophthongization by Male/Female

Figure: The general distribution by two typical sociolinguistic groupings, Age and Sex. Notice that the variation is hard to explain.
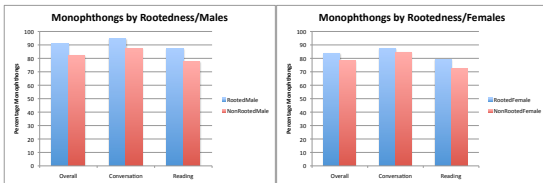
Monophthongs Results and Discussion

Introduction   Overview of Study   **Monophthongs**   Intonation   Conclusions   References
                oo   oooo   ooo
                                     ooo●oo   oooooo
                                     o

Monophthongs Results and Discussion

Introduction   Overview of Study   **Monophthongs**   Intonation   Conclusions   References
                oo   oooo   ooo
                                     ooooo●o   oooooo
                                     o

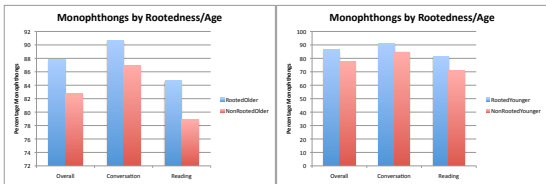Monophthongs Results and Discussion

(a) Distribution of
Monophthongization by
Rootedness/Male

(b) Distribution of
Monophthongization by
Rootedness/Female

Figure: Rootedness helps to capture the variation present in this population
sample.

Monophthongs Results and Discussion

(a) Distribution of
Monophthongization by
Rootedness/Older age group

(b) Distribution of
Monophthongization by
Rootedness/Younger age group

Figure: Rootedness, combined with age, captures variation that would be
missed with preconceived categories.

Monophthongization Discussion

Discussion of Monophthongization Results

▶ Those AE speakers with stronger Rootedness have more
  monophthongal tokens
  ▶ This helps to explain the variation much more than Age or Sex
▶ It also appears to be an interaction between Age and
  Rootedness, perhaps due to opposition to in-migration

Introduction	Overview of Study	Monophthongs	**Intonation**	Conclusions	References
	oo	oooo oooooo o	●o oooooo		

Intonation Background

Background on Intonation

- ▶ 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) for regional variation in German
  - ▶ Grice et al. (2005) for differences in northern vs. southern varieties of Italian
  - ▶ Grabe et al. (2000), Grabe (2004), and Ladd et al. (2009) for 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

Introduction	Overview of Study	Monophthongs	**Intonation**	Conclusions	References
	oo	oooo oooooo o	o●o oooooo		

Intonation Background

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

Intonation Methodology

The intonation 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, (PA-On)
   - 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.

Intonation Results

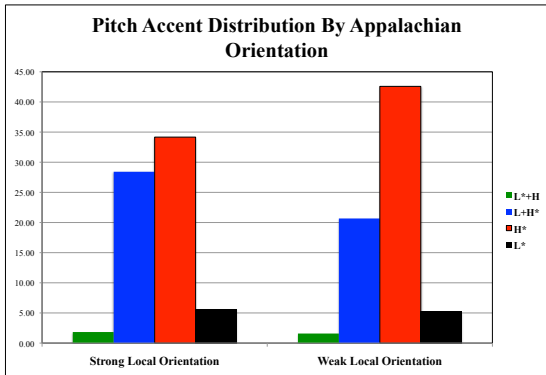## Pitch Accent Distribution by Rootedness

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

Intonation Results and Discussion

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
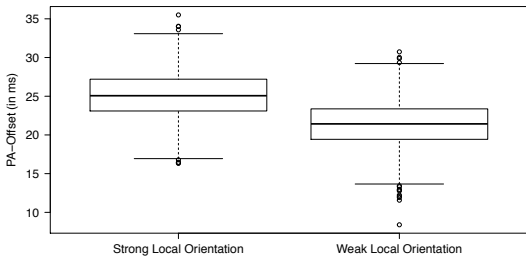
Pitch Accent Onset by Rootedness

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

Intonation Results and Discussion

Pitch Accent Distribution by Rootedness

- ▶ The AE speakers with stronger Rootedness were significantly different from the speakers with weaker Rootedness
  - ▶ 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

Intonation Results and Discussion

Discussion of Intonation Results

▶ 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

Overall Conclusions

▶ While instructive, using pre-conceived social factors can miss important sources of variation, particularly at the locally relevant level
▶ Including such personally and locally relevant factors, here rootedness, can help more completely capture the variation present in a community
▶ Particularly for certain communities, such as Appalachia, rootedness is crucial
  ▶ Jones (1975) writes , 'we are oriented around places. We never forget our native places, and we go back as often as possible. Our place is always close on our minds. It is one of the unifying values of mountain people, the attachment to one's place'

Arvaniti, A. and Garding, G. (2007). Dialectal variation in the rising accents of American English. In Cole, J. and Hualde, J. H., editors, *Papers in Laboratory Phonology 9*, pages 547–576. New York: Mouton de Gruyter.

Atterer, M. and Ladd, D. R. (2004). On the phonetics and phonology of 'segmental anchoring' of f0: Evidence from german. *Journal of Phonetics*, 32:177–197.

Bernstein, C. (2006). Drawing out the /ai/: Dialect boundaries an /ai/ variation. In Murray, T. E. and Simon, B. L., editors, *Language variation and change in the American Midland: A new look at 'Hearland' English*, pages 209–232. John Benjamins, Philadelphia, PA.

Berrey, L. V. (1940). Southern mountain dialect. *American Speech*, 15:45–54.

Botinis, A. (2000). *Intonation: Analysis, Modelling and Technology*. Kluwer Academic Publishers.

Campbell, J. C. (1921). *The Southern Highlander and His Homeland*. The Russell Sage Foundation.

Clopper, C. and Smiljanic, R. (2011). Effects of gender and regional dialect on prosodic patterns in american english. *Journal of Phonetics*, 39:237–245.

Feagin, C. (2000). Sound change in the South. *American Speech*, 75:342–344.

Foulkes, P., Scobbie, J. M., and Watts, D. (2010). Sociophonetics. In Hardcastle, W. J., Laver, J., and Gibbon, F. E., editors, *Handbook of Phonetic Sciences*, pages 703–754. Blackwell, Oxford, 2nd edition.

Grabe, E. (2004). Intonational variation in urban dialects of English spoken in the British Isles. In Gilles, P. and Peters, J., editors, *Regional Variation in Intonation*, pages 9–31. Tübingen: Max Niemeyer Verlag.

Grabe, E., Post, B., Nolan, F., and Farrar, K. (2000). Pitch accent realization in four varieties of British English. *Journal of Phonetics*, 28:161–185.

Greene, R. (2006). Pitch accents in Appalachian English. Unpublished Qualifying Paper. Stanford University.

Greene, R. (2010). *Language, ideology, and identity in rural Eastern Kentucky*. PhD thesis, Stanford University.

Grice, M., D'Imperio, M., Savino, M., and Avesani, C. (2005). Strategies for intonation labelling across varieties of Italian. In Jun, S.-A., editor, *Prosodic Typology: The Phonology of Intonation and Phrasing*, pages 362–389. Oxford: Oxford University Press.

Haddican, B., Foulkes, P., Hughes, V., and Richards, H. (2013). Interaction of social and linguistic constraints on two vowel changes in northern England. *Language Variation and Change*, 25:371–403.

Hall, J. S. (1942). The phonetics of Great Smoky Mountain Speech. *American Speech*, 17(2.2):1–110.

Irons, T. (2007). On the Southern Shift in Appalachia. *University of Pennsylvania Working Papers in Linguistics*, 13(2):121–134.

Jacewicz, E., Fox, R. A., and Salmons, J. (2011a). Cross-generational vowel changes in American English. *Language Variation and Change*, 23(1):45–86.

Jacewicz, E., Fox, R. A., and Salmons, J. (2011b). Vowel changes across three age groups of speakers in three regional varieties of American English. *Journal of Phonetics*, 54:448–470.

Jones, L. (1975). Appalachian values. In Higgs, R. J. and Manning, A. N., editors, *Voices from the Hills: Selected readings of Southern Appalachia*. Ungar Publishing Company, New York.

Jones, M. J. (1973). *The regional English of the former inhabitants of Cades Cove in the Great Smoky Mountains*. PhD thesis, University of Tennessee.

Kephart, H. (1922). *Our Southern Highlanders*. Outing Publishing Company, New York.

Kügler, F. (2004). The phonology and phonetics of rising pitch accents in Swabian. In Gilles, P. and Peters, J., editors, *Regional Variation in Intonation*, pages 75–98. Tübingen: Max Niemeyer Verlag.

Labov, W., Ash, S., and Boberg, C. (2006). *Atlas of North American English: Phonetics, phonology, and sound change*. Mouton de Gruyter, New York.

Ladd, D. R., Schepman, A., White, L., Quarmby, L. M., and Stackhouse, R. (2009). Structural and dialectal effects on pitch peak alignment in two varieties of British English. *Journal of Phonetics*, 37:145–161.

Miller, T. R. (1973). *An investigation of the regional English of Unicoi County, Tennessee*. PhD thesis, University of Tennessee.

Pederson, L. (1983). *East Tennessee folk speech*. Bamberger Beitrage 12. Lang, Frankfurt.

Pederson, L., McDaniel, S. L., and Adams, C. M., editors (1986-1993). *Linguistic Atlas of the Gulf States*, volume 7 vols. University of Georgia Press, Athens, GA.

Plichta, B. and Preston, D. R. (2005). The /ay/s have it: Perception of /ay/ as a North-South stereotype in United States English. *Acta Linguistica Hafniensia*, 37(1):107–130.

Reese, J. R. (1977). *Variation in Appalachian English: A study of the speech of elderly, rural natives of East Tennessee*. PhD thesis, University of Tennessee.

Rosenfelder, I., Fruehwald, J., Evanini, K., Seyfarth, S., Gorman, K., Prichard, H., and Yuan, J. (2014). FAVE 1.1.3. http://sx.doi.org/10.5281/zenodo.9846.

Thomas, E. R. (2001). *An acoustic analysis of vowel variation in New World English*. Number 85 in Publication of the American Dialect Society. Duke University Press, Durham, NC.

Thomas, E. R. (2003). Secrets revealed by Southern vowel shifting. *American Speech*, 78:150–170.

Thomas, E. R. (2011). *Sociophonetics: An introduction*. Palgrave Macmillan, New York.

Venable, S. (2013). *How to tawlk and rite good*. CreateSpace Independent Publishing Platform, North Charleston, SC.

Williams, C. D. (1992). *Southern mountain speech*. Berea College Press, Berea, KY.

Williams, J. A. (2002). *Appalachia: A history*. University of North Carolina Press, Chapel Hill, NC.

Wise, C. M. (1957). *Applied phonetics*. Prentice Hall, Englewood Cliffs, NJ.

Wolfram, W. and Christian, D. (1976). *Appalachian speech*. Center for Applied Linguistics, Arlington, VA.

Wolfram, W. and Schilling-Estes, N. (1998). *American English*. Blackwell, Malden, MA.