

The Prosodic Rhythm of Two Varieties of Native American English

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1 Introduction

Despite over four million people claiming Native American¹ heritage in the United States, the dialects of English spoken by American Indians have been mostly overlooked by linguists and other academics. The indigenous peoples still living in the Eastern United States have been especially neglected, to the point where many people are surprised to find out there are any American Indians east of the Mississippi River. In this region, North Carolina has the highest population of Native Americans, with more than 130,000 people claiming Native American heritage in the 2000 census, including members of the two tribes that are the topic of this paper: the Lumbee and the Eastern Cherokee. This is not meant to suggest that there have not been any studies of American Indian English (AIE), but what work that has been done (i.e., Miller 1977; Basso 1979; Bartelt et al. 1982; Wolfram 1984; Leap 1993; House 2002; Rowicka 2005; Meek 2006; Innes 2006) focuses mainly on syntax, pragmatics, and vowel quality. These varieties have generally been neglected in terms of their construction of ethnolinguistic identity. Particularly lacking is any instrumental analysis of prosody in AIE, even though this aspect might be the most striking and salient of all. Leap (1993:50–56) notes a few impressionistic studies (Davis 1964; Miller 1965; Penfield-Jaspers 1977; Stout 1977) of suprasegmental features in various varieties of American Indian English, and proposes that prosody is a locus of potential difference between AIE and those varieties spoken by non-Indians, but quantitative work has yet to be done to explore this hypothesis.

Further, most of the work on AIE that has been done has almost exclusively focused on the American West. This focus may be problematic because many Native American contact situations in the Eastern United States are quite different from those in the Western United States due to the relative length of contact with, and exposure to, marked dialects of English. These observations lead to some interesting questions about the dialects of American Indians in the East as well as those of other American Indian groups: Is there evidence for a panlectal core of AIE? How have Native American speakers accommodated to their regional English dialects? Is there evidence for lingering source language transfer or substrate influence in tribes who have been speaking only English for centuries? I propose that prosodic variables are important for exploring these questions because American Indian languages tend to have prosody significantly different from English, particularly in regard to prosodic rhythm.

In this paper, I expand our understanding of AIE prosody through the instrumental analysis of prosodic rhythm in Eastern Cherokee and Lumbee English. The traditional view of rhythm is that a language is either stress-timed, like Germanic languages, or syllable-timed, like Romance languages. Stress-timed languages have syllables of differing length based on stress, with stressed syllables elongated and unstressed syllables reduced, whereas syllable-timed languages have syllables of approximately equal length. In other words, stress-timed languages have feet of approximately the same length while syllable-timed languages have syllables of approximately equal length. Recent work (Low and Grabe 1995; Low et al. 2000; Fought and Fought 2002; Carter 2005a, b; Thomas and Carter 2006; Wolford and Carter 2007) have used a technique called the Pairwise Variability Index (PVI) to tease out more subtle differences *within* languages, particularly varieties with possible substrate influence from differently timed languages. PVI is a metric that compares the difference in duration between adjacent syllables, and I explain the exact me-

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¹I use both the terms Native American and American Indian to refer to the indigenous peoples of the Americas. Both terms are not without their problems, though in general I would defer to what the speakers call themselves. Russell Means, a leader in the American Indian Movement, gave his opinion quite strongly when he said, “I abhor the term Native American. We were enslaved as American Indians, we were colonized as American Indians, and we will gain our freedom as American Indians, and then we will call ourselves any damn thing we please” (quoted in Mann 2005:339–40).

chanics below. Low, Grabe, and Nolan (1995, 2000) have shown that Singapore English is more syllable-timed than British English but more stress-timed than Mandarin, whereas the work of Carter (2005a, b), Wolford and Carter (2007), and Fought and Fought (2002) shows that a similar effect is found in varieties of Latino English, where speakers fall in between Spanish's syllable-timed rhythm and American English's stress-timed rhythm, possibly due to source language transfer from Spanish into the speakers' English, which is then passed down to other, often monolingual English generations. Thomas and Carter (2006) looked into the hypothesis that African American English speakers speak with a more syllable-timed rhythm than their European American cohort due possibly to substrate influences from West African languages. This hypothesis did not hold up for present-day speakers, with no statistical difference between African American and European American speakers, though there was some evidence that African American speakers born before the end of the Civil War did have a slightly more syllable-timed rhythm. This paper applies this same methodology to two varieties of AIE, Eastern Cherokee and Lumbee English. We know that Cherokee is syllable-timed, but the language(s) spoken by the Lumbee ancestors is unknown. Such a study will help us to better understand these varieties and their relation to other, non-Indian varieties of English.

2 Sociocultural Background



Figure 1: Cherokee (Qualla Boundary and Snowbird) and Lumbee country (Robeson County)

2.1 The Eastern Cherokee

The Eastern Cherokee living in the Appalachian Mountains in western North Carolina, as shown on the map in Figure 1, have been in close contact with European Americans for at least 200 years, yet Cherokee English has received little attention in terms of its accommodation to its regional benchmark variety, Appalachian English, and substrate influence from the Cherokee language (Anderson 1999; Coggsall 2005, 2006). The speakers in this study are among the approximately 6,000 Eastern Cherokee descended from those who escaped the Trail of Tears in 1838–39. The Cherokee English speakers in this study hail from the Snowbird reservation in Graham County. Snowbird, known as a bastion of cultural and linguistic traditionalism, is set away from the rest of the reservation, located in Jackson and Swain Counties. Only 7% of North Carolina's Cherokee population lives in Snowbird, but they make up almost one-third of the Cherokee language speakers (Neely 1991). This is especially surprising because the layout of the Snowbird community has created a long, intense relationship between the local non-Indians and the Cherokee. The reservation was created from several separate parcels of land that were not contiguous, forming a checkerboard pattern of Indian and non-Indian land. Cherokee/English bilingualism has been in existence since at least 1838 (Jahoda 1975), but only in the past 50 years or so has English monolingualism become the dominant mode for most of the Eastern Cherokee (Neely 1991). Some of

the schools on the reservation have recently instituted Cherokee language classes. Three previous sociolinguistic studies on the Eastern Cherokee (Anderson 1999; Coggshall 2005, 2006) mainly looked at vowel quality and found the variety to be relatively static and stable, with little segmental change over time. Although subtle differences were found in verbal morphology and the diphthongs /ai/ and /oi/, the Eastern Cherokee have accommodated quite thoroughly to the variety spoken by their European American cohort.

2.2 The Lumbee

The Lumbee are the largest American Indian tribe east of the Mississippi River and the ninth largest in the United States. They do not speak an “Indian” language, instead speaking only English, and this monolingualism has led some outsiders to believe this is grounds for dismissing their claims of native authenticity. In the 1730s, Anglo settlers, with their African slaves, reached the Lumber River in present-day Robeson County, and were surprised to find English-speaking natives. These Native Americans had an “essentially European culture” (Dial 1975). In fact, archaeological evidence shows they had European artifacts before there were any European settlements in the area (Knick 1993). These American Indians were among the ancestors of today’s Lumbees. Whether these ancestors are from the lost colony of Roanoke as is popularly believed or the product of an ethnogenic mix of several different tribes is the topic of much debate inside and outside the community. The Lumbee are known for their distinctive dialect of English, which people have been writing about since at least the 19th century. Not that this dialect can replace a native language *per se*, but the Lumbee dialect does serve to set them apart from their European American and African American neighbors.

Whereas, traditionally, most of the South has been divided between black and white, Robeson County has been more-or-less split evenly among European Americans, African Americans, and Native Americans, creating a unique tri-ethnic community. According to the 2000 Census, there were about 40,000 European Americans, over 20,000 African Americans, and over 46,000 Native Americans in the county. For decades, the Lumbees controlled their own schools for their own children unlike most Native American tribes. The Lumbee dialect is well studied, as evidenced by the many articles and books written about it (i.e., Brewer and Reising 1982; Wolfram and Dannenberg 1999; Hammond 2000; Schilling-Estes 2000; Torbert 2001; Dannenberg 2002; Wolfram et al 2002; Coggshall 2006). Overall, these studies show that the Lumbee dialect is dynamic and changeable, a mixture of unique variables as well as ones it shares with the varieties spoken by their European American and/or African American neighbors. The Lumbee have created themselves as linguistically neither black nor white. Few studies, though, find any variables considered to be AIE, though Torbert (2001) explores the possibility that there is some substrate influence from an indigenous language on consonant cluster reduction.

3 Methodology

For this study, I used sociolinguistic interviews conducted by the staff of the North Carolina Language and Life Project in the late 1990s, as well as interviews conducted by Adolf Dial, a Lumbee historian in the 1960s and 1970s. These interviews were informal, audiotaped conversations. I measured 47 different speakers and used an additional 40 speakers previously measured by Erik Thomas and Phillip Carter. One speaker spoke only Cherokee, 14 are Cherokee English speakers of varying proficiencies in Cherokee, and 25 are Lumbee English speakers. Added to the American Indian speakers are 27 European Americans, 20 of whom were measured by Thomas and Carter, 6 hail from Graham County and 6 from Robeson County. Also included are 20 African American speakers measured by Thomas and Carter, 6 of whom are from Robeson County. All other non-Indians are from other parts of North Carolina. I measured the lengths of syllable nuclei durations following the methods of Thomas and Carter (2006) and then compared these measurements using PVI. The PVI method works by taking the duration of two adjacent syllables (avoiding the lengthened syllables that occur in the foot before a pause or hesitation), finding the absolute difference between the two, then dividing by the mean of the two. This will give a figure that expresses the difference in duration that is normalized for speaking rate. Complete this operation 200 times, then take the median value, and you have a PVI score for a speaker. The higher the

score, the more stressed-timed; the lower the score, the more syllable-timed. This measure is relative, so there is no cutoff point above which is stress-timed and below which is syllable-timed.

4 Results

The results for the Cherokee English speakers as compared to the European American speakers can be found in Figure 2. The *x*-axis is the year of birth of the speaker, and the *y*-axis is the speaker's median PVI score. African American speakers were not included because there has been and continues to be few to no permanent African American residents in Graham County. The separation between the two groups is quite clear.

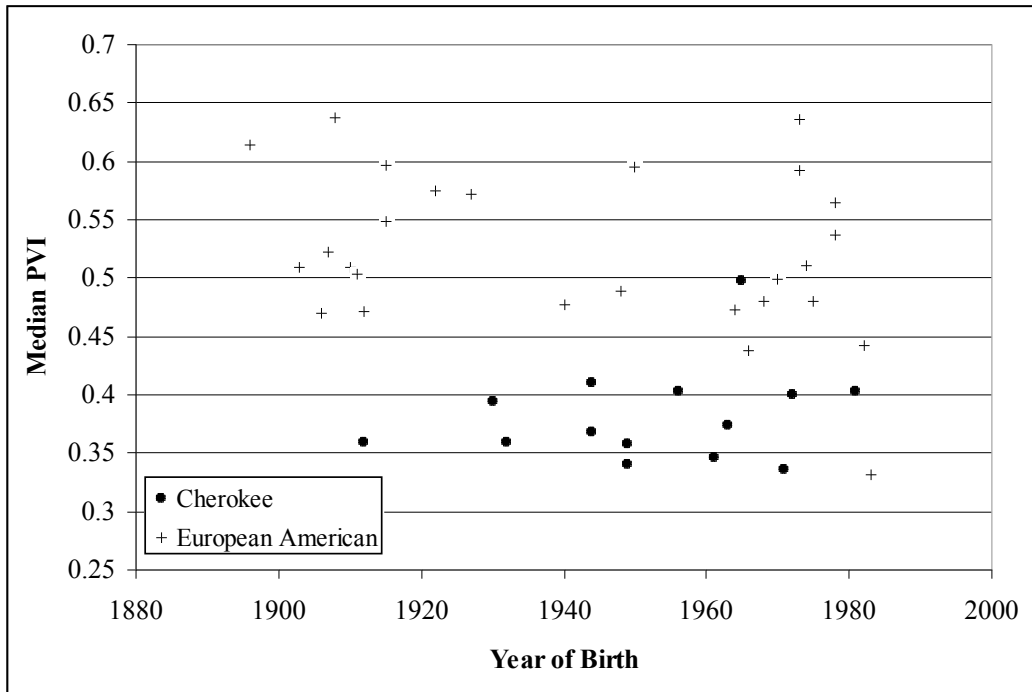


Figure 2: Cherokee English and European American PVI

The median PVI scores for Cherokee English speakers are almost all at or below 0.4, whereas the European American speakers almost all fall at 0.45 or above. The mean of the median PVI values for all of the Cherokee English speakers is 0.38, as compared to the European Americans at 0.52. The Cherokee language speaker has the low median PVI value of 0.19, which is consistent with findings for Spanish, also a syllable-timed language. I assume here that this speaker is not an extreme outlier, and that the Cherokee language is indeed similar to Spanish in this respect. A two-tailed *t*-test shows a statistically significant difference between the Cherokee English speakers and the European American speakers ($t(38) = -8.0455, p < 0.001$), even with the two obvious outliers. The scattergram shows that two speakers are not behaving like the others of their ethnicity. Thomas and Carter (2006:344) describe the European American speaker with a very low PVI as talking like a Valley girl, a style characterized by the lack of unstressed syllables. The Cherokee English speaker with a PVI score of 0.49 is a highly educated librarian, so her socioeconomic status and education outside of Graham County may account for her higher PVI score, which correlates with a more standard, “whiter” pronunciation.

In Figure 3, we have the results for the Lumbee speakers as compared to the European Americans and African Americans. The line separates those born before and after 1970. The 14 older Lumbee and the 11 younger Lumbee have noticeably different PVI scores. I felt comfortable making this split based not only on this linguistic data but also on demographic data that are described later, in section 5. The older Lumbee behave much like the non-Indians, with a mean of the me-

dian PVI scores of 0.51, almost equal to that of the European Americans at 0.52 and the African Americans at 0.53. The younger Lumbee, on the other hand, have lower PVIs, with a mean of 0.40 indicating that younger Lumbee have adopted a more syllable-timed rhythm. For my statistical analysis, I considered European and African Americans as one group, since Thomas and Carter (2006) show these two groups as statistically the same. A two-tailed t -test shows no significant difference between the older Lumbee and the non-Indians ($t(59) = -0.573, p=0.568$), but there is a significant difference between the younger Lumbee and the non-Indians ($t(56) = -6.153, p<0.001$) as well as between the two groups of Lumbee ($t(23) = 7.1547, p<0.001$). On the scattergram, the young European American outlier shows up again, as well as a young Lumbee outlier. The reasons for his high PVI score are unclear, though it may have something to do with the scores of the two Lumbee speakers born in the 1950s and the fact that there are only two of them. These speakers appear to be at an intermediate level between the older and younger groups, and perhaps with more speakers in that age group, we would see a more gradual transition between the older and younger groups. The outlier, then, may be part of that transition rather than a true outlier.

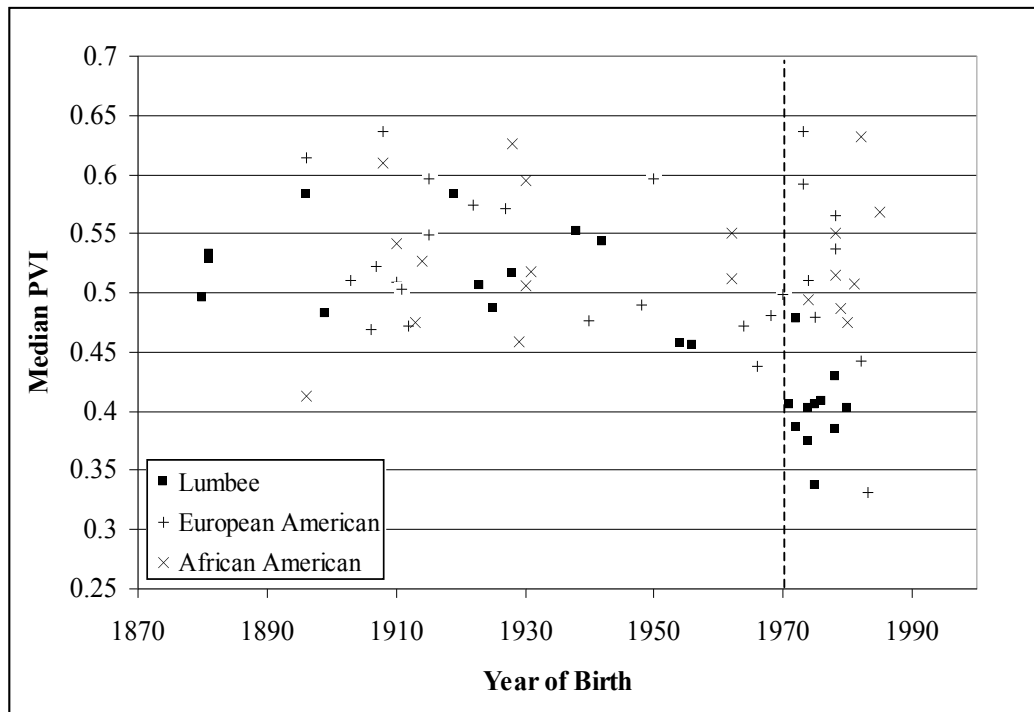


Figure 3: Lumbee English, European American, and African American PVI

Figure 4 shows a bar graph representation of the data so far. The height of the bar indicates the mean of the median PVIs for each demographic group. We see here clearly how the older Lumbee and the non-Indians form a group up at the higher end, the Cherokee language speaker at the lower end, and the Cherokee English and younger Lumbee speakers fitting in intermediately.

The PVI is designed to normalize for speech rate, but there is the possibility of interaction between syllable duration and rhythm. Figure 5 shows the median syllable duration for the speakers plotted by year of birth. It is evident that the older speakers tend to speak at a slower rate. This could be an effect of age-grading, where older speakers speak more slowly in general, or perhaps it is a stylistic effect from the age difference between the interviewer and interviewee, or perhaps what we see here is a decrease in time of the southern drawl, which is stereotypically known for its slow pace (Thomas and Carter 2006:346).

A scattergram of the median PVI of the speakers plotted against their median syllable duration can be found in Figure 6. There is a lot of variation among speakers, but a few basic patterns emerge. The older Lumbee, European American, and African American speakers are well spread

out in terms of duration. The younger Lumbee, which you can see at the lower end of the PVI scale encircled with a dotted line, are more tightly clustered at the shorter duration end of the graph, and the Eastern Cherokee English speakers are intermediate, though they do not stray far from the low end of the duration scale. The short median duration the Cherokee English and younger Lumbee is probably due to less use of elongated stressed syllables and/or less reduction of unstressed syllables, which are the hallmark of a stress-timed language, but there does not seem to be much other interaction between rhythm and syllable duration.

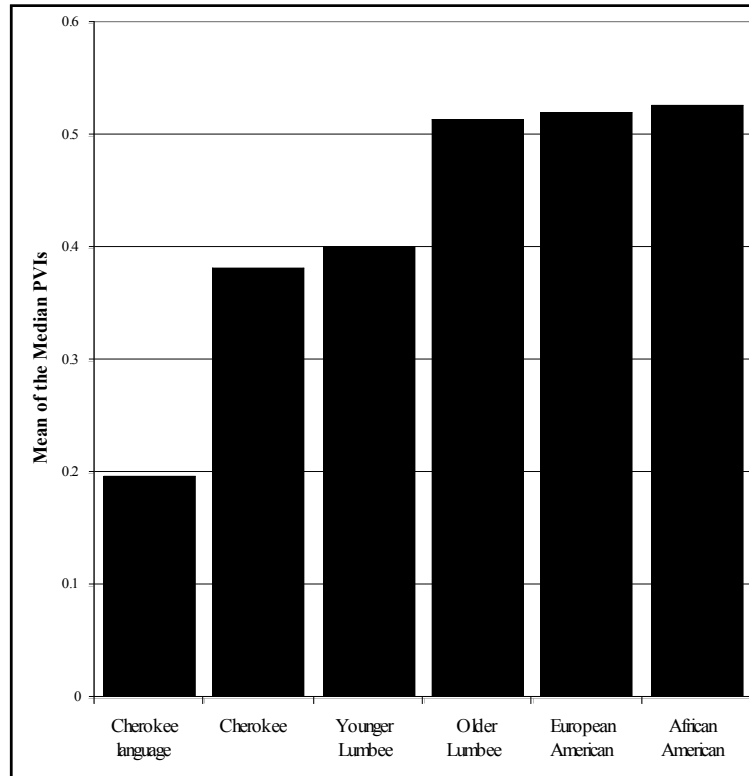


Figure 4: Bar graph of the mean of the median PVIs for all groups

5 Discussion

Like previous research, we see Eastern Cherokee English as static and Lumbee English as dynamic. Unlike previous studies, though, we see the Eastern Cherokee greatly differing from European Americans. Their intermediate PVI value is most likely a result of a substrate influence from syllable-timed Cherokee on English. The older Lumbee are in line with the European and African American speakers. This finding may be parallel to that of Thomas and Carter (2006), where African Americans have accommodated to the European American standard. After about three centuries of English monolingualism and interaction with other non-Indian groups, it is not entirely surprising that any possible substrate influences over prosody have not lasted.

What is interesting is that the younger Lumbees are adopting a more syllable-timed rhythm along the lines of the Cherokee, a particularly surprising result in light of Thomas and Carter (2006) and Wolford and Carter (2007), who show just the opposite trajectory. In both cases, minority groups move from a more syllable-timed rhythm to a more standard stress-timed rhythm. This trend among the Lumbee could be an effect of age-grading, or it could be something more. These younger speakers grew up in a time of increased communication and travel outside the swamps of Robeson County, so they have more interaction with other American Indians. They also grew up

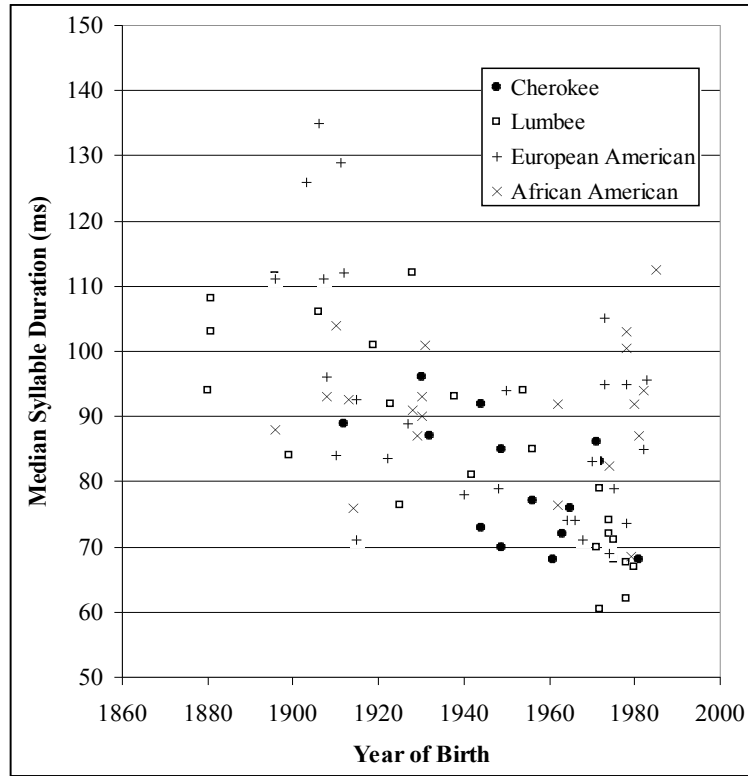


Figure 5: Median PVI versus year of birth

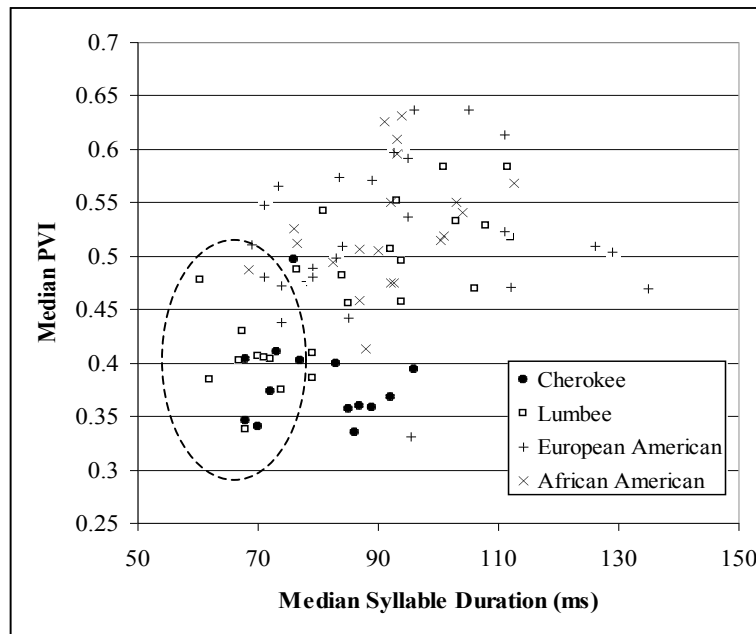


Figure 6: Median PVI versus median syllable duration; the younger Lumbee are circled

during and after the rise of pan-Indian, Red Power movements. The meeting of the National Indian Youth Council was in 1961; the takeover of Alcatraz occurred in 1965; the American Indian Movement was formed in 1968; the siege at Wounded Knee was in 1973 (Smith and Warrior 1996; Calloway 2004). All these events were instrumental in the creation of the civil rights movement for American Indians as a whole. On a more local level, the first Lumbee Homecoming, an event that includes a powwow, beauty contests, a fashion show, and sports tournaments, began in 1970, as did the Fall Powwow. The Lumbee schools were desegregated in 1954, much to the protest of the Lumbee. These Robeson County events brought the Lumbee into close contact with American Indians from outside of North Carolina and with their non-Indian neighbors, the latter not necessarily considered a positive change in the Lumbee community. All these events taken together give these younger speakers the tools they need to speak more “Indian”-like through travel, communication, and powwows, and the reasons to want to speak that way, to be a part of the pan-Indian movement and to differentiate themselves further from the European American and African American cohort. They are moving from being the linguistic “other” to being “Indian,” a matter of authenticity. What we have here is a possible locus for a pan-Indian English ethnolinguistic variety, like the glottal stop discussed in Rowicka (2005).

6 Conclusion

This study is just the first step in understanding prosodic rhythm and American Indian English. There is a lot of work that can be done, starting with analyzing some Lumbee born in the 1950s and 1960s. But we should not stop at these two tribes. Other tribes, particularly those with a non-syllable-timed source language, need to be studied. Urban Indians also need to be studied, because they are often people from various tribes thrown together, and it is in the cities that the Red Power movement started. Another interesting possible location for pan-Indian consciousness is the powwow circuit, where people from various tribes congregate in various locations across the country to socialize and dance. This study sought to answer questions about prosodic rhythm in AIE, but seems instead to have created more questions. We now have some evidence that, like the glottal stop, rhythm may be a locus of a burgeoning panlectal core of Native American English and the rise of a new ethnolinguistic variety of English.

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