

**Dialect identification: The effects of region of origin and amount of experience**

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## **Abstract**

This study examines whether two factors, region of origin (i.e., being from either Utah, Western states, or non-Western states) and amount of experience (having less than 1, more than 1 but less than 5, or over 5 years living in Utah), influence how well listeners are able to distinguish between Utah and non-Utah speakers and what phonetic characteristics they use to do so. The results suggest that the more similar the listener's dialect is to Utah English, the better their ability to identify Utah speakers. Moreover, it was found that listeners from Utah use less stereotypical characteristics of Utah English for identifying Utahns from non-Utahns; those from the Western United States and other locations use more. This study also demonstrates that listeners with more experience with Utah English are better able to identify Utah speakers than those with less experience. These findings are also examined in light of stereotypical perceptions of both Utah English and the phonetic characteristics examined in this study.

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## 1. Introduction

For decades, researchers have studied listeners' perceptions of dialects and have enlightened our understanding of a number of issues, including dialect prejudice (e.g., Kerswill & Williams, 2002), dialect boundaries (e.g., Diercks, 1999; Goeman, 2002), and dialect continua (e.g., Heeringa & Nerbonne, 2001). A basic assumption of these studies has been that listeners accurately identify differences between dialects of their native language. However, in recent years, perceptual dialectologists have examined whether listeners are able to accurately identify dialects, as well as what social and linguistic factors affect this accuracy (Kerswill, 2002; Kerswill & Williams, 2002; Williams, Garrett, & Coupland, 1999).

One of the main factors examined in previous research is the amount and type of familiarity a listener has had with either one specific variety (e.g., Kerswill & Williams, 2002) or with a number of different varieties (e.g., Clopper & Pisoni, 2004a). It seems logical to assume that listeners with more familiarity would be better able to identify a variety than listeners with less familiarity. In most cases, this has been the case (e.g., Clopper & Pisoni, 2006; Kerswill & Williams, 2002). However, there are several ways to measure dialect familiarity (such as familiarity with a particular variety versus familiarity with several varieties) and each of these measurements may affect dialect identification differently. To test whether this is in fact true in this study we examined two types of dialect familiarity and measured their effect on dialect identification: region of origin, defined as the area in which a person grew up, and amount of experience, defined as how long one has lived in the area where the variety is spoken (Chambers, 1992; Chambers, 1998).

In addition, it is possible that these two types of dialect familiarity may affect what linguistic characteristics of the variety are used for dialect identification. For example, listeners who are from regions near a specific variety of a language may use different characteristics to identify that variety than do listeners who are from more distant regions. Therefore, we also examined the effect the two types of familiarity have on which phonetic characteristics are used for dialect identification.

### ***Region of Origin***

Listeners can be quite successful when asked to identify broad distinctions between different varieties of the same language—at least for varieties with which they are familiar and that are highly visible in the media (Bauvois, 1996; Clopper & Pisoni, 2004a; Cunningham-Andersson, 1996). They are able to accurately identify a speaker's region of origin down to specific cities (Bauvois, 1996). In fact, listeners need to hear relatively little input in order to identify these differences. For example, listeners can identify differences between ethnic varieties of English after hearing a single word (Purnell, Baugh, & Isardi, 1999).

This ability to identify different varieties is most likely related to one's region of origin. That is, since regional varieties that are close to each other are often more similar (Wells, 1982), it may be that listeners from regionally similar varieties are better able to perceive differences between those varieties than listeners from more distant regional areas. Proof of this comes from studies such as Garrett, Coupland, & Williams (1999), who asked adolescent residents of Wales to identify Welsh speakers' region of origin. They found that, although the listeners performed poorly on this task in general, they were more accurate in identifying speakers from their own variety than those from other

varieties. Corroborating results from Preston (1996) suggest that listeners can more correctly identify varieties from close regions compared to distant ones. In his study, Northerners were better able to differentiate northern varieties of American English than non-Northerners. Clopper & Pisoni (2006) demonstrated that the same holds true for listeners when identifying many varieties in the United States.

Moreover, Kerswill and Williams (2002) suggested that aspects of the variety itself may determine how accurately it is identified. Their research examined two communities—one of which was more accurate in identifying members of its own variety than was the other. They discovered that the listeners from “focused” speech communities—those with relatively little lexical and phonetic variation across speakers and across situations (LePage, 1978)—were more accurate at identifying speakers from their community than were listeners from other speech communities which are “diffused” or have much greater lexical and phonetic variation.

From the results of Kerswill and Williams (2002) we may hypothesize that listeners may use different phonetic characteristics in dialect identification depending on their region of origin. Although little research has examined this hypothesis directly, a study by Fridland, Bartlett, and Kreuz (2004) found that speakers of Southern U.S. varieties of English were able to distinguish between vowels that contained characteristics of Southern U.S. English compared to vowels that do not. Similarly, Clopper & Pisoni (2004b) demonstrated that American English listeners used different vowels to identify different American English varieties depending on their region of origin.

In sum, these results suggest that a listener's region of origin may influence how well a variety is identified. It also demonstrates that region of origin may influence whether listeners can detect the phonetic characteristics of a specific variety of their language. However, no research has examined what specific phonetic characteristics listeners from different regions use to identify a specific variety. For this reason, we included this as one of the main goals of the present study.

### *Amount of Experience*

One type of familiarity that may affect dialect identification is the amount of experience a listener has had with a particular variety. Surprisingly little if any research has examined whether amount of experience plays a role in being able to perceive differences between varieties. By contrast, several studies have examined whether amount of experience influences whether a person acquires (i.e., produces) aspects of another variety (Payne, 1980; Clyne, 1992; Chambers, 1992). For example, Payne (1980) demonstrated that transplants to Philadelphia acquire some, but not all, the characteristics of the Philadelphian variety of English. Their ability to do so is related to their amount of experience with the variety and the age at which they first came into contact with the variety. Similarly, Chambers (1992) observed that amount of experience plays a significant role in the ability of transplanted Canadian children to use aspects of British English. However, transplants began to use lexical and syntactic characteristics much earlier than phonetic ones. These studies document the factors that influence how people acquire the phonetic characteristics of a new variety, but they do not indicate

when or to what degree listeners are able to *perceive* the characteristics of another variety.

Bowie (2000), on the other hand, did examine whether listeners are able to *perceive* or identify characteristics of a variety. He tested whether listeners originally from Maryland perceived vowel pairs according to their native variety of English (which often has mergers between vowel pairs) or whether they perceived vowel pairs according to their second (acquired) variety. Amount of experience and age of acquisition of the variety both played important roles in whether they perceived vowels like listeners of their first or second variety. Besides Bowie's study we have found no other studies designed to determine how amount of experience influences the *perception* of different varieties.

However, another line of research that focuses on dialect perception has examined whether linguistic experience with several different varieties influences dialect identification. Recent research by Clopper and Pisoni (2004a) discovered that listeners who had lived in many places ("army brats") were better at correctly identifying different varieties of American English than listeners who had lived most of their lives in one place ("homebodies"). Army brats were more accurate than homebodies in identifying varieties of English even from places where they had never lived. Given these findings, it may also be the case that experience with a particular variety would also affect a listener's ability to accurately identify that variety.

Moreover, it is also possible that the amount of experience a listener has with a variety could also influence what phonetic characteristics of the variety listeners use in order to identify it. Although no research has directly examined this hypothesis in dialect

identification, studies examining second language acquisition and amount of experience demonstrate that experience with the second language allows one to more accurately perceive some (i.e., Flege, Bohn, & Jang, 1997), but not all (i.e., Takagi & Mann, 1995), phonetic characteristics of a second language. In addition, one study observed that amount of experience with a second language affects how accurately one can identify varieties of that second language (Cunningham-Andersson, 1996). Studies such as these indicate that amount of experience may help listeners attend to phonetic differences between different languages (and perhaps varieties of those languages), and that this ability may help listeners with dialect identification. However, we are unaware of any research that has specifically examined this question.

### ***Current Study***

The purpose of our study was to determine whether these two types of dialect familiarity, region of origin and amount of experience, affect how accurately varieties of English are identified. In addition, we were interested in pinpointing which phonetic characteristics listeners use to identify differences between different varieties. To this end, native English listeners from three different regions of the United States who had varying amounts of experience with the variety in question listened to recorded sentences and were asked to determine whether a particular speaker was or was not from the region of interest. Listeners differed from each other in two ways: they differed in whether they were from the same, a relatively similar or a relatively different variety from the one investigated, and they also differed in the amount of experience they had with the variety

in question. Statistical analyses were conducted in order to determine which phonetic characteristics each of the groups used in order to distinguish one variety from another. The variety of English chosen for this study is spoken in the urban areas of Utah situated next to the Wasatch Mountains between Logan, Utah in the North and Payson, Utah on the South (Lillie, 1998), an area in Utah often called the Wasatch Front. This variety of English was used because it is a subregional dialect of General Western American English and contains some, but not all, of the characteristics of the larger regional variety (Carver, 1987; Lillie, 1998). While Labov, Boberg, & Ash (2006) found there were no differences between Utah and other Western U.S. varieties of English, other researchers have found that this region is somewhat distinct from other areas in the West. For example, Carver (1987), who focused mainly on lexical variation, divided Utah into two dialect regions which he claims are distinct from other areas of the General U.S. West. By contrast, Lillie (1998), who looked at lexical, syntactic, and phonological variation, divided Utah into three distinct regions (one of which is examined in this study—the most Northern variety). Finally, Bowie & Baker (2006), who tested a much larger sample of speakers than did Labov, Ash, & Boberg (2006), observed several phonetic differences between Utah English and other Western U.S. varieties. Most of these researchers seem to agree that the variety spoken along the Wasatch Front is indeed a distinct variety of English. For simplicity's sake we refer to the speech of this area as Utah English.

These differences between Utah English and General Western American English exist for a number of reasons. First, the original English-speaking community in Utah consisted mainly of members of The Church of Jesus Christ of Latter-day Saints

(Mormons), who settled the area in the latter half of the 19<sup>th</sup> century. Although several groups passed through Utah on their way to other Western states and others settled in Utah because of railroad or mining opportunities, there was little interaction between these groups and the Mormon residents, isolating Utah English to some degree from other varieties in the Western U.S. Second, during the late 19<sup>th</sup> century there was a larger influx of immigrants from other English-speaking countries (England, Canada, and Scotland) than occurred in other areas of the United States (Di Paolo, 1993). Third, the multifaceted social interactions that currently exist between Mormons have favored the development of particular linguistic identity markers distinct from other Western U.S. varieties of English, such as the *card/cord* merger (Argyle, Baker, & Bowie, 2004) and euphemistic expletives, such as *fetch* (Lillie, 1998). Fourth, the Mormon emphasis on community interaction and involvement encouraged rapid integration and common intermarriage among the various immigrant groups. This resulted in a fairly unified dialect of English. This situation differed from many other areas of the U.S. where ethnic groups often remain separate for several generations. Religions can in fact create a degree of unity that influences the retention or creation of separate varieties. One documented case of this is cited by Freeouf (1990), who found that German immigrants to Indiana maintained different varieties of German depending on whether they were Lutheran or Catholic. Argyle, Baker & Bowie (2005) also document that non-Mormons and Mormons who were raised in Utah have several phonetic differences in their speech.

## **2. Methodology**

The purpose of our study was to determine whether speakers with varying degrees of experience with Utah English, and who come from various dialect backgrounds differ

in their ability to identify Utah English based on its phonetic characteristics. We tested speakers from Utah, speakers from other areas of the Western U. S., and speakers of other non-Western U.S. dialects. Listeners heard sentences spoken by both Utahns and non-Utahns from the Western U.S. and were asked to determine the degree to which the person sounded as if they were from Utah.

### ***Participants***

Ninety-two listeners (35 males, 57 females) participated in the experiment. The participants were recruited from classes in the Brigham Young University (BYU) College of Humanities via an email messages and class announcements. The listeners were divided into three groups depending on where they were raised: Utahns (23), Westerners (45), and non-Westerners (24). To be included in the Utah group, participants (13 males, and 10 females; average age: 18.91; average amount of time spent in Utah: 16.78 years) had to have spent a majority of their lives (on average: 89%) in Utah. Most of the participants in the Utah group had lived in Utah all their lives; only 4 of them had lived in other locations, and all but one of these had moved to Utah before the age of 3 (the other one moved by the age of 6). This cut off point ensured that these listeners had spent all of their school years in Utah.

The second group consisted of listeners (13 males, 32 females; average age: 19; average amount of time in Utah: 1.2 years) who had spent their childhood and all or a majority of their lives (on average: 94%) in the Western United States (Arizona [5], California [16], Colorado [2], Idaho [5], New Mexico [0], Montana [0], Nevada [3], Oregon [4], and Washington [7]). The final group consisted of listeners (9 males, 15

females; average age: 19; average amount of time spent in Utah: 1.02 years) who had spent their childhood and all or the majority of their lives (on average: 95%) in non-Western states (East [7]; Midwest [8], South [9]). All of the participants were between 18 and 30 years of age. In addition, the listeners in this experiment differed in their amount of experience with Utah English. Listeners from places other than Utah had lived in Utah on average 1.1 years (range: 0 to 11 years).

All participants were currently attending BYU, and therefore had been exposed for at least 2 months (at the time of testing) to Utah English. Participants may have heard speakers of Utah English before coming to BYU, although their exposure to Utah English was most likely sporadic before that time. Thus, we used the time of arrival in Utah to determine their amount of experience.

### *Stimuli*

Twelve speakers (6 male, 6 female) were recorded reading a short dialogue (see Appendix). Half of the speakers had lived in Utah the majority of their lives and half had lived in Utah less than two years, but were from other locations in the Western United States. The speakers were divided into three groups: four were between the ages of 20 and 30, four between 40 and 50, and four between 60 and 70. At each age level, there was one male and one female from Utah, and one male and one female from another area in the Western United States.

The dialogue contained words that could be pronounced with phonetic characteristics typical of Utah English (Argyle, Baker, & Bowie, 2004; Sarver, 2005). Although these characteristics are found in other varieties of English, their combination

in Utah English is unique in the sense that they are characteristics not common in most varieties of General Western American English (Labov, Ash, & Boberg, 2006).<sup>1</sup>

Although the following list does not contain all of the characteristics of Utah English, these are the ones that have been the most documented and/or are the most recognized when listeners are asked about characteristics of Utah English (Lillie, 1998; Brickey & Sarver, 2004). Perhaps the most studied phonetic characteristics of Utah English are tense and lax vowel near merging before /l/ (e.g., *fail/fell* [fɛɫ], *pool/pull* [p<sup>h</sup>uɫ], *heel/hill* [hiɫ]; Di Paolo & Faber, 1990; Faber & Di Paolo, 1995) and [ɑ]/[ɔ] merging before /r/ (e.g., *cord/card* [k<sup>h</sup>ɑrd]; Di Paolo, 1992; Bowie, 2003, 2005). Other phonetic variations that have only been discussed more recently are vowel merging before /n/ (e.g., *pin/pen* [p<sup>h</sup>ɛn]), the pronunciation of /l/ in complex codas (e.g. *palm* and *stalk*), and the *pole/pull* [p<sup>h</sup>ɔɫ] merger (Argyle, Baker, & Bowie, 2005). Still others have not been documented in any published research, but are anecdotally known by the authors and are often noticed by naïve listeners: schwa epenthesis (or gemination of glottal stops) between glottal stops and syllabic nasals (e.g. *mountain* [mæ<sup>w</sup>ʔən] or [mæ<sup>w</sup>ʔ : ɲ] rather than [mæ<sup>w</sup>ɲ]), and epenthetic stops (e.g., *Olsen*, [oltsən], *singing*, [sɪŋɪŋk]). These characteristics can vary greatly depending on the age and socio-economic background of the speakers (Sarver, 2005). For example, the *card/cord* merger occurs more with older speakers (Bowie, 2003), while the particular pronunciation of glottal stops followed by nasals seems to be a characteristic of younger speakers.

Previous research and personal observation suggests that some phonetic characteristics of Utah English are overtly stereotyped which may render them more

salient. In particular, when asked what characteristics set Utah English apart from other dialects, most listeners name glottal stop gemination and vowel laxing before /l/ (Brickey & Sarver, 2004). The difference between stereotypical traits and other characteristics that are common in Utah English but are not generally commented on may play a significant role in what characteristics are attended to by listeners from different regions of origin.

The speakers who were recorded were asked to speak naturally, so any variation in the number and type of Utah characteristics across speakers were the result of natural differences in number of Utah characteristics each speaker used. As is always the case, speakers may have modified their speech under these circumstances to be more formal than in natural conversation, which makes us suspect that the Utah characteristics were less prevalent than they would have been in casual speech.

The dialogue was recorded using a Shure unidimensional microphone and a Marantz writable CD recorder. Speakers' dialogues were divided into seven sections of approximately 30 seconds in length. Each of the sections contained at least some of the characteristics of Utah English when spoken by native Utahns. The files were not modified except that some pauses were deleted using Goldwave software to make the files slightly shorter in length. Any pauses deleted occurred either at the beginning of or between sentences and therefore deletions were not detectable in the final version presented. The number and type of Utah characteristics for each speaker are listed in Table 1 (the intrusive epenthetic [k] (as in *singingk*) is not listed in this table because it was not produced by any of the speakers). The short dialogue contained cultural content suitable for the audience and may have been perceived as speech more typical of Utahns than non-Utahns because of this. However, since all speakers read the same script, it was

assumed that this content would not affect ratings distinguishing Utahns from non-Utahns.

++Insert Table 1 here++

### ***Procedure***

To participate in the study, listeners logged onto a website, filled out a brief demographic survey, and then listened to each of the 84 randomized excerpts (12 speakers by 7 excerpts) one at a time. Using terminology we knew they would understand, we told the listeners that “some speakers they would hear would have strong Utah ‘accents,’ others only light ‘accents,’ and others may have no Utah accent at all.” The listeners rated these excerpts on a Likert scale, ranging from 0 (no Utah accent) to 6 (heavy Utah accent). They could listen to the sound file as many times as they wished, but the computer prevented them from rating the excerpt until they had listened to it entirely at least once. However, once listeners had marked their response, they were unable to replay the files and were not allowed to change their responses.

### ***Analysis 1: Region of Origin***

In order to get an overall sense of the data, we averaged the listeners’ responses for each speaker across the seven short excerpts. All these scores are displayed in Table 2. Before we answered the first question of this study, whether a participant’s region of origin influences his or her ability to identify the degree to which a speaker sounds like a Utahn, we first ran an analysis on whether listeners in general (regardless of region of origin) were able to distinguish excerpts spoken by Utah versus non-Utah speakers. To this end, each listener’s ratings were averaged into two different scores, one for the

excerpts spoken by Utahns and one for excerpts spoken by non-Utahns. These two scores were compared to each other using a paired t-test. We assumed that if the Utah score were significantly higher than the non-Utah score, then the listeners were able to accurately distinguish between Utahns and non-Utahns. The analysis shows that listeners rated the excerpts spoken by Utah English speakers higher (3.42) (i.e., as having more of a Utah accent) than those spoken by non-Utahns (2.71), ( $t(91) = 6.951, p < 0.0001$ ). A Bonferroni adjustment was made to the p-value to account for the number of statistical tests performed in this study. The adjusted p-value is .000625 (.05 divided by the 8 paired t-tests performed in this study as described below). This suggests that the listeners were able to distinguish speakers of Utah English from speakers of other similar General Western American varieties of English.

++Insert Table 2 here+

Another analysis was completed to determine if a listener's region of origin (Utah, Western, or non-Western) influenced the ability to accurately identify the degree to which a speaker has a Utah accent. These series of paired t-tests revealed that there was a significant difference between the ratings of Utah vs. non-Utah speakers for the Utah listeners ( $t(21) = 4.275; p < 0.0001$ ), and the listeners from the Western United States ( $t(44) = 7.523, p < 0.0001$ ), but not for the non-Western listeners ( $t(23) = 0.506, p = 0.617$ ; see Table 2 for specific scores). In other words, non-Westerners, unlike the other two groups, were unable to distinguish between Utah and non-Utah speakers

We also examined whether region of origin influenced which phonetic characteristics of Utah English were most salient to the listeners in helping them identify Utah speakers. In order to establish a baseline, we first examined what phonetic characteristics listeners, regardless of their region of origin, used to identify Utah English speakers. To do so, we combined the scores for the three listener groups and placed each speaker's number of Utah characteristics examined in this study (averaged over their seven excerpts of speech) into a linear step-wise multiple regression analysis. The score for each speaker was the dependent variable and the number of characteristics of Utah English described in the Stimulus section above were the predictor variables. The results of this analysis indicated that listeners attended most closely to the *fail/fell* merger, the *deal/dill* merger, epenthetic /t/ as in *Ol[t]son*, and pronounced /l/ as in *palm*. The combined contribution of these four factors accounted for an impressive 98% of the variance which provides strong evidence that these phonetic characteristics were what listeners used to determine whether someone did or did not speak Utah English.

Next, a similar analysis was done separately on each of the three groups to determine whether region of origin influenced which characteristics were used to identify speakers of Utah English. The results of these analyses indicated that the Utah group's judgments were based on the *fail/fell* merger, the Westerners also used the *fail/fell* merger, along with epenthetic [t] and pronounced /l/. Although the non-Westerners were not able to distinguish Utah speakers from other Westerners, we could still determine what characteristics they were attending to, which were the *fail/fell* and the *deal/dill* merger. In all cases, the combined contribution of these of the factors used in this study predicted at least 74% of the variance in responses (see Table 3).

++Insert Table 3 here+

### ***Analysis 2: Amount of Experience***

The second major goal of the study was to determine whether amount of experience influenced the ability to accurately identify speakers of Utah English. Whether amount of experience influenced what phonetic characteristics were attended to was also a question of interest. To this end, we regrouped participants into three groups: those with one year or less, those with more than one and fewer than 5 years, and those with more than 5 years (up to eleven years) of living in Utah. Utah residents were not included in this analysis because they all had lived in Utah for 15-20 years, while no one in any of the other groups had more than 11 years of experience. For this reason, a group composed of listeners with over 11 years of experience with Utah English would not differ from the Utah group established by region of origin. The participants' ratings of the Utah speakers were then entered into a series of paired t-tests. Results of these analyses indicated that those with one or fewer years of experience living in Utah were unable to distinguish Utahns from non-Utahns (Utah, 3.27; non-Utah, 3.07;  $t(42) = 2.572$ ,  $p = 0.013$ ). On the other hand, those with more than one and less than five years of experience (Utah: 3.17; non-Utah, 2.68;  $t(19) = 3.913$ ,  $p = .002$ ) and those with more than five years (Utah: 3.36; non-Utah, 2.72;  $t(8) = 6.975$ ,  $p < 0.0001$ ) were able to identify Utah speakers from non-Utah speakers.

However, when linear step-wise multiple regression analyses were used to determine whether the three groups with varying amounts of experience differed in which phonetic characteristics they used to distinguish Utah English, it was found that they did

not ( $p > .05$ ). In other words, regardless of the amount of experience listeners had, they used the same characteristics to identify Utah from non-Utah speakers. This is significant since it suggests that listeners from areas other than Utah do not change what characteristics of the variety they use to recognize characteristics of Utah English even with more experience with the variety.

One unusual finding of this study was that older Utah speakers (those who were over 60) were the most likely to be rated as having a Utah accent even though their speech samples contained fewer stereotypical Utah features (like vowel mergers before /l/) than did the younger speakers' samples. Reviewing what features these older speakers did use demonstrated that both the older speakers pronounced *measure* [mɛʒr] instead of [mɛzr] while none of the other Utah speakers did so. This feature, used only by older Utah speakers (Lillie, 1998) may be seen as a stereotypical feature of Utah English but only by older speakers.

## **Discussion**

The present study focused on how two measures of dialect familiarity, region of origin and amount of experience, influenced one's ability to identify a variety of a language by its phonetic characteristics. Both measures of familiarity were found to influence dialect identification, although the degree and manner of influence was different for each. These results, as well as their implications for dialect identification research, are discussed below.

### ***Region of Origin***

Region of origin, proved to be a significant factor in the listeners' ability to recognize differences between Utah and non-Utah speakers. In particular, the listeners from Utah and the West (i.e., those whose variety of English is either the same or relatively similar to the dialect examined) were more adept at identifying Utah speakers based on phonetic characteristics than were the non-Western listeners who were from more distant areas. Unsurprisingly, this suggests that listeners from the region being examined were more accurate at identifying differences than those who were from more distant regions, and corroborates earlier findings by other researchers that region of origin is an important factor in dialect identification (i.e., Clopper & Pisoni, 2004b; Kerswill & Williams, 2002; Preston, 1996).

The current study expands our knowledge of dialect identification in two ways. First, it demonstrates that region of origin not only affects one's ability to identify varieties of a language, it also affects which traits or characteristics one uses to distinguish or classify these varieties. As shown by a linear step-wise multiple regression analysis, all three groups used a different set of phonetic characteristics of Utah English; the Utah listeners (i.e., the listeners who are from the same dialect area as the speakers) appeared to use only one of the phonetic characteristics we included, while Westerners (i.e., the listeners who are from a relatively similar dialect area) using the most.

Second, the three groups of listeners differed in the degree to which they used stereotypical characteristics of Utah English to determine the degree to which a speaker has a Utah accent. For example, the tense-lax vowel mergers before laterals (fail/fell and deal/dill) were the only traits that non-Westerners used to identify Utah English speakers,

and these two mergers alone accounted for 84% of the variation in their identification scores. These mergers are features of Utah English that participants in an earlier study named as some of the most stereotypical features of Utah English (Brickey & Sarver, 2004). Interestingly, the listeners who used only these features to identify a Utah speaker were also those who did the poorest job at correctly recognizing Utah speech.

By contrast, Western listeners used the *fail/fell* merger but also the epenthetic /t/ and pronounced /l/ to determine the degree of Utah accent. In other words, these listeners from regions close to Utah used other phonetic characteristics in addition to the stereotypical ones used by the non-Westerners. This is not to say that characteristics such as epenthetic /t/ and pronounced /l/ are not common in Utah, only that they are less often stereotyped. Perhaps listeners from close regions are better able to attend to these characteristics between their own speech and what they hear from Utahns. Non-Westerners, on the other hand, may perceive all Western dialects as similar which makes them rely on stereotyped traits for recognition.

This role of stereotypes is further evidenced by the fact that the listeners from Utah used only one of the phonetic characteristics we included in this study, and it accounted for much less of the variation in their scores (74%) than did the characteristics used by the other groups (Westerners: 96% and non-Westerners: 84%). In other words, Utahns seem to be using, in addition to the stereotypical vowel mergers before /l/, phonetic characteristics that listeners from other areas do not attend to. This is not to say that Utahns do not use these mergers to identify speakers from Utah, since 74% of the variance in their scores can be attributed to these features. Instead, these findings suggest that the Utahns may have been attending to other features in addition to those

examined in this study. For example, our personal observations suggest that intonation and vowel duration may set Utah English apart from surrounding varieties of English, although no studies have specifically examined these two aspects of Utah English. More research needs to be conducted to determine what these characteristics may be and whether all listeners native to any variety attend to features that listeners not native to the variety do not attend to.

In addition, listeners may have used stereotypical phonetic characteristics for dialect identification because of their negative perceptions of Utah English. In particular, both Utahns and non-Utahns often have negative perceptions of Utah English, especially of phonetic characteristics like the *deal/dill* and *fail/fell* mergers (Brickey & Sarver, 2004). Several studies on stigmatized varieties of English (such as African American English (AAE)) suggest that such characteristics are what listeners use to identify these varieties (for a brief review see Thomas and Reaser, 2004). Surek-Clark (2000) demonstrated that perceived dialect prestige influences whether or not transplants to a community adopt the regional variety spoken there. The results of the current study suggest that perceived dialect prestige also may influence what aspects of a variety are used for dialect identification. Replication of the results of this study with a more prestigious variety would indicate whether all varieties are perceived in a similar fashion.

### **Amount of Experience**

The second factor examined in this study was amount of experience, defined here as the amount of time spent living in Utah. We found that listeners with one year or less experience with Utah English were unable to distinguish between Utah and non-Utah

speakers, whereas those with more experience were able to do so. These findings have two important implications.

The first is that perceiving characteristics of a new variety occurs much earlier than adapting the characteristics into one's own speech. In fact, Chambers' studies (1992; 1998) show that adults and children who have lived in a new dialect area for several years often had not adopted the characteristics of the new dialect, particularly its phonetic characteristics. In other words, the results of our study, when compared to those of Chambers (1992; 1998) suggest that listeners perceive dialect variation much earlier than they assimilate dialect traits into their own speech. This finding seems to confirm the hypothesis that changes in one's speech occur first in perception before occurring in production (Labov, Karan, & Miller, 1991). Future studies that examine whether people who are able to perceive differences also produce them would help to further illuminate the perception/production link and expand earlier research in this area (i.e., Bowie, 2001).

The second implication of amount of experience on dialect identification we identified has to do with what phonological characteristics listeners used to identify Utah speakers. Listeners with more experience did not necessarily attune to different characteristics than those with less experience. Listeners with more experience were not able to perceive more characteristics of Utah English than those with less experience; they were simply more accurate at using the same characteristics to identify Utah speakers. One possible explanation for why they did not change may be that region of origin plays a much greater role in what characteristics listeners focus on rather than amount of experience, at least as far as phonetic traits are concerned, and that the characteristics one uses based on one's region of origin does not change over time.

Moreover, most of our listeners had less than two years of experience with Utah English. Research on dialect acquisition suggests that much more experience is needed to acquire the phonetic characteristics of a dialect in comparison to its lexical/syntactic characteristics (Chambers, 1992, 1998). Thus, more variation may have been evident in the types of phonological characteristics chosen by listeners if they had had more experience with Utah English.

Another possible explanation for these findings is that listeners with more experience were attending to characteristics of Utah English that were not examined in this study—the same characteristics that the native Utah listeners may have used as well. Further research into other aspects of Utah English may shed light on whether listeners become more “native-like” over time in how they use specific characteristics to perceive native from non-native speakers of a particular variety of a language.

While these findings suggest that region of origin and amount of experience influence dialect identification, it should be noted that the listeners’ ability to distinguish between Utah and non-Utah speakers was quite poor. An extreme case of this is found in comparing the ratings of the 20 year old male Utah (3.20) versus non-Utah (3.12) speakers whose ratings differed only by few points. Such findings are consistent with other studies involving dialect identification (i.e., Clopper & Pisoni, 2004a; William, Coupland, & Garrett, 1999), suggesting that listeners are not very adept at identifying regional varieties that are similar to their own. Interestingly, listeners are able to accurately distinguish between ethnic varieties with very little input (Purnell, Isardi, & Baugh, 1999). Perhaps listeners do not attune to differences in similar regional varieties

as we do with ethnic varieties because our prejudice towards speakers is based more on ethnicity than on region of origin..

## **Conclusions**

Whatever the reasons for these findings, they provide evidence that region of origin and amount of experience are significant factors in dialect identification. Importantly, we found that listeners from the region examined are best able to distinguish between characteristics of that variety and characteristics of other similar varieties, in contrast to those from distant areas. This is true even though these listeners may not have been explicitly taught these differences. Moreover, listeners from other areas are able to identify characteristics of a different variety, even one with which they have little experience. This illustrates the complex nature of dialect identification and highlights the importance of including traits of the listeners themselves, such as their region of origin and amount of experience. These must be taken into account along with the features of the variety examined (such as its perceived prestige) when investigating dialect identification.

## **Endnotes**

1. See Labov, Yaeger, & Steiner (1978) who documented that vowel mergers occur in other places in the Western United States, including Albuquerque, New Mexico..

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Table 1: Number of aspects of Utah English by speaker

Speaker	Epenthetic /t/ (Hantsen)	<i>pole/pull</i> merger	<i>feel/fill</i> <i>near</i> merger	<i>fail/fell</i> <i>near</i> merger	Pronounced /l/ (palm)	<i>pen/pin</i> merger	[eɪɜr] for [ɛɜr] (measure)	<i>card/cord</i> merger	[ʔən] or [ʔ : ŋ]	Total
<b>Utahns</b>										
<i>Female 20</i>	1/9	4/6	3/6	1/5	2/3	1/2	0/2	1/7	4/7	17/47
<i>Female 40</i>	6/9	4/6	4/6	2/5	2/3	2/2	0/2	2/7	4/7	26/47
<i>Female 60</i>	6/9	2/6	3/6	3/5	1/3	1/2	2/2	2/7	4/7	22/47
<i>Male 20</i>	1/9	1/6	5/6	4/5	2/3	1/2	0/2	1/7	7/7	24/47
<i>Male 40</i>	6/9	6/6	4/6	5/5	2/3	2/2	0/2	1/7	3/7	29/47
<i>Male 60</i>	5/9	0/6	1/6	2/5	1/3	0/2	2/2	2/7	4/7	15/47
<b>Total</b>	<b>25</b>	<b>17</b>	<b>20</b>	<b>17</b>	<b>10</b>	<b>7</b>	<b>4</b>	<b>7</b>	<b>26</b>	<b>133</b>
<b>Non-Utahns</b>										
<i>Female 20</i>	2/9	0/6	3/6	1/5	3/3	0/2	0/2	0/7	2/7	11/47
<i>Female 40</i>	0/9	1/6	2/6	0/5	2/3	1/2	0/2	0/7	2/7	8/47
<i>Female 60</i>	1/9	0/6	1/6	0/5	1/3	0/2	0/2	0/7	0/7	3/47
<i>Male 20</i>	0/9	2/6	1/6	2/5	0/3	1/2	0/2	0/7	5/7	11/47
<i>Male 40</i>	0/9	0/6	0/6	0/5	0/3	0/2	1/2	0/7	1/7	2/47
<i>Male 60</i>	0/9	0/6	1/6	0/5	0/3	0/2	0/2	1/7	1/7	3/47
<b>Total</b>	<b>3</b>	<b>3</b>	<b>8</b>	<b>3</b>	<b>6</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>11</b>	<b>37</b>

Table 2: Average ratings on the scale of Utah (6) to non-Utah (0) for each of the 12 speakers by the origin of the listeners

	<b>Utahns</b>	<b>Westerners</b>	<b>Non-Westerners</b>	<b>Average</b>
<b>Utahns</b>				
<i>Female 20</i>	2.54	2.32	2.60	2.48
<i>Female 40</i>	3.14	3.21	3.71	3.35
<i>Female 60</i>	3.86	3.83	4.06	3.91
<i>Male 20</i>	3.20	2.78	2.95	2.97
<i>Male 40</i>	4.07	3.71	3.53	3.77
<i>Male 60</i>	4.04	3.94	4.08	4.02
<b>Total</b>	<b>3.48</b>	<b>3.30</b>	<b>3.49</b>	<b>3.42</b>
<b>Non-Utahns</b>				
<i>Female 20</i>	2.40	1.86	2.03	2.09
<i>Female 40</i>	2.31	2.19	2.61	2.46
<i>Female 60</i>	3.30	2.92	3.27	3.16
<i>Male 20</i>	3.12	2.53	2.75	2.93
<i>Male 40</i>	2.58	2.41	2.44	2.47
<i>Male 60</i>	3.63	3.32	3.04	3.14
<b>Total</b>	<b>2.74</b>	<b>2.63</b>	<b>2.69</b>	<b>2.71</b>

Table 3: Linear step-wise multiple regression analysis of phonetic characteristics

Utahns	Westerners	Non-Westerners
<i>fail/fell</i> merger $r = .74$	<i>fail/fell</i> merger $r = .59$	<i>fail/fell</i> merger $r = .78$
	intrusive [t] $r = .35$	<i>deal/dill</i> merger $r = .06$
	pronounced [l] $r = .02$	
	Total: $r = .96$	Total: $r = .84$

## Appendix: Sentences

Excerpt 1: Hey, do you know Laura Kensington, Jill Fatheringham's roommate? Is she Keaton Olsen's girlfriend? Yeah, did you know she's actually divorced? No bull? That's something else.

Excerpt 2: Really, Nelson Cunningham told me. I mean how would you feel if you didn't find out until you were kneeling across the altar to be sealed? What would you do, rip off her veil or what? Would you bail out, or confront her on the spot, or just put a bullet through your brain?

Excerpt 3: That would be horrible. That's like Jared Clinton when he fell for that girl while they were both touring with the folk dancers. He got all weird and started stalking her.

Excerpt 4: I don't even have time for dating. I've got too much school work. Like this Thursday I've got a test in Faulkner's Botany class and an oral in religion. We actually have to memorize some of the Psalms. I'm totally going to fail.

Excerpt 5: Dude, I'm no fool. I'm not gonna break the rules. Just last week I saw someone get their test confiscated for cheating. It was so uncool. They just pulled it out of his hands, as if he'd done something illegal, not just a small infraction like filling out a

scantron with a pen instead of a pencil. I wish my tests were all true-false, but my profs think they are a bad measure of your knowledge.

Excerpt 6: Man, tests really stress me out. I think they're giving me ulcers. My mom says the calcium in warm milk really helps, but I think she's full of it. Sometimes I just feel rotten like there's no pleasure in life.

Excerpt 7: How about taking a break? Are you available tonight? We could play pool or do a matinee. Or there's a free concert tonight. It's the Men's Chorus. Ok, but I can't be out late because I've got ward council at seven on Sunday, so I've got to hit my satin pillow early or I'll never make it out of bed.