

Intraurban regional differentiation in Utah

David Bowie
University of Alaska Anchorage

Linguistic Society of America
Annual Meeting
Session 57
8 January 2011

Those studying linguistic variation in urban settings often assume that urban areas are essentially linguistically uniform—
but is this assumption actually warranted?

Background

Common assumptions of representativeness

- Urbanized areas are essentially linguistically uniform
- Individuals within a single urbanized area show differences in their use of linguistic forms
- These individuals' linguistic differences are the result of social factors other than region influencing variation

Chambers & Trudgill on sampling

As with all social surveys, there are difficulties at this point. Some of the people selected are not willing to cooperate. The problem of refusals, however, is thought to be less serious for linguistic studies than it is for social or political surveys. People who refuse to give their views on controversial social questions may well have different views on those questions from those who agree to help, and it is therefore important to try and persuade reluctant interviewees to take part. This seems not to be the case with language.

(Chambers & Trudgill 1998, p. 47)

Ramification: If every resident is at core representative of the entire urbanized area (even assuming, say, that this should be limited to lifelong residents of the urbanized area), with differences due only to accidents of other social factors present, then all that is necessary is to develop a sample that allows these other conditioning social factors to be corrected for. (In other words, efforts such as random sampling are unnecessary)

Labov on sample size

...it appears that for the linguistic purposes, a reliable sample of a very large city can be achieved with comparatively few speakers; in most cases, less than a hundred.

(Labov 2001, pp. 38-39)

Ramification: If every resident is representative of the urbanized area, then even a carefully handled sample of one or two can give useful insights into the linguistic patterns of the entire urbanized area, if not humanity as a whole, as in Hindle's (1979) study of Carol Meyers or Moisset's (2000) study of Parisian French.

What these assumptions mean

- These assumptions allow a simple explanation for the non-existence of, e.g., a "Brooklyn accent" different from the rest of New York City English
- Sociolinguistic studies are generally conducted with very small samples, and this is seen as unproblematic
- Labov (2001) lists successful studies with samples of one-quarter to one-third of one-thousandth of a percent of an urbanized area's population
- All of Utah was represented by only five speakers in the DARE survey (Cassidy 1985-), and by seven speakers, all from the northern third of the state, in the *Atlas of North American English* (Labov, Ash & Boberg 2006)

The key assumption tested here

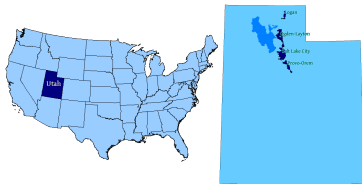
Given the nature of the data source for this study (see the "data" section of this poster), the assumptions dealing with sampling cannot be directly tested. However, since the data gives good coverage of multiple urbanized areas, the assumption dealing with the linguistic uniformity of urbanized areas can be tested, as long as social factors are taken into account (to determine whether any intra-urbanized area variation is actually geographically and not socially conditioned) and it is kept in mind that the other assumptions discussed above are being implicitly accepted.

Data

Study location

This study investigates English as spoken in the four largest urbanized areas of Utah: the Logan, Ogden-Layton, Salt Lake City, and Provo-Orem metropolitan areas.

- All of these lie along the Wasatch Front
- Together, they hold 88.4% of Utah's population



Source of data

- Based on 219 responses from the Utah Dialect Project (Lillie 1998)
- Only individuals with very stable residence histories were surveyed
- The Utah Dialect Project sampled communities across Utah; this study looks only at those responses from the urbanized areas listed above
- The survey data included demographic, phonetic, and lexical information
- The survey data was originally analyzed by county of residence, but the residence history section was used to record responses by municipality for this study

Linguistic variables

This study focused on five mergers that previous studies of Utah English have investigated, some broken down by phonetic environment:

- The *foal-fill merger*: /ɪ/ produced as [i] or [ɪ]
- The *fill-fill merger*: /ɪ/ produced as [i] or [ɪ]
- The *fall-fill merger*: /ɔ/ produced as [ə] or [ɔ]
- The *foal-full merger*: /ɔ/ produced as [u] or [ɔ]
- The *card-cord merger*: both /ɑ/ and /ɔ/ produced as [ɑ] or [ɔ]

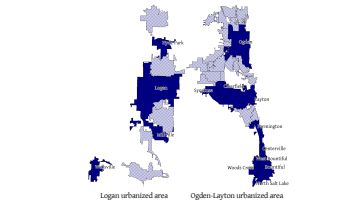
Social variables

The Utah Dialect Project tracked the following social features for all speakers surveyed:

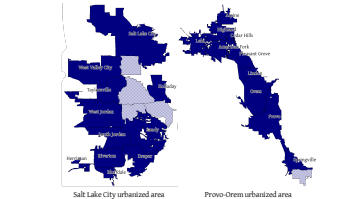
- Sex
- Year of birth
- Educational level
- Place of residence (for the speakers in this study, place of origin was identical)
- Race and ethnicity
- Occupation
- Other languages spoken
- Religious affiliation

Geographic coverage

The Utah Dialect Project did not sample all of the municipalities in each of the urbanized areas; municipalities covered by the survey are shown in solid blue in the maps below. (Note that the maps are not all to the same scale.)



Only four of the ten municipalities in the Logan urbanized area (above, left) were sampled, but those municipalities make up 61.2% of the region's population; similarly, only ten of the twenty-nine municipalities in the Ogden-Layton urbanized area (above, right) were surveyed, but those represent 59.5% of the population.



Coverage was more complete in the southern half of the Wasatch Front: Eleven of the fifteen municipalities in the Salt Lake City urbanized area (above, left), representing 84.5% of the population, were covered by the survey; ten of the twelve municipalities in the Provo-Orem urbanized area (above, right), representing 97.4% of the population, were covered.

Analysis

In brief, linguistic behavior for the variables studied was analyzed in two steps. First, the entire dataset was analyzed using multivariate methods to determine whether social variables other than place of residence would best explain the variation in the data. Second, for those variables that showed at least conditional independence for place of residence, an analysis was done to determine whether the effect of place was limited to places within a single urbanized area, or whether all of the urbanized areas had to be used to explain the variation.

Results

Along the entire Wasatch Front

Three variables showed significant regional differences within the entire Wasatch Front region: /s/ produced as [s] or [ʃ] (the variation was limited to the post-glide environment, since the variable was nearly consistently produced as [s] following an obstruent), /ɪ/ produced as [i] or [ɪ] (though only within a syllable; the variable showed no such pattern at the end of a word or when it spanned a syllable break), and /ɔ/ produced as [u] or [ɔ].

Post-glide /ɔ/, syllable-internal /ɪ/, and /ul/

The /ɪ/ and syllable-internal /ɪ/ variables showed a similar geographic pattern: the novel forms (respectively, [i] and [ɪ]) are more likely to be found in municipalities in the Salt Lake City urbanized area, less likely elsewhere.

Post-glide /s/, however, shows a different pattern, where the production of [ʃ] is relatively widespread in the municipalities of Sandy and Orem (in the Salt Lake City and Provo-Orem urbanized areas, respectively), but is found nearly nowhere else. The difference between those two municipalities and the rest of the Wasatch Front was, however, large enough that significance testing found that the overall distribution was not uniform.

Within urbanized areas

No significant differences were found between municipalities in the Logan urbanized area; this is perhaps unsurprising, given the relative sparseness of the Utah Dialect Project's coverage of it. However, significant differences were found within the other three urbanized areas in this study, and these differences were independent of social variables such as age and occupation.

Variables with intra-urbanized area differences

The Ogden-Layton urbanized area exhibited differences in three variables:

- /ɪ/ (foal-fill): [i] is stronger in Ogden and Layton than in the less heavily populated municipalities
- /ɔ/ (fall-fill): [ɔ] is resisted in and around Layton but strong in Ogden
- /ɔ/ (foal-full): Layton and its surrounding suburbs shows more of a tendency toward [ɔ], with [u] generally favored elsewhere

The Salt Lake City urbanized area exhibited differences in two variables; in both cases there were sharp differences among Salt Lake City's suburbs, with Salt Lake City itself exhibiting behavior somewhere in the middle:

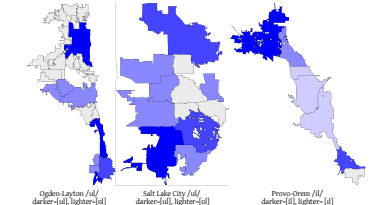
- /ɪ/ (fill-fill) in syllable-internal contexts only: There appears to be a possible east-west difference among Salt Lake City's suburbs, with eastern suburbs showing a tendency toward [ɪ] and the western ones tending toward [i]
- /ɔ/ (foal-full): [ɔ] is strongest in Salt Lake City's closer suburbs, while [u] is generally strongest in the furthest suburbs

The Provo-Orem urbanized area exhibited differences in three variables:

- /ɪ/ (foal-fill): [i] was found more frequently in and near Provo and Orem, with the northern suburbs resisting the variant very strongly
- /ɪ/ (fill-fill), though not in syllable-internal contexts: [ɪ] was much stronger in the suburbs furthest from Provo and Orem
- /ɔ/ (fall-fill): [ɔ] is found more frequently at the northern end of the urbanized area, [u] toward the southern end

Geographical distribution of variants

Maps of some of the variables showing differences within urbanized areas are shown below for reference: Ogden-Layton /ɪ/ (below, left); Salt Lake City /ɪ/ (below, center); and Provo-Orem /ɪ/ (below, right). Note that the maps are not all to the same scale.



Conclusions and future directions

The results from the Ogden-Layton, Salt Lake City, and Provo-Orem urbanized areas provide evidence against the main assumption being tested in this study. It turns out that, in fact, **urbanized areas are not linguistically uniform**. In fact, even if any of the differences within urbanized areas found in this study are type I errors (which always have to be considered as a possibility in this sort of study), the proportion of findings of intra-urbanized area differences is high enough that the overall finding should be regarded as robust.

The other two assumptions described in the "background" section of this poster deal with issues of sampling. The Utah Dialect Project's sampling was decidedly non-random and somewhat uneven, and so it cannot be used to test those assumptions directly. However, more systematic studies in the region are currently in progress (Baker & Bowie 2009), which will allow those assumptions to be tested as well, giving us a better picture of the degree to which any particular speaker or region can be considered representative of a larger group.

Selected references and acknowledgements

Baker, Wendy & David Bowie. 2009. Religious affiliation as a correlate of linguistic behavior. *University of Pennsylvania working papers in linguistics: Selected papers from NWAV 37*, 15. Article 2.
Bowie, David. 2003. Early development of the /s/ <ss/ merger in Utah. *American speech* 78, 31-61.
Bowie, David. 2005. Language change over the Wasatch: A test of the apparent time construct. *University of Pennsylvania working papers in linguistics: Selected papers from NWAV 33*, 11, 45-58.
Bowie, David. 2006. Acoustic characteristics of Utah's /s/ <ss/ merger. *American speech* 81, 35-61.
Cassidy, Frederic C. & Joan Houston Hall (eds.) 1985-. *Dictionary of American regional English*. Cambridge, Massachusetts: Belknap Press.
Chambers, J.K. & Peter Trudgill. 1998. *Dialectology*. Second ed. Cambridge, England: Cambridge University Press.
Cook, Stanley Joseph. 1980. Language change and the emergence of an urban dialect in Utah. *University of Utah PhD dissertation*.
Faber, Alice & Marianne Di Paolo. 1995. Phonation, differences and the phonetic context of the tense lax contrast in Utah English. *Language variation and change* 7, 215-204.
Hollis, Val J. 1970. A study of one phonological variable in urban and rural Utah. *University of Utah MA thesis*.
Hindle, William. 1979. The social and situational conditioning of phonetic variation. *University of Pennsylvania PhD dissertation*.
Labov, William. 2001. *Principles of linguistic change: Social factors*. Oxford, England: Blackwell Publishers.
Labov, William, Sharon Ash & Charles Boberg. 2006. *Atlas of North American English*. New York, New York: Motest of Guyter.
Lillie, Diane DeWard. 1998. The Utah dialect survey. Brigham Young University MA thesis.
Moisset, Christine. 2000. Variable liaison in Parisian French. *University of Pennsylvania PhD dissertation*.
I would like to thank Paul Baker and Diane Lillie for allowing use of data from the Utah Dialect Project. Thanks also to Wendy Baker, Marjory Baker, Kara Becker, Marianne Di Paolo, Bill Eggen, Michael Frazier, Damien Hall, Ott Horoth, Anne Harper, Charity Hudley, David E. Johnson, and Jennifer Stone for helpful thoughts about pieces of this study (some via Facebook, believe it or not!), and to Ron Butters for encouragement.