

## LEXICAL CHANGE IN KENTUCKY SPEECH

Terry Lynn Irons

Morehead State University

The largely unmined records of the Linguistic Atlas of the United States and Canada project, initiated by the American Council of Learned Societies in 1929 and carried out by numerous individuals over the next four decades, represent authentic source material for the investigation of language change *in real time*. As Raven McDavid notes in the Introduction to the Linguistic Atlas of the North Central States: Basic Materials (LANCS), these field interviews provide a baseline for "the interpretation of variation in current usage" (McDavid, et al. 1976).

Analysis of the field records for Kentucky has established that Kentucky is clearly situated in the Midland region of American speech (Irons 1997). This paper presents preliminary findings of a project designed to answer the following questions: to what extent is this dialect maintained in Kentucky and to what extent has it changed over the last half century. The data covered here are only lexical. The results show a decline in regionality in the nature of Kentucky speech and imply a need to redefine how regionality of speech, especially in lexical terms, is determined.

**METHOD.** This study compares lexical data collected in twenty counties in eastern and central Kentucky in the LANCS project at mid-century with similar lexical data collected from the same twenty counties in a contemporary survey project being conducted at Morehead State University (MSU). While the LANCS sample was collected using the worksheet interview method, the contemporary sample uses a checklist method. This difference in method, however, does not affect the validity of the comparison. As Professor Davis has noted, the checklist method has shown a "very high correlation to the Atlas results" and "may, therefore, be used as a reliable source of information" (1949: 67).

In *A word geography of the Eastern United States* (1949), Kurath convincingly demonstrates that each major dialect region is characterized by small sets of lexical variables, which may be termed diagnostic markers. Overall, Kurath identifies twenty five lexical variables, with over 100 alternate realizations, that are lexically diagnostic markers of general Northern, Midland, and Southern dialects of American English. These items comprise the following set (numbers refer to short work sheets of the Linguistic Atlas of the USA and Canada revised for LANCS by Davis and McDavid in 1949): 4.7 *quarter till*; 7.4 *lightwood*; 8.3 *roller shades*; 9.8 *clapboards*; 10.3 *gutters*; 13.6 *stone fence*; 14.2 *pail*; 14.3. *garbage*; 14.4 *frying pan*; 16.5 *armful of wood*; 17.6 *whiffletree*; 24.5 *creek*; 29.7 *bellow*; 30.1 *low*; 30.6 *chittlins*; 31.1 *calls to cows*; 32.6 *nigh horse*; 33.1 *a little way*; 36.1 *corn bread*; 43.6 *shelling beans*; 43.8 *string beans*; 46.7 *earthworm*; 46.8 *dragon fly*; 64.2 *I want to get off*; 71.4 *carry*. From this set, general Northern terms include *pail, johnny cake, brook, angleworm, swill, clapboards, nigh-horse, whiffletree, boss!, stone wall, darning needle, string beans, eavestrough*. General Midland terms include *blinds, snake feeder, sook!, a little piece, skillet, spouting, green beans, to hull beans, bawl, arm load, quarter till, want off, lead horse*. General Southern terms include *lightwood, tote, low, co-*

wench, snap beans, turn of wood, mosquito hawk, hasslet. Other variants in this set are variously labeled General, e.g., shades; Midland & Southern, e.g., bucket, slop; Northern & Southern, e.g., spider; etc.

Many of these regional terms, especially those terms related to life on the farm, have been lost entirely in contemporary speech. Given this fact and the earlier finding that Kentucky is situated in the Midland dialect region of American speech, the following subset is treated as diagnostic markers for the purposes of this study: 4.7 quarter till; 8.3 roller shades; 10.3 gutters; 14.2 pail; 14.4 frying pan; 33.1 a little way; 43.8 string beans; 46.8 dragon fly. Despite the limitations, this subset has a good fit with the “considerable body of words” that Kurath identifies as distinctive of Midland speech (1949: 27).

Rather than individual item analysis, the results are presented as indices of regionality, following the method developed in Lance & Faries (1997). The index of regionality is calculated by adding together a weighted regional value for each lexical item to determine an overall measure of regionality for each county. This measure provides the basis for comparison.

The results presented reflect data gathered in 63 interviews in the LANCS project and data gathered in 291 interviews in the MSU project. To adjust for the variation in the number of people interviewed in each project and each county, the results have been normalized by dividing the total number of items by the number of speakers interviewed to provide a mean frequency per interview. To avoid regional sampling bias, these normalized data have been used as the basis for determining mean state frequency. In a Chomskyeian sense, the results represent an idealized member of the speech community.

RESULTS. Assuming a random distribution, basic principles of classic theoretical probability, as defined by Pascal, Fermat, and Demoiivre, predict expected values for the distribution of regional lexical items. These values are determined using the formula of desired outcome/total outcome. These calculations and values are presented in Table 1. The items selected for this study show a slight bias toward Northern and Midland dialects as a predicted outcome. For the set of eight (8) variable lexical outcomes included in this study, these

Table 1.  
Predicted Outcomes

Variable		Calculation		p value
P(Northern)	=	6.5/24	=	.270
P(Midland)	=	7.5/24	=	.3125
P(Southern)	=	5/24	=	.208
P(General)	=	5/24	=	.208

probability values predict specific expected index of regionality values: expected Northern index = 2.16; expected Midland index = 2.5; expected Southern index = 1.67. These expected values provide one basis for analyzing and interpreting the results of the current study.

Tables 2, 4, and 6 present the basic results of the study, indicating indices of regionality and changes in the values of these indices, for each county included in the study. Applying the multinomial distribution to these results, using the *p* values in Table 1, the probability of the regional indices reported for the 1950 survey is  $9.91 \times 10^{-10}$ ; the probability of the regional indices reported for the 1995 survey is  $2.33 \times 10^{-7}$ . These numbers strongly imply that the results are not chance but reflect the existence of a regional dialect.

Table 2 presents the Northern Indices of Regionality and shows the changes in these values county by county. The data show a decline in the overall use of Northern terms in

Table 2  
Northern Index of Regionality

County	Northern Index--1950	Northern Index--1995	Change
Bath	0.75	0.5	-0.25
Breathitt	0.5	0.84	0.34
Carter	0.3	0.54	0.24
Clark	0.83	1.3	0.47
Fayette	1.75	0.8	-0.95
Greenup	0.67	0.875	0.205
Harlan	1.167	1.5	0.333
Jefferson	2.5	1.3	-1.2
Johnson	1	0.84	-0.16
Kenton	1.67	1.3	-0.37
Laurel	1	0.75	-0.25
Lawrence	1.67	0.3125	-1.3575
Leslie	1.83	2	0.17
Letcher	0.5	0.94	0.44
Lewis	1	1.0625	0.0625
Mason	1.4	0.5	-0.9
Menifee	0.75	0.6875	-0.0625
Owsley	1.625	0.7	-0.925
Perry	0.3	0.83	0.53
Pike	0.67	1.06	0.39
Total	1.09	0.93	-0.16

Kentucky speech. The difference represents an overall 14% decline in use of Northern terms. Applying a two-tailed two sample *t*-test to the overall 1950 and 1995 Northern Indices of Regionality yields an  $\alpha = .24$ . As this value fails to meet the critical values of .05 or .01 for statistical significance, we reject the hypothesis that there is a significant change in the use of Northern terms in Kentucky speech.

There is, however, significant variation in the use of Northern terms throughout the region covered by this study. The significance of this variation is analyzed using the *z*-test. *Z* scores for the Northern Indices of Regionality are reported county by county in Table 3. Ideally, the

Table 3  
Northern Index *Z* Scores

County	1950 Northern Index	1995 Northern Index	Index Change
Bath	1.163067645	1.085338936	0.146480041
Breathitt	1.004037326	1.346307079	-0.838119494
Carter	3.287313532	3.550802795	-0.671238217
Clark	0.773070916	-1.602371671	-1.055065154
Fayette	-2.216960385	1.048020533	1.314648981
Greenup	1.241421338	0.404272055	-0.61282977
Harlan	-0.213392161	-1.427746878	-0.826437805
Jefferson	-4.751981408	-2.775389147	1.731852174
Johnson	0.275448592	1.404447576	-0.003713108
Kenton	-1.685768802	-2.447663158	0.346737574
Laurel	0.275448592	0.646391033	0.146480041
Lawrence	-1.685768802	6.226170106	1.994690185
Leslie	-2.154119224	-2.684289786	-0.554421323
Letcher	1.419923204	-0.086629726	-1.005000771
Lewis	0.159030319	-0.928492961	-0.37502395
Mason	-1.155991885	3.069802087	1.231208342
Menifee	0.822413019	1.737037071	-0.166422354
Owsley	-1.794456881	1.842728046	1.272928662
Perry	2.32448169	1.846190927	-1.155193921
Pike	1.241421338	-2.159968681	-0.921560133

significance of change would be analyzed county by county using a two-sample *t*-test or ANOVA, but the preliminary nature of the results do not make this analysis possible at present. Assuming an approximation of a standard normal distribution, for  $\alpha = .05$ , the critical *z* score in a two-tailed test is  $\pm 1.96$ ; for  $\alpha = .01$ , the critical *z* score in a two-tailed test is  $\pm 2.58$ . Using the higher value, Carter county shows a significantly lower use of Northern terms in the 1950 sample;

Jefferson county shows a significantly greater use of Northern terms in the 1950 sample. This pattern is replicated for both counties in the 1995 sample. The 1995 sample also shows a significantly lower use of Northern terms in Mason and Lawrence counties.

Table 4 presents the Southern Indices of Regionality and shows the changes in these values county by county. The data show a stability in the overall use of Southern terms in

Table 4  
Southern Index of Regionality

County	Southern Index--1950	Southern Index--1995	Change
Bath	1	1	0
Breathitt	1	0.99	-0.01
Carter	0.7	0.92	0.22
Clark	1.3	1.17	-0.13
Fayette	2.125	0.85	-1.275
Greenup	0.83	1.25	0.42
Harlan	1.3	2	0.7
Jefferson	1.375	1.39	0.015
Johnson	0.83	1.07	0.24
Kenton	1.5	1.64	0.14
Laurel	1.17	1.75	0.58
Lawrence	1.17	0.875	-0.295
Leslie	1.3	1	-0.3
Letcher	1.5	0.97	-0.53
Lewis	1.5	0.9375	-0.5625
Mason	1.5	1	-0.5
Menifee	0.75	1.1875	0.4375
Owsley	0.875	1.1	0.225
Perry	0.5	1.14	0.64
Pike	1.17	1.1	-0.07
Total	1.17	1.16	-0.01

Kentucky speech. Applying a two-tailed two sample *t*-test to the overall 1950 and 1995 Southern Indices of Regionality yields an  $\alpha = .979$ . As this value fails to meet the critical values of .05 or .01 for statistical significance, we reject the hypothesis that there is a significant change in the use of Southern terms in Kentucky speech.

There is, again, however, significant variation in the use of Southern terms in this region covered by this study. The significance of this variation is analyzed using the z-test. Z scores for the Southern Indices of Regionality are reported county by county in Table 5. Using the critical values presented above, Carter and Perry counties show a significantly lower use of Southern terms in the 1950 sample; Fayette county shows a significantly greater use of Southern terms in the 1950 sample. The 1995 sample, however, shows some dramatic changes in the use of

Table 5  
Southern Index Z Scores

Name	1950 Southern Index	1995 Southern Index	Index Change
Bath	0.906913269	0.544555609	-0.005681118
Breathitt	0.453456634	3.365413942	0.014977493
Carter	3.073748936	2.903985169	-0.460170554
Clark	-0.602648856	-0.016943676	0.262880822
Fayette	-5.103557586	3.268774993	2.628291752
Greenup	1.571976576	-0.765506443	-0.873342769
Harlan	-0.602648856	-2.716256422	-1.45178387
Jefferson	-1.096577016	-2.181483249	-0.036669034
Johnson	1.571976576	1.923970288	-0.501487776
Kenton	-1.528021381	-4.080711815	-0.294901668
Laurel	-0.001156716	-2.688495521	-1.203880541
Lawrence	-0.001156716	3.808628452	0.603747899
Leslie	-0.602648856	0.544555609	0.614077204
Letcher	-1.247624233	2.725387398	1.089225252
Lewis	-0.882203555	2.116671431	1.156365737
Mason	-1.97266712	1.540235856	1.027249419
Menifee	1.5857389	-0.189070869	-0.909495338
Owsley	1.574743364	0.690876734	-0.47049986
Perry	3.098841241	0.634879349	-1.327832206
Pike	-0.001156716	1.46557087	0.138929157

Southern terms in Kentucky speech. Again, using the critical values presented above, we see a significantly lower use of Southern terms in Breathitt, Carter, Fayette, Lawrence, and Letcher counties. Conversely, we see a significantly greater use of Southern terms in Harlan, Kenton, and Laurel counties.

Table 6 presents the Midland Indices of Regionality and shows the changes in these values county by county. The data show a decline in the overall use of Midland terms in

Kentucky speech. The difference represents an overall 24% decline in the use of Midland terms. Applying a two-tailed two sample *t*-test to the overall 1950 and 1995 Midland Indices of Regionality yields an  $\alpha = .003$ . As this value exceeds the critical values of .05 and .01 for statistical significance, we accept the hypothesis that there is a significant change in the use of Midland terms in Kentucky speech.

Table 6  
Midland Index of Regionality

County	Midland Index--1950	Midland Index--1995	Change
Bath	4.25	2.5	-1.75
Breathitt	1.5	3.94	2.44
Carter	5	3.62	-1.38
Clark	3.5	3.17	-0.33
Fayette	3.375	2.35	-1.025
Greenup	6.17	2.625	-3.545
Harlan	4.5	1.5	-3
Jefferson	4.125	2.23	-1.895
Johnson	4.83	4.01	-0.82
Kenton	3.17	2.07	-1.1
Laurel	5.5	4	-1.5
Lawrence	5.17	3.8125	-1.3575
Leslie	4.5	4	-0.5
Letcher	5.5	3.86	-1.64
Lewis	3.5	3.75	0.25
Mason	5.5	3.75	-1.75
Menifee	6	3.25	-2.75
Owsley	3.25	4.2	0.95
Perry	4.5	3.7	-0.8
Pike	3.17	3.64	0.47
Total	4.35	3.3	-1.05

Again, there is significant variation in the use of Midland terms throughout the region covered by this study. The significance of this variation is analyzed using the *z*-test. *Z* scores for the Midland Indices of Regionality are reported county by county in Table 7. Only Greenup county shows a significantly greater use of Midland terms in the 1950 sample. The 1995 sample presents a very different picture. In this sample, the use of Midland terms is significantly less in Fayette, Jefferson, and Kenton counties; the use of Midland terms is significantly greater in Breathitt, Johnson, Letcher, Owsley, Perry, and Pike counties.

Table 7  
Midland Index Z Scores

Name	1950 Midland Index	1995 Midland Index	Index Change
Bath	0.171928303	1.006140977	0.5039709
Breathitt	2.438217056	-4.708278857	-2.5196741
Carter	-1.360836973	-1.458229231	0.23696645
Clark	1.260045608	0.281131372	-0.5207489
Fayette	1.668816515	3.779105453	-0.0192135
Greenup	-2.695653126	2.400514561	1.79930331
Harlan	-0.221489498	2.265588296	1.40601297
Jefferson	0.385769476	4.03857526	0.60860778
Johnson	-0.710396083	-5.447870997	-0.1671484
Kenton	1.748952193	4.094838099	0.03490903
Laurel	-1.703024605	-1.248793004	0.32356249
Lawrence	-1.21411802	-2.587534517	0.22072969
Leslie	-0.221489498	-0.883030002	-0.3980712
Letcher	-1.390513767	-2.998305471	0.4245912
Lewis	0.727487671	-1.607022269	-0.9392964
Mason	-2.198595311	-1.607022269	0.5039709
Menifee	-1.995347941	0.174105211	1.22560455
Owsley	1.882657688	-3.588930472	-1.44444
Perry	-0.221489498	-3.643018765	-0.1815811
Pike	1.748952193	-2.882038724	-1.0980558

Although these results show an overall erosion in the use of Midland dialect terms in Kentucky speech, the data for the Southeastern counties of Pike, Perry, Owsley, Letcher, Johnson, and Breathitt suggest a southern movement of the Midland dialect in Kentucky or at least a resistance to northern encroachment of the Southern dialect.

**CONCLUSION.** This paper has presented the results of the application of a variety of statistical tests to dialect data gathered in Kentucky over the past century. The goal has been to examine variation and change in Kentucky speech. The results of the study suggest that there has been an overall decline in the regional nature of Kentucky speech. This conclusion must, however, be tempered by the fact of variation across the Commonwealth in the lexical results presented here.

To provide a basis for examining change, this study has accepted Kurath's definitions of regionality in lexical items in speech. Given the results here, future studies must re-examine how to best categorize lexical variants for purposes of making sense of change.

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