

## 19. The Midland

An overview of the Midland area was presented in Chapter 11. The Midland was first defined by Kurath (1949) on the basis of its lexicon and its settlement history as the area centered around Philadelphia and expanding westward to include most of Pennsylvania and the Appalachian area (Figure 1.1). Kurath divided it into two subregions: a North Midland centered on Pennsylvania; and a South Midland comprising the Appalachian highlands. Shuy (1962), Davis (1949), and Carver (1987) established the northern boundaries of the Midland through Ohio, Indiana, and Illinois in the form of the North/Midland lexical isogloss shown in Map 14.11. This lexical isogloss coincides with the bundle of phonological isoglosses that define the Northern Cities Shift and other phonological features of the Inland North. It reinforces the status of the North/Midland boundary as one of the two major dialect divisions of the United States.

The other major division is the southern boundary of the Midland, but here there is not the same agreement between lexical and phonological isoglosses. On the one hand, the Midland character of the Appalachian region is well established by both lexical and grammatical features (Chapter 21). On the other hand, phonological criteria adjoin this part of the Midland firmly to the South. Both the Southern Shift and the Back Upglide Shift characterize the regional dialect of the South as a whole, and both are centered in such cities as Birmingham, Knoxville, and Chattanooga, which lie within Kurath's South Midland. The approach to dialect definition of this Atlas, based on active changes in progress, leads to a definition of the Midland corresponding to Kurath's North Midland: the region between the Ohio River and the North.

The Atlas data do not justify the labeling of any one dialect as "General American", a term promoted by John Kenyon to indicate a conservative Inland Northern dialect (Frazer 1993; Donahue 1993). As Chapter 14 shows, the Northern Cities Shift has changed the Inland North dialect in such a way that it is now strikingly different from other North American dialects. The Midland dialect as described in this chapter would have a much stronger claim to be the lowest common denominator of the various dialects of North America. Many features of the Midland are the default features – that is, the linguistic landscape remaining when marked local dialect features are eroded.

### 19.1 Geographic distribution of Midland features

This chapter will accept the boundaries of the Midland that were developed in previous chapters, and examine the internal character of the Midland area. The maps to follow show only the Telsur speakers within the Midland boundaries. Two major cities of the Eastern United States might have been included in a "Midland super-region" for both historical and structural reasons: Pittsburgh and Philadelphia. They are in fact included in the southeastern super-region of Map 11.11. The Philadelphia dialect is treated in Chapter 17 as part of a Mid-Atlantic region, on the basis of the sound changes that define Philadelphia, Wilmington, and Baltimore. Pittsburgh is distinctly different from the rest of the Midland in some features, but shares others; the maps of this chapter will show Pittsburgh as an area distinct from the Midland and a separate section will deal with the special developments of that dialect.

The Midland does not show the homogeneous character that marks the North in Chapter 14, or the South in Chapter 18. Many Midland cities have developed a distinct dialect character of their own: Philadelphia is the most extreme example. This chapter will begin with a consideration of those features that are general to the Midland as a whole, and then focus on particular cities. Since Pittsburgh, Cincinnati, and St Louis are quite distinct from the rest of the Midland, each deserves a separate section.<sup>1</sup>

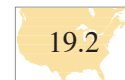
#### *The low back merger in the Midland*



The Midland is distinguished from the surrounding territories by the status of the low back merger, in which the vowel class of /o/ merges with /oh/. The Telsur minimal pair data includes four allophones: before /n/ (*Don ~ dawn*), before /t/ (*hot ~ caught*), before /l/ (*dollar ~ taller*) and before /k/ (*sock ~ talk*).<sup>2</sup> Map 19.1 shows the combined status of all minimal pairs. If all are different in production and perception, the symbol is blue; if all are the same in production and perception, a green symbol appears. If both perception and production show a mixture of 'same' and 'different', or are both 'close', an orange symbol appears, and all other transitional states are marked with light orange. These data separate the map into three areas. Western Pennsylvania is dominated by the merger; the Saint Louis corridor maintains the distinction; and the rest of the Midland is predominantly in a transitional state.

Not shown here, but available in Maps 9.1 and 11.1, is the contrasting situation in adjoining regions. To the east, the north, and the south, the distinction is generally maintained; to the west, it is lost. The Midland is the only area where the low back merger is consistently transitional; indeed, this can be seen as one of the region's defining features.

#### *The fronting of /ow/*

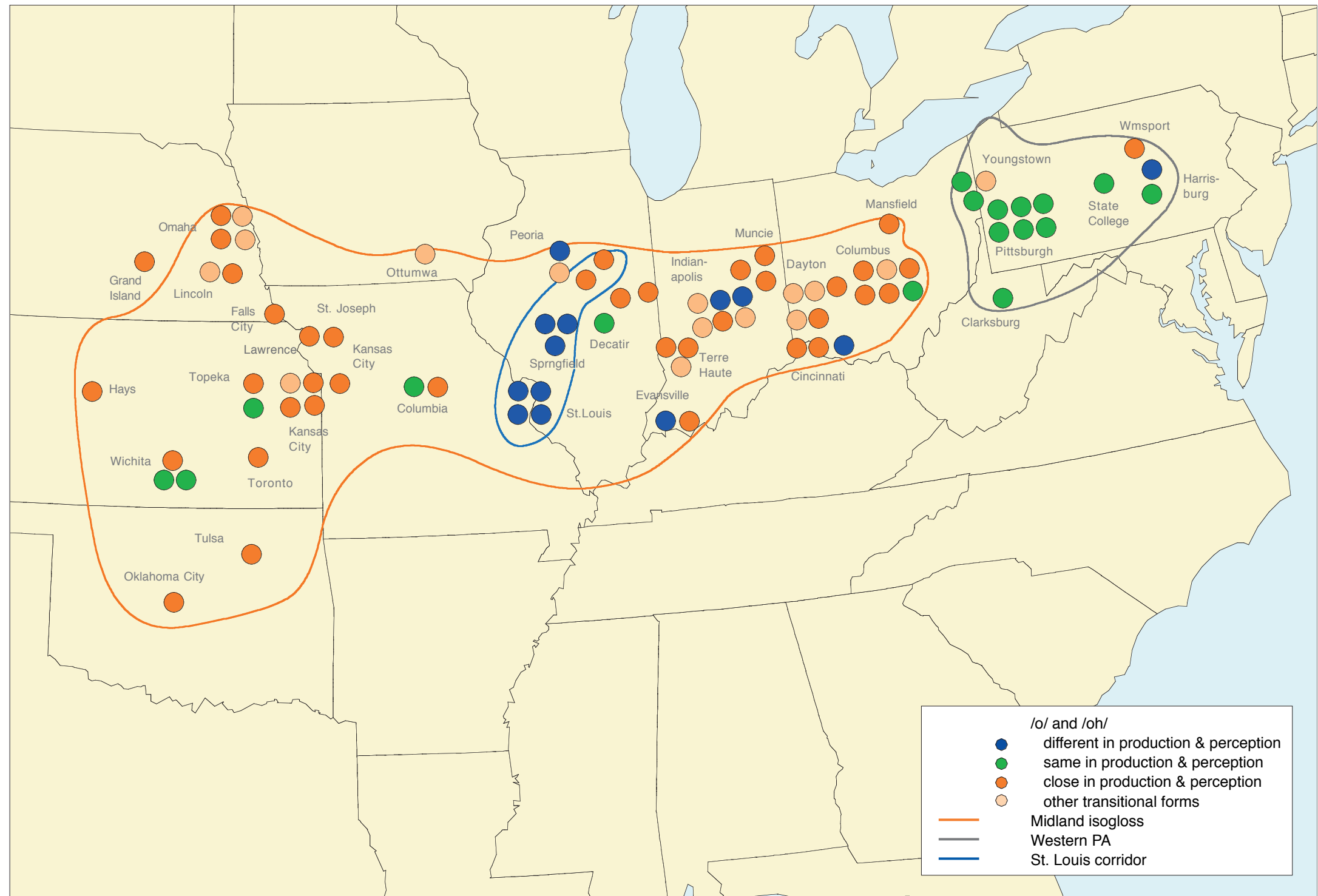


A general characteristic of the Midland area is the fronting of the nucleus of /ow/, as first shown in Maps 11.8 and 12.3. The Midland shares this feature with the southeastern super-region (Map 11.11), and is differentiated by it from the North and the West. Map 19.2 shows the distribution of various levels of /ow/ fronting within the Midland. This map is more homogeneous than Map 19.1, where the St. Louis corridor and Western Pennsylvania were opposed to the rest of the Midland. The great majority of Telsur speakers within the Midland show some degree of fronting of /ow/. Extreme fronting of /ow/ is registered by a mean value greater than 1550 Hz (the center of the normalized distribution). The strongest concentration of such extreme fronting, shown by dark blue symbols, is found in the largest cities, particularly Columbus, Ohio.

Table 19.1 gives the results of a regression analysis of F2 of /ow/ in the Midland. It shows that fronting is an active change in progress (in apparent time),

<sup>1</sup> In order better to understand the heterogeneous character of the Midland as a whole, a larger number of Telsur interviews than normal were conducted in Pittsburgh, Columbus, Indianapolis, and Omaha.

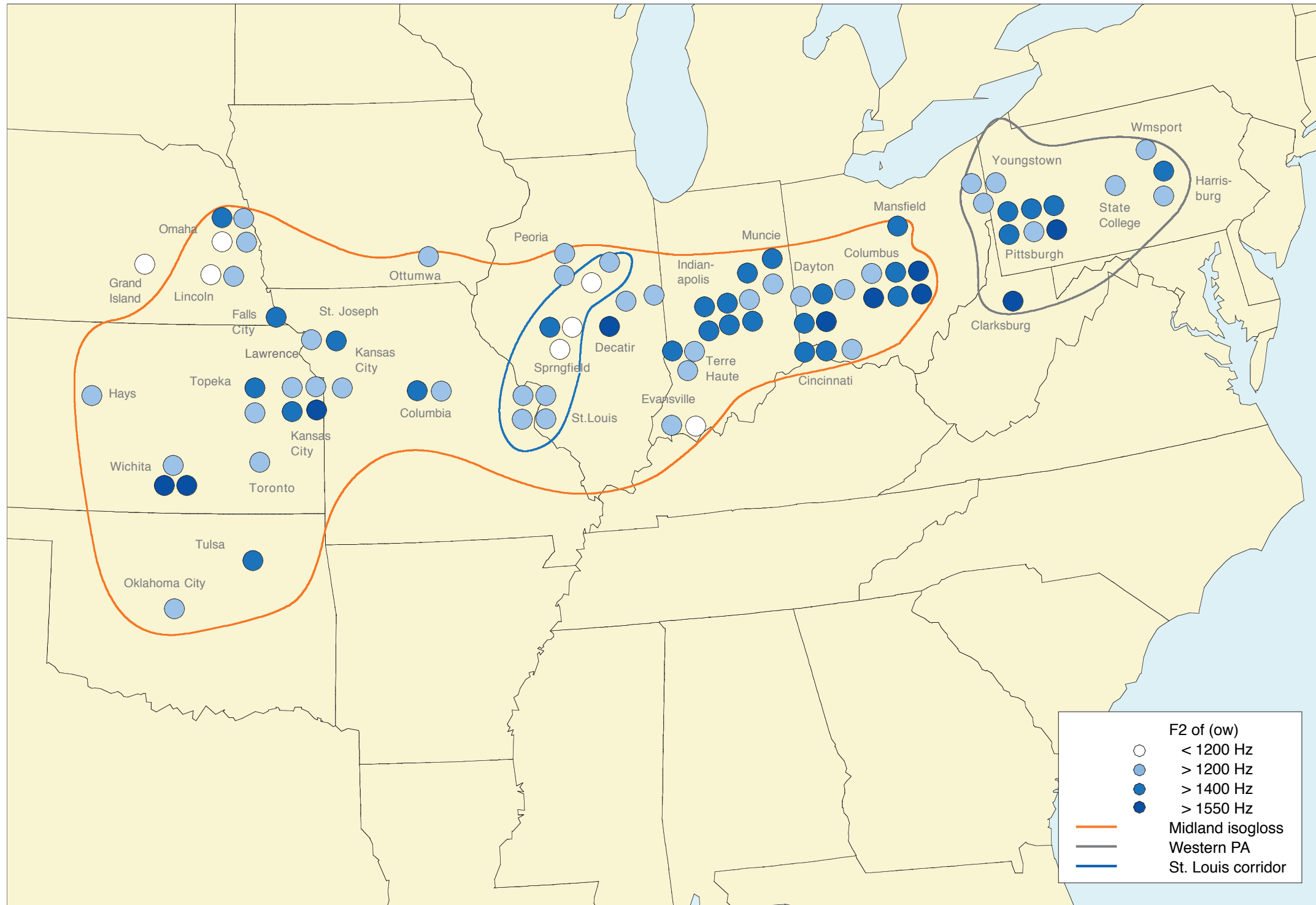
<sup>2</sup> In some but not all interviews, allophones before /d/ are included.



Map 19.1. The low back contrast in the Midland

One of the most characteristic features of the Midland is the close approximation of /o/ and /oh/ in *cot* and *caught*, *hock* and *hawk*, without a full merger. The dark orange symbols represent those speakers for whom these two word classes were ‘close’ in both production and perception. In contrast, western Pennsylvania

shows a full merger (green symbols). In the Midland proper, the only solid area of contrast for /o/ and /oh/ is found in the St. Louis corridor, running from St. Louis to Chicago along Route I-55.



Map 19.2. The fronting of /ow/ in the Midland

The Midland area shows a strong tendency for the nucleus of /ow/ to be fronted to central position or even further. Columbus, Ohio shows the greatest tendency in this direction (three of six speakers show dark blue symbols, indicating an advance beyond the central position of the normalized system). Wichita, Kansas

is almost equally strong in this development. Pittsburgh, Cincinnati, and Indianapolis show a predominance of less extreme centralization, with the F2 of /ow/ just behind the center of the vowel system (greater than 1400 Hz but less than 1550 Hz).

led by women. The fronting of /ow/ is also correlated with size of MSA (Metropolitan Statistical Area), with a 27 Hz advantage for each million of population. (The social factors are extracted from an analysis that includes a wide range of phonetic factors as well.)

Table 19.1. Social factors from the regression analysis of fronting of /ow/ in the Midland. N = 1234

	Coefficient	Probability
Age (x 25 years)	-54	< .0001
Female	29	< .01
MSA size (in millions)	27	< .0001
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r <sup>2</sup> adj (with 12 phonetic factors)	.60	

*The relations of /ay/ and /aw/*

Chapter 12 showed that the sharpest delineation between the North and other areas is in the relative position of /aw/ and /ay/, as determined by the general fronting of the nucleus of /aw/ in all but the Northern regions. Map 19.3 displays the internal structure of the Midland in this phonetic dimension. Like /ow/-fronting in Map 19.2, this is a general Midland feature, including the St. Louis corridor and Western Pennsylvania. The fronting of /aw/ is again concentrated in the largest cities: in this case, Indianapolis and Kansas City, where the mean F2 value of /aw/ is greater than 1750 Hz. It should be noted that this measure is based on the main body of /aw/ before oral consonants, since the pre-nasal tokens are excluded from the calculation of the mean for /aw/ as well as for the short front vowels /i, e, æ/. In many areas, /aw/ before nasals is distinctly fronter and higher than other tokens of /aw/, but the extreme fronting in Map 19.3 is independent of this allophonic effect.

Table 19.2 reports the analysis of social factors in the same format as Table 19.1. It is evident that the fronting of /aw/ is also a change in apparent time, but a less vigorous one. Women are not leading men in this variable. These results indicate that the fronting of /aw/ may be an earlier process than the fronting of /ow/. The analysis of the vowel systems of whites born in the nineteenth century by Thomas (2001) shows the nucleus of /aw/ consistently located front of center.

For /aw/ fronting, the size of the MSA population is a major factor. In addition, the analysis shows a sizeable educational cline: speakers with less education show more fronting.

Table 19.2. Social factors in the regression analysis of fronting of /aw/ in the Midland. N = 950.

	Coefficient	Probability
Age (x 25 years)	-30.5	<.001
Female		ns
MSA size (in millions)	42.8	<.0001
Education (yrs of schooling)	-6.5	<.0001
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r <sup>2</sup> adj (with 12 phonetic factors)	.33	

**Glide deletion in the Midland**

Map 11.3 drew a sharp line between the South and the Midland by tracing the distribution of /ay/ glide deletion. Many speakers in the Midland exhibit glide deletion before resonants, in words like *time*, *tire*, *mile*, but only one produced a form



with glide deletion before obstruents, as in *five*. Map 19.4 shows the location of these speakers. Those who used more than 20 percent deletion before resonants are indicated with dark red circles, and the one case of deletion before obstruents with a red star. This Telsur speaker, Roger W., is a 39-year-old man from the small city of Lawrence, in between Kansas City and Topeka, with a 10th grade education, and has worked in construction and the steel industry. His production of /ay/ tokens shows the distribution set out in Table 19.2.

Table 19.2. /ay/ tokens of Roger W., Lawrence, 39 [1993], Kansas City TS 260

	diphthongs	shortened glides	monophthongs
before resonants	<i>behind</i> <i>mine</i> <i>line</i>	<i>nine</i>	<i>time</i> <i>sometimes</i>
before obstruents	<i>Friday</i>	<i>five</i>	<i>five</i> <i>five</i>

The red star on Map 19.4 indicates the presence of a pattern that deviates from other Midland speakers. It suggests that there may be other such speakers, of lower socio-economic status, who show Southern glide deletion. Nevertheless, it is not accidental that only one of 87 Midland Telsur speakers shows glide deletion before obstruents, and the contrast with the South is sharp.

The Midland shows a gradation of Southern features from north to south, largely in the fine-grained phonetics of the short vowels and the degree of opening of the mid diphthongs. In Map 19.4, the Midland is divided into a northern and southern portion by drawing an isogloss (the narrow orange line) for the northern limit of glide deletion before resonants. There are 38 speakers north of the line who show no trace of glide deletion, almost 40 percent of the sample population.

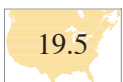
**The fronting of /ʌ/ in the Midland**

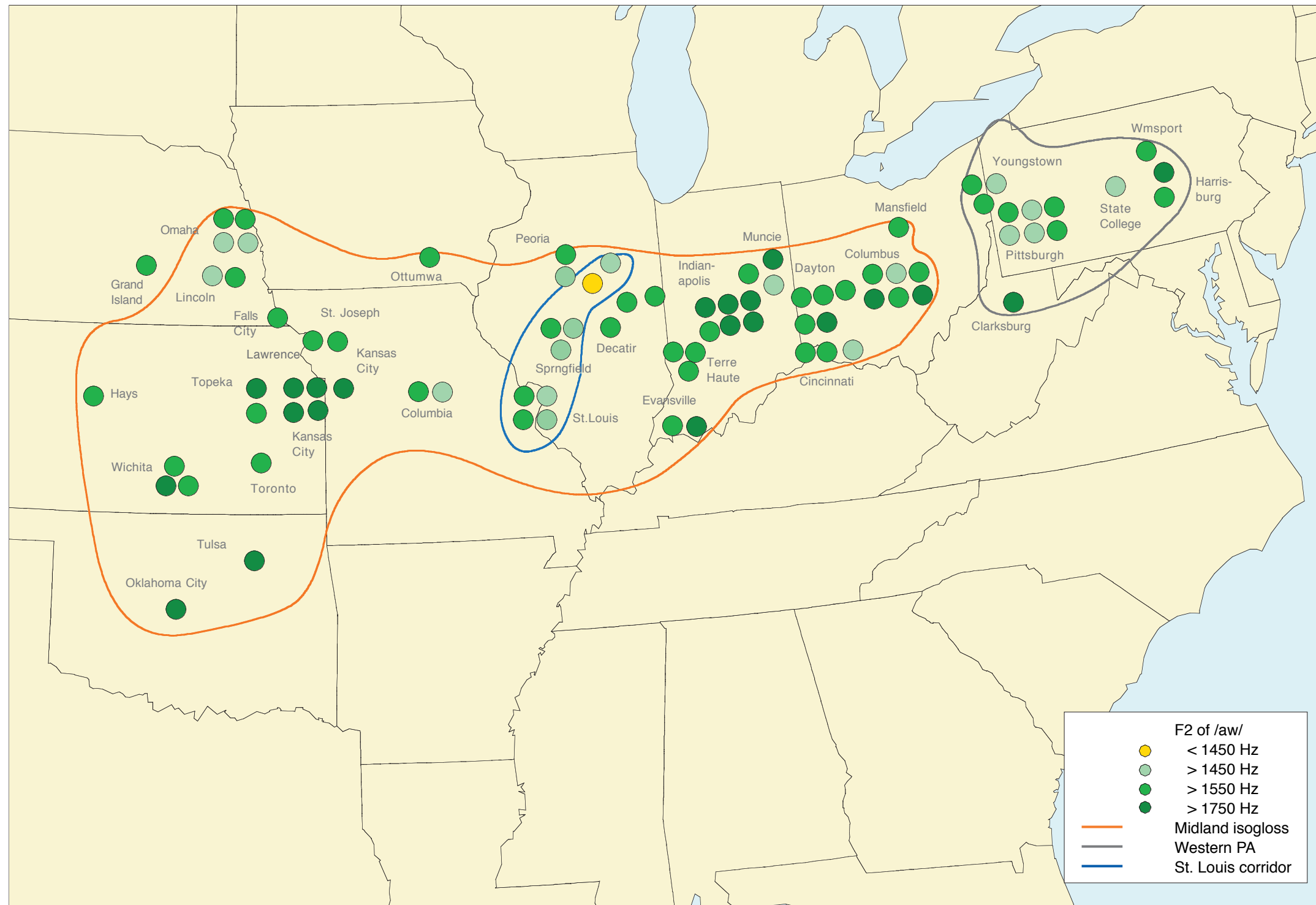
Maps 11.14 and 14.8 presented a division between the North and the Midland by the relative fronting of /ʌ/ and /o/, with no exceptions, and Table 11.2 showed that in the Midland /ʌ/ is shifting strongly to the front among younger speakers. Map 19.5 gives more detail on the distribution of /ʌ/ in the Midland. The orange symbols show speakers whose mean value of /ʌ/ is greater than 1450 Hz, but less than the general of 1550 Hz, the center of the vowel space; the medium brown symbols represent mean values that are front of center, that is, greater than 1550 Hz; and the dark brown symbols show the greatest degree of fronting, an F2 mean greater than 1650 Hz. It is evidently an urban phenomenon: The big cities – Kansas City, Indianapolis, Columbus, Pittsburgh – show the strongest fronting, and usually among the younger speakers (located to the left).

To summarize the findings so far, the Midland can be described phonologically as the area where the low back merger is in transition, where /ow/ and /aw/ are strongly fronted, where glide deletion occurs only before resonants and where wedge is moving strongly to the front.

**19.2. The Midland vowel systems: Columbus and Kansas City**

Figures 19.1–19.3 are vowel charts of a Midland speaker who exemplifies the general patterns seen in of Maps 19.1–19.4. Figure 19.1 shows the low short vowels of Danica L., a 37-year-old woman from Columbus, Ohio. She is a high-school



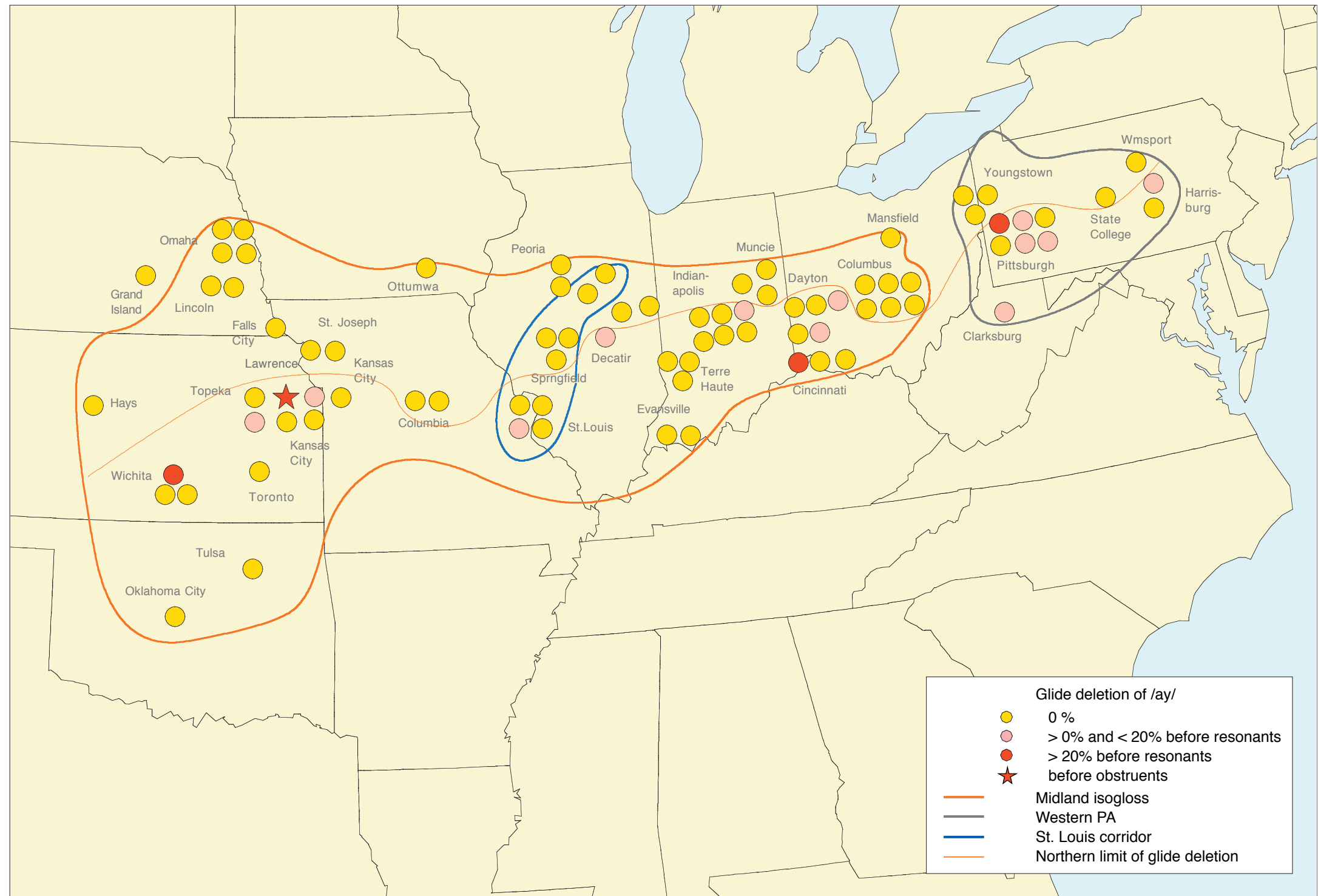


Map 19.3. The fronting of /aw/ in the Midland

A tendency parallel to the last map is seen in the shift forward of the nucleus of /aw/ in *south, now, down*, etc. Here the heaviest concentration of extreme fronting is found in Kansas City and in Indianapolis, but the entire area has /aw/ well front of central position. The main concentration of light green symbols, indicating



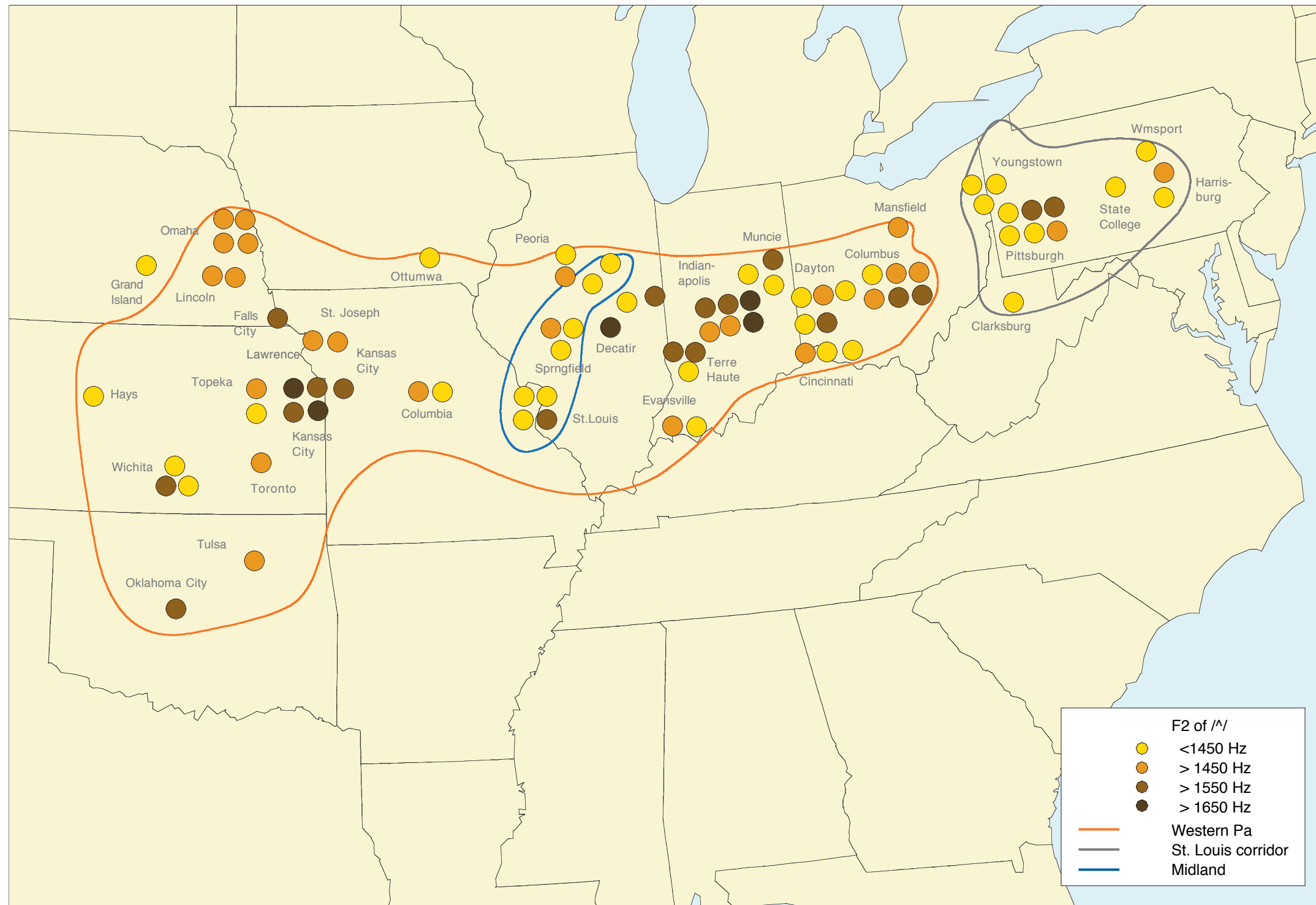
/aw/ in central position, is found in the St. Louis corridor, while eastern Nebraska and western Pennsylvania are divided between speakers with /aw/ in central and front-of-center positions.



Map 19.4. Glide deletion of /ay/ in the Midland

The light pink and red symbols show the widespread tendency for Midland speakers to delete the glide of /ay/ before resonant consonants: before /l/ in *mile* and *while*; before /r/ in *tire* and *iron*; and before nasals in *time* and *line*. Only one Telsur speaker shows any glide deletion before obstruent consonants in *wide*,

*five*, etc., as shown by the red star in Kansas City, Kansas. The Midland territory is divided by the "South/Midland" isogloss, which separates speakers who show glide deletion before resonants, and those who do not.



Map 19.5. The fronting of /ʌ/

Chapter 14 showed that the vowel of *but*, *bunk*, *rub*, etc. is shifting towards the back in the Northern region. In the Midland, this vowel is moving in the opposite direction, towards the front of the vowel system. Though this is sometimes

heard as a rural characteristic, it is strongest in several large cities as shown here: Kansas City, Indianapolis, Columbus. Note that the dark brown symbols are frequently at lower right, where the youngest speakers are placed.

graduate who had been working for an insurance company, but was unemployed when interviewed. The short-*a* tokens on the left follow the pattern of the nasal system (Figure 13.6). All vowels before nasal consonants are in upper-mid position, including those before velars (*banking*) and in open syllables (*Spanish*).

In the back, /o/ is close to, but statistically distinct from /oh/.<sup>3</sup> The highest and backest token is *on*. As indicated in the discussion of the North/Midland line in Chapter 14, the Midland is characterized by the tensing of *on*: the most prominent short-*o* word before a front nasal to migrate to the /oh/ class (Map 14.2).<sup>4</sup> At the other end of the distribution there are two tokens of *caught* – one from a minimal pair. They are close to one token of *cot* (*cot2*), and lower than the other token of *cot*. The two realizations of the pair *taller*–*dollar* show close app[roxi]ma-

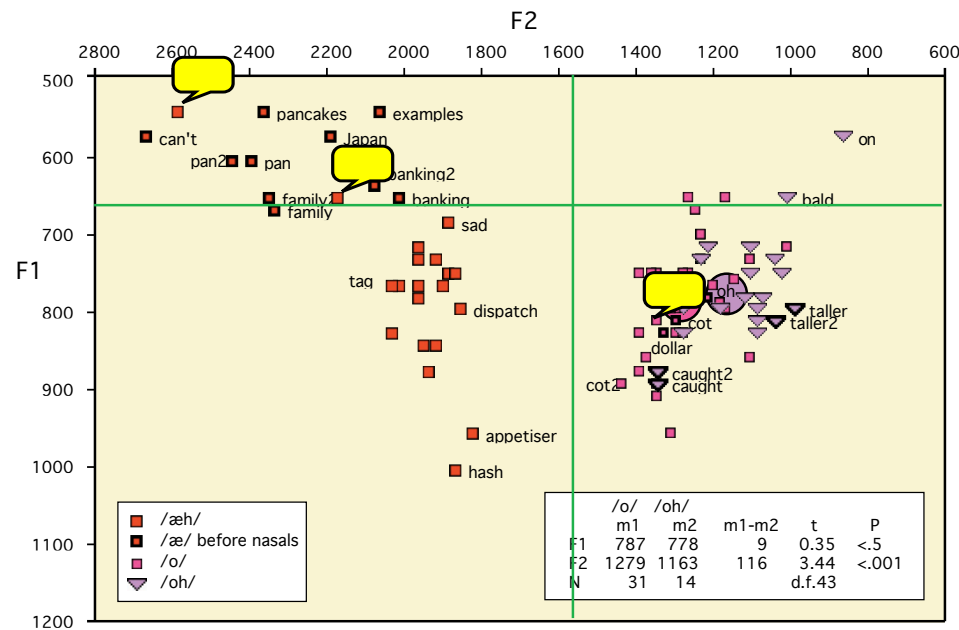


Figure 19.1. Low short vowels of Danica L., 37 [1999], Columbus OH, TS 757

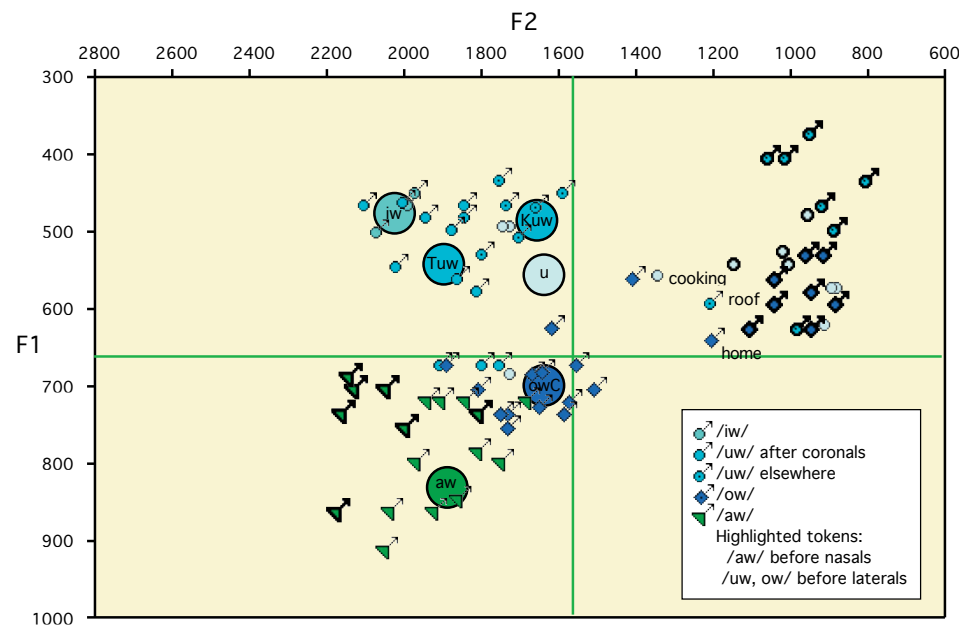


Figure 19.2. Back upgliding vowels of Danica L., 37 [1999], Columbus OH, TS 757

tion. In the minimal pair tests, this speaker judged *hot* and *caught*, *sock* and *talk* as ‘different’, but *taller* and *dollar* as ‘the same’. Both the distribution of tokens and the fluctuations in perception are typical of the transitional state of the low back merger in the Midland.

Figure 19.2 illustrates the development of the back upgliding vowels for the same speaker. Fronting of these nuclei is extreme. Almost all vowels of the type Vw are well front of center, and there is only a short distance between /uw/ after coronals and non-coronals. The mean of /u/ is also front of center. The strongly fronted realization of *good* is characteristic of this dialect: the auditory impression is of a front, non-peripheral unrounded vowel. In contrast with the South, where /uw/ and /u/ are markedly fronted before /l/ (Map 12.7, Figure 12.7, Figure 18.6), Midland systems show no such tendency. In Figure 19.2, all vowels before /l/ (highlighted) are in back peripheral position.

As noted above, Midland vowel systems contrast sharply with the North in the behavior of /ɛ/. (Maps 11.14, 14.8, 19.5.) Figure 19.3 gives a detailed view of /e/, /ɛ/, and /u/ for the speaker of the two previous figures. The fronting of /ɛ/ is most evident in *stuff*, *doesn't*, and *tough*, overlapping with the backer allophones of /e/, while the fully stressed canonical /e/ tokens are relatively front.<sup>5</sup>

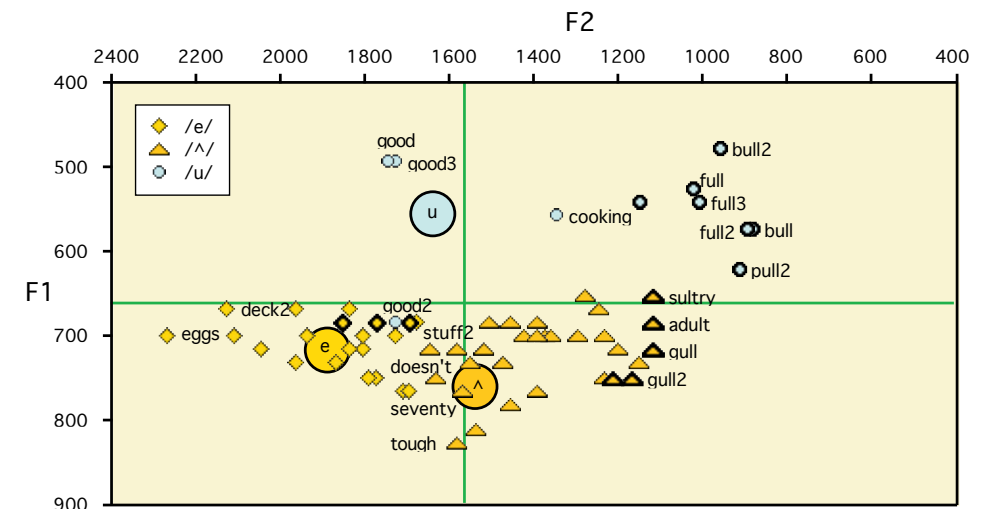


Figure 19.3. Fronting of /ɛ/ in the vowel system of Danica L., 37 [1999], Columbus OH, TS 757. Highlighted vowels are before /l/

The more westerly section of the Midland is represented by a speaker from Kansas City, Kansas. Figure 19.4 charts the low-front short vowels of Sonya O., a 40-year-old woman from the upper-middle-class Overland Park suburb, on the Kansas side of the metropolitan region. She is an employee benefits broker with a B.A. and differs in both education and occupational level from Danica L. Nevertheless, the configuration of Figure 19.4 reproduces quite closely the structural relations of Figure 19.1. The /æ/ pattern is again a simple nasal system identical

3 As before, the lexical class of short-*o* will be shown as /o/, although it is merged with /ah/ in the same manner as in the Northern dialects of Chapter 14, since the main issue here is the degree of contrast with /oh/.

4 Map 14.2 does not show most speakers from Columbus, since the /o/ ~ /oh/ distinction is not stable enough in Columbus to make a clear decision about the phonemic status of /o/ in *on*, but the high-back location of *on* in Figure 19.3 leaves no doubt as to its /oh/ status for this speaker.

5 The most front /e/ is *egg*, which remains a member of the /e/ class, showing no tendency to develop the front upglide that marks a shift to the /ey/ class.



to that found for Danica L. in Columbus. In minimal pair tests, the Kansas City speaker produces and perceives /o/ and /oh/ as ‘the same’. The low back vowel /o/ is statistically different from /oh/, particularly on the front-back dimension. Yet as in Figure 19.1, the two vowels are quite close, with considerable overlap between them. The tendency of subjects to hear such small differences as ‘the same’ has been encountered in a wide variety of other situations (Labov 1994: Ch. 12; Di Paolo and Faber 1990).

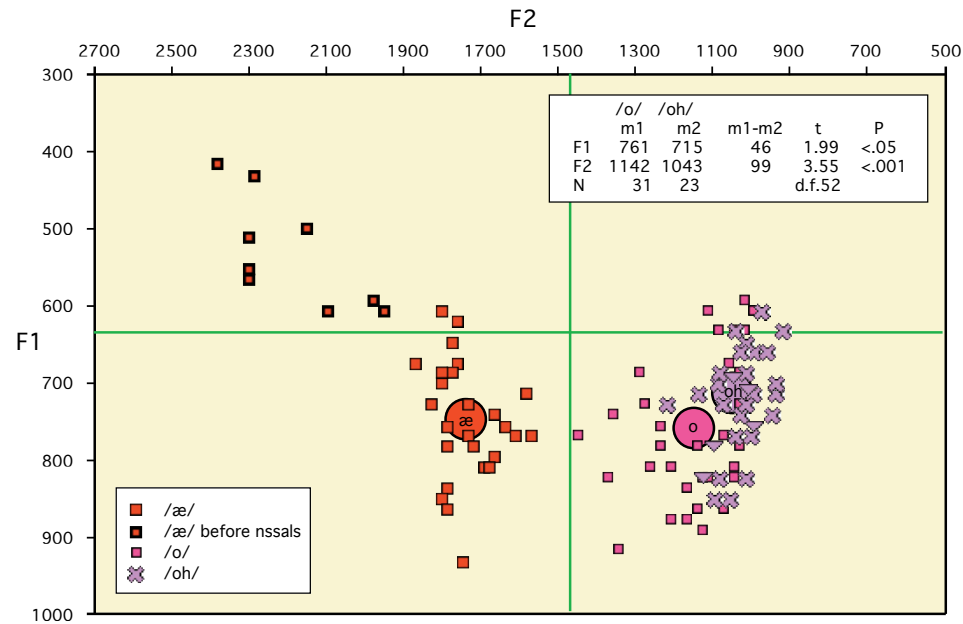


Figure 19.4. Low short vowels of Sonya O., 40 [1994], Kansas City, KS. TS 152

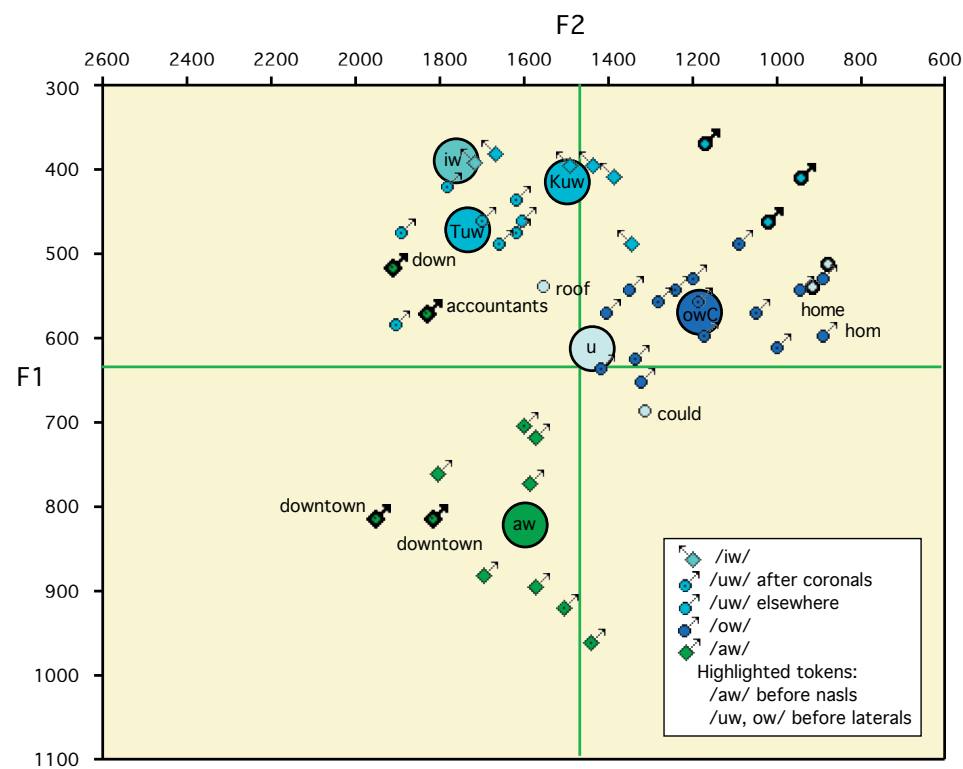


Figure 19.5. Back upgliding vowels of Sonya O., 40 [1994], Kansas City, KS. TS 152

Figure 19.5 displays the back upgliding vowels of Sonya O. The pattern is similar to that of the Columbus system in Figure 19.2 in most respects: strong fronting of /uw/, and little difference between the means of /uw/ with coronal onsets and non-coronal onsets, and strong fronting of /aw/ with vowels before /n/, raised in some cases to upper mid position. This extreme fronting and raising of /aw/ is characteristic of Kansas City, which shows even stronger /aw/ fronting than Southern cities, and leads other Midland speech communities in this respect. On the other hand, the fronting of /ow/ is not as extreme as in Columbus.

### 19.3. Pittsburgh

At the center of the western Pennsylvania dialect area is the city of Pittsburgh. The city itself is of moderate size, with a population of 370,000, in a Metropolitan Statistical Area of 2,380,000. As in the case of Philadelphia, some features of Pittsburgh are common to the larger region of western Pennsylvania, while others are specific traits of the city dialect. In an effort to understand better the special linguistic character of the city, thirteen complete Telsur interviews were conducted. The speakers range in age from 29 to 66, but are heavily concentrated in the mid thirties. As usual, women predominate (nine of the thirteen). The ethnic group most strongly represented is German, as in most Midland cities: eight of the thirteen speakers had German family background. Occupations included postal carrier, electricity inspector, office managers, clinical care assistant, and dental hygienist, so that the occupational index ranged from 26 to 74. None of the specific Pittsburgh features studied here showed social stratification in the Telsur sample. They are generally shared across this age, ethnic and social range.

#### The low back merger in Pittsburgh

In preceding chapters, Pittsburgh and western Pennsylvania are shown as a consistent center of the merger of the low back vowels /o/ and /oh/ (Maps 9.1, 11.1). The fourteen Pittsburgh speakers all exemplified the merger in minimal pair tests and spontaneous speech. Exceptions in minimal-pair responses for the five allophones examined were limited to two cases: a 44-year-old woman who thought that *sock* and *talk* sounded ‘close’, although they clearly rhymed in her pronunciation, and a 39-year-old woman who pronounced *taller* and *dollar* with slightly different vowel qualities, though she judged them to rhyme. Pittsburgh therefore contrasts sharply with the Midland cities in the completeness of the low back merger.

#### The Pittsburgh chain shift

The city dialect of Pittsburgh incorporates a chain shift unique among North American dialects. It is similar in several respects to the Canadian Shift discussed in Chapter 15, triggered by the low back merger of /o/ and /oh/. As in Canada, the Pittsburgh merger takes place in lower mid-back position, so that both /o/ and /oh/ are realized as [ɔ]. But instead of a backward movement of /æ/, Pittsburgh shows a downward movement of /ʌ/ into the vacant low central position, as shown in Figure 19.6.<sup>6</sup>

<sup>6</sup> It is possible that Pittsburgh /o/ never occupied the low-central position, but since it is surrounded by dialects in which /o/ is unrounded to [a], Figure 19.6 represents the most likely sequence of events.

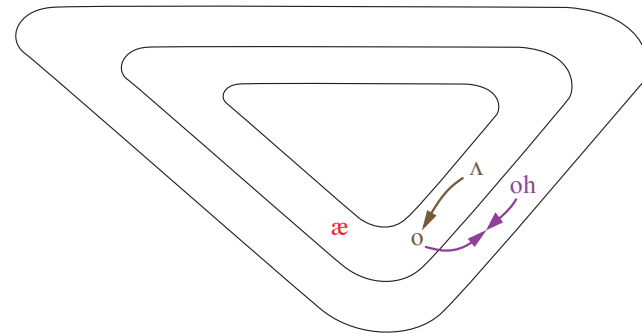


Figure 19.6. The Pittsburgh chain shift

Figure 19.7 shows the placement of /ʌ/ in the system of Kenneth K., a 35-year-old retail manager from Pittsburgh. /ʌ/ is located squarely between /æ/ and the merged /o ~ oh/.<sup>7</sup> Eleven tokens of /ʌ/ are placed in low-central position, including *sun, fun, duck, mother*. A majority of the very low vowels are before nasal consonants, as indicated by the highlighting. There is no tendency for /æ/ to shift back to low central position, which is fully occupied by /ʌ/. The low back merger is evident, with both /o/ and /oh/ in mid back position.

The short-*a* vowels of the Telsur Pittsburgh speakers exhibit the clear division between nasal and non-nasal allophones that is common to the Midland and other areas (Map 13.3, 13.6, 19.1, and 19.4). In Figure 19.7, the short-*a* tokens before nasal consonants, including those in open syllables (*mammal, satanic*), are clearly separated from all others. Vowels before velar nasals (*dangling*) are lax, however, as in Philadelphia and New York City. The relatively high position of short-*a* before /d/ is a general feature of the city's short-*a* system, and for one of the seven speakers, /æ/ before /d/ is tensed, along with the pre-nasals (*dad, sad*).

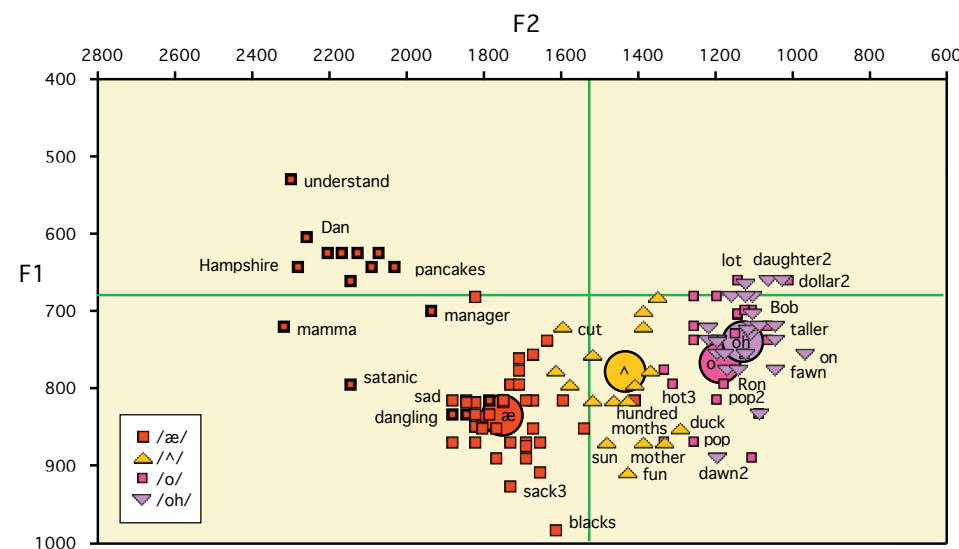


Figure 19.7. The Pittsburgh chain shift in the vowel system of Kenneth K., 35 [1996], Pittsburgh PA, TS 545. Vowels before nasal consonants are highlighted

The pattern of Figure 19.7 is found in all seven of the Telsur Pittsburgh speakers analyzed acoustically. The generality of the Pittsburgh chain shift can be seen clearly in the Meanfile diagram of Figure 19.8, which displays the mean values of /æ/,<sup>8</sup> /ʌ/, /o/, and /oh/ for all 20 of the dialects defined in Chapter 11. Note in particular the wide separation between the mean positions of /ʌ/ in Pittsburgh (PI) and the rest of the Midland (M), where /ʌ/ is fronted but not lowered (cf. Figure

19.3). In the Midland context, then, the lowering of /ʌ/ stands together with the completed low back merger and the monophthongization of /aw/ (see below) as one of the distinguishing characteristics of Pittsburgh speech.

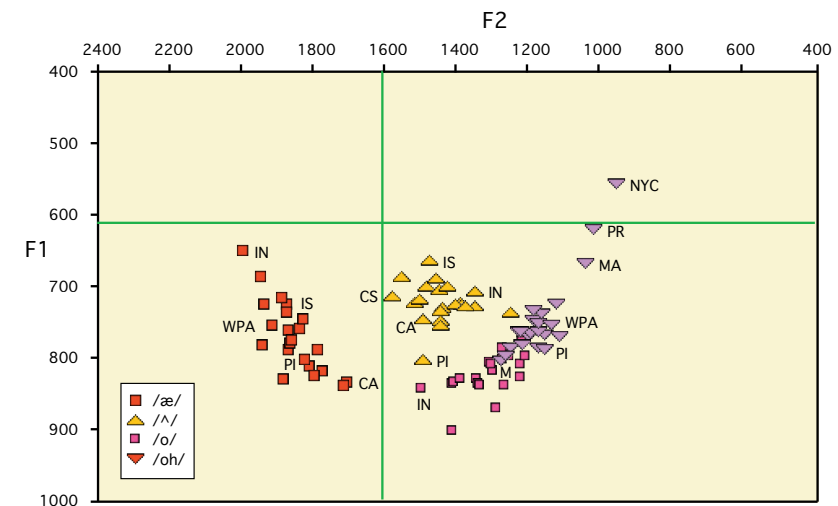


Figure 19.8. Mean values of low vowels for 20 dialects. PI = Pittsburgh; WPA = Western Pennsylvania; CA = Canada; PR = Providence; IS = Inland South; M = Midland; IN = Inland North

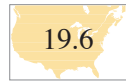
Table 19.3 shows the mean F1 of North American dialects, in descending order, to illustrate the extent to which the Pittsburgh system is skewed by the chain shift. The Pittsburgh dialect [PI] has the highest value for F1 of /ʌ/ by a good margin (and the Inland South, the lowest value). The means for Western PA (outside of Pittsburgh) are in the main distribution of /ʌ/ values, suggesting that the Pittsburgh chain shift is specific to the city. Figure 19.8 shows that the Pittsburgh mean for /æ/ is well towards the front, and shows none of the tendency to backing exhibited by Canada and Providence. In the low back region, the PI mean for /o/ is well to the back (along with that for Western PA), further back than the mean values for the Midland, and at the opposite pole from the fronting of /o/ characteristic of the Inland North.

Table 19.3. Mean F1 of /ʌ/ by dialect

Dialect	F1 in Hz	Dialect	F1 in Hz
Pittsburgh	787	Middle Atlantic	721
ENE	768	West	712
Atlantic Prov	746	Charleston	712
Providence	736	Inland North	706
Canada	736	North	701
Cincinnati	730	Midland	695
WNE	728	NYC	692
Boston	727	South	687
St. Louis	726	Texas South	673
Western PA	725	Inland South	664
Florida	723		

<sup>7</sup> As in many other cases, there is a statistical difference between the overall means of /o/ and /oh/, but this is due to the difference in the allophonic distributions of tokens in the two historical classes: /o/ has many more tokens of the type of *hot*, and /oh/ of the type of *fawn* (Herold 1990). However, the near-minimal pairs like *Don-fawn*, and *collar-taller* confirm the subjective impressions of speakers and analysts that /o/ and /oh/ are completely merged.

<sup>8</sup> As noted previously, mean values for /æ/ do not include short-*a* before nasal consonants.



**Glide deletion of /aw/ in Pittsburgh**

The best-known feature of the Pittsburgh dialect is glide deletion of /aw/ in *house*, *down*, *South*, *hour*, etc. Monophthongal realization of /aw/ is common in southern England, notably London (Sivertsen 1960; Kerswill and Williams 1994; Williams and Kerswill 1999), but no other North American city has extensive glide deletion of this vowel. Map 19.6 shows all occurrences of such glide deletion in North America. Only Pittsburgh shows a concentration of marked symbols. Fourteen other Telsur speakers produced examples of monophthongal /aw/, with only one (in Dallas) at a level greater than 20 percent. These monophthongal occurrences shown in Table 19.4 are concentrated in the most favorable environments, as in the occurrence of glide deletion of /ay/ outside of the South. Favoring environments include function words (*out*, *about*), and vowels before resonants (*hour*, *town*) and voiceless fricatives (*house*, *South*).<sup>9</sup>

Table 19.4. Occurrences of glide deletion of /aw/ outside of Pittsburgh

	No glide	Shortened glide
Winston-Salem, NC	about, hours	powder
Chattanooga, TN	hour	South
Omega, GA	house	
Memphis, TN	South	
Birmingham, AL	about, hour	South, South, house
Linden AL	out, without	doubt
Champaign, IL	about	about
Allentown, PA		town
Columbia, MO	out	
Dallas, TX	out	
Anchorage, AK	out	south
Las Vegas, NV	town	
State College, PA	re-routing	

Glide deletion of /aw/ in Pittsburgh is a well recognized stereotype of the local dialect, often referred to in newspaper articles with the spelling “dahntahn”. The history of this variable in Pittsburgh is explored by Johnstone et al. (2002) through five generations of 114 working-class white males. Glide deletion is absent for those born before 1900, and is highest for speakers born between 1920 and 1949. A decline is noted for those born after 1950; it is possible that the phenomenon is in recession.

The highest users of glide deletion in Pittsburgh among the Telsur subjects are the speaker studied in Figure 19.7, Ken K. (TS 545), and his father Henry K., 61 (TS544). Henry K. shows glide deletion in *cloudy* and *couch* as well as the more favored environments *out*, *house* (3), *mountains*, *down* (4), *downtown* (3), *town*, *sound* (2), *hour* (2), *tower* (2). Ken K. has 14 tokens of glide deletion, but they are all in favoring environments (*out* (2), *South* (3), *pounding*, *town* (2), *down*, *sound* (2), *downtown*, *vowel*, *sauerkraut*). The Pittsburgh speakers who have less than 20 percent glide deletion show the same pattern as the Southern speakers in the list given above.

The relevant back upgliding vowels of Henry K. are shown in Figure 19.9, at double the scale of previous figures. Monophthongal tokens of /aw/ are highlighted. There is a significant tendency for the monophthongal vowel to be shifted forward, as in the case of /ay/ glide deletion: 8 of the 12 tokens front of center are monophthongal, while 11 of 15 back of center are diphthongal. There is considerable overlap with /ʌ/ ( $p < .05$ ). This is surprising, since the logic of chain shifting would predict that the loss of the glide for /aw/ would preclude the lowering of /ʌ/ and the potential homonymy of the two monophthongs (e.g. *found* = *fund*). The glide deletion of /aw/ might be followed by the lowering of the nucleus of /ow/,

following a pattern with back upgliding vowels analogous to the Southern Shift. However, the lowering of /ow/ is minimal in Figure 19.9 and for other Pittsburgh speakers as well, while the lowering of /ʌ/ is general in Pittsburgh.

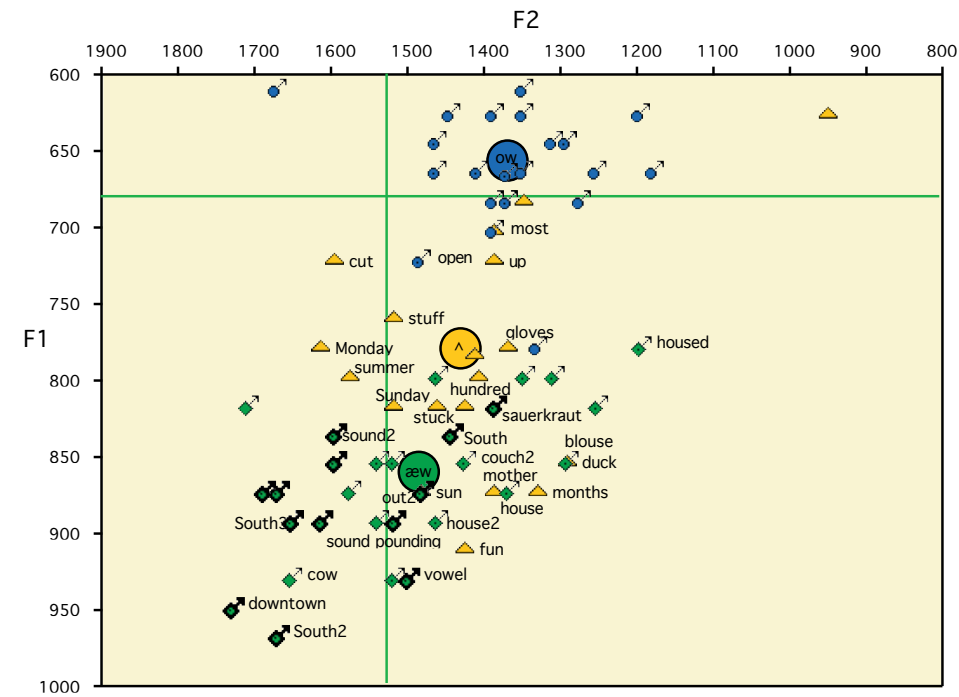


Figure 19.9. Glide deletion of /aw/ and lowering of /ʌ/ for Henry K., 61 [1994], Pittsburgh PA, TS 544. Highlighted tokens of /aw/ show glide deletion

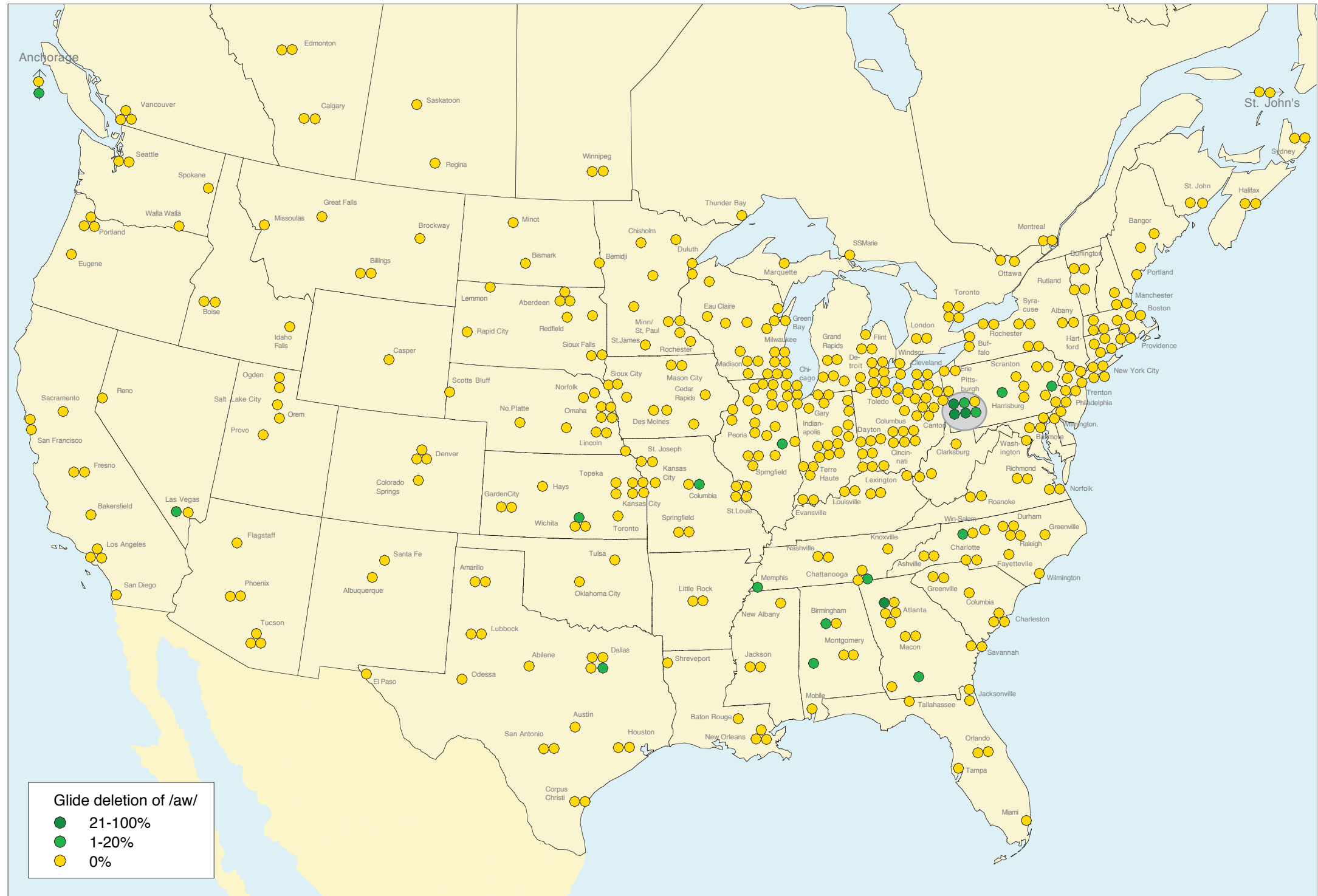
The solution to the problem posed above is that /aw/ remains a part of the long and ingliding vowel subsystem after glide deletion, (/aw/ → /ah/), and does not coincide with vowels in the short subsystem. Figure 19.10 shows the durations of 17 tokens of monophthongal /aw/ pronounced by Henry K., and 15 tokens of wedge. There is considerable range for both vowel classes, but the durations do not overlap. The mean duration for /ʌ/ is 98 ms, and for glide deleted /aw/, 208 ms: a difference of 6 standard deviations. The longest token of /ʌ/ (*sun* at 147 ms) is shorter than the shortest token of aw (*out*, at 157 ms). Compensatory lengthening of the nucleus has clearly taken place.

The shift of the short vowels under the Pittsburgh chain shift is therefore independent of the subsystem of back upgliding vowels. A shift downward of /ow/ to the position of /aw/ is a second and distinct possibility, parallel to the downward shift of /ey/ after the glide deletion of /ay/. There are a few tokens of /ow/ that overlap with /aw/, but this shift does not seem to be in progress, possibly because there are signs that the glide deletion of /aw/ is receding.

In addition to the Pittsburgh chain shift, the city shares with many other areas the Back Chain Shift before /r/, which is triggered by the general merger of /ohr/ and /ɔhr/. We then have: /ahr/ → /ohr/ → /uhr/, with a final merger of /ohr/ and /uhr/.<sup>10</sup> This is exemplified in Figure 19.11, the back vowels before /r/ of a 62-

<sup>9</sup> The same pattern is found in the one Atlanta speaker with greater than 20 percent glide deletion, who shows deletion in *outside*, *throughout*, *south*, *amount*, *town*, *down*, and *hours*, and a shortened glide in *south* (3), *out*, *down*, *sound*.

<sup>10</sup> The /uhr/ class is quite small in most dialects, and the Telsur data is marginal in quantity. For most dialects, the most common word *sure* has a mid-central vowel, and there is a lexical migration of original /uhr/ words into the /ohr/ class (*poor*, *tour*), leaving only the less common words *moor*, *boor*, *lure*, etc. in the /uhr/ class.



Map 19.6. Glide deletion of /aw/ in North America

The deletion of the glide of the diphthong /aw/ in *south*, *out*, *down*, etc. is characteristic of the city of Pittsburgh. It is not absolutely unique to that city. The scattering of light green symbols elsewhere shows a small tendency in this direction

in various cities of the South and the Midland, often in less stressed words. Glide deletion of /aw/ is also found in the working-class vernacular of London and elsewhere in the south of England.

year-old woman from Pittsburgh. The low-central vowel /aw/ is added to show the distance that /ahr/ has moved.

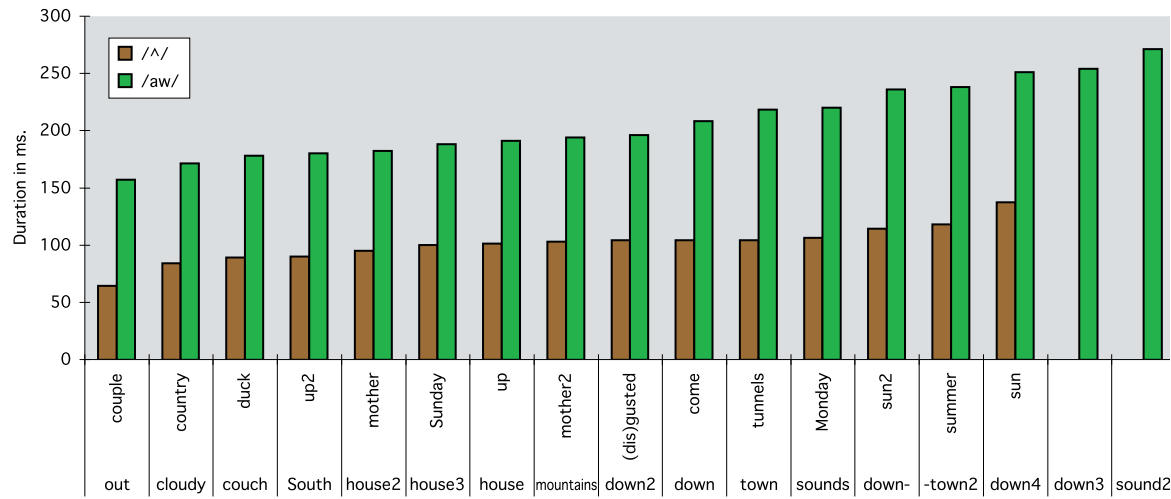


Figure 19.10. Durations in ms. of monophthongal /aw/ and /ʌ/ for Henry K., 61, Pittsburgh PA (TS544)

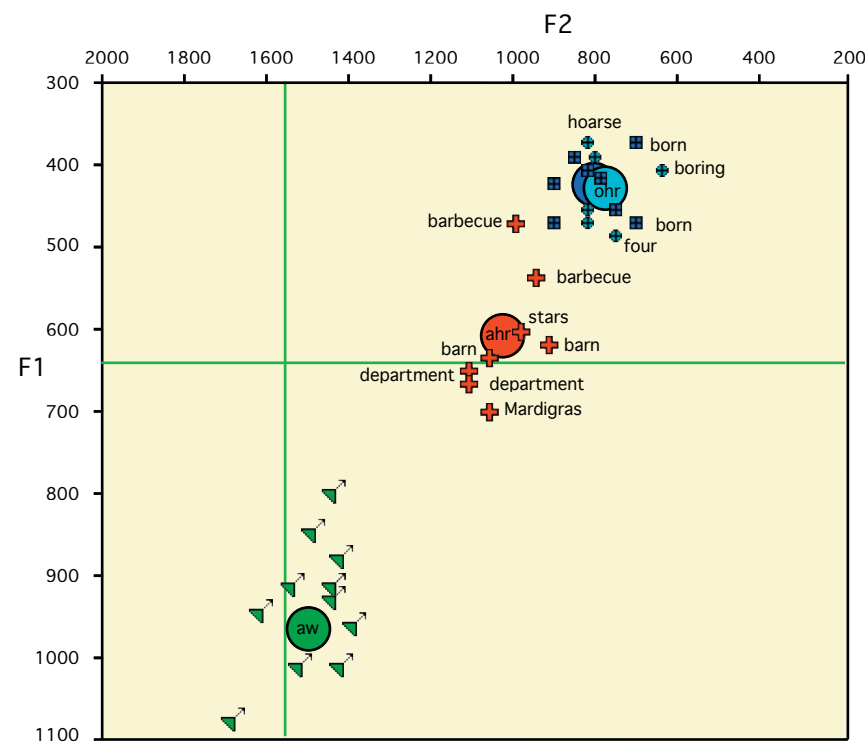


Figure 19.11. The back chain shift before /r/ in the vowel system of Cecila S., 62 [1995], Pittsburgh PA, TS 356

### 19.4. Cincinnati

The dialect of the city of Cincinnati exhibits a vowel system distinctly different from those of other Midland cities, particularly in the short-*a* pattern. Instead of the predominant nasal system of the Midland, Cincinnati speakers have a distri-

bution of tense and lax vowels that closely resembles the phonetic pattern found in New York City (Figures 13.2 and 13.3). In this pattern, first identified by Boberg and Strassel (2000), vowels before voiceless fricatives and voiced stops are fronted and raised, in many cases to a higher degree than vowels before nasals. Figure 19.12 shows the low vowel system of George K., a 61-year-old retired office manager. There is a clear separation between lax short-*a* words, in low-front position, and tense short-*a* in mid position. Vowels that be tense in NYC are orange triangles; those that would be lax in NYC are shown as red squares. The tense group shows two oral codas besides nasals: /d/ (*mad, sad, dad*) and /ʃ/ (*ash, hash, cash*). The pattern is distinct from the tense-lax split of the original Midland cities that are now grouped as Mid-Atlantic, in that the back voiceless fricative /ʃ/ is included in the tense set, along with all vowels before /d/. This is the New York City pattern with two exceptions: vowels before the voiced velar stop /g/ (*tag, bag*) are in the lax set,<sup>11</sup> and short-*a* in open syllables is tense (*manatee, Catholic*).

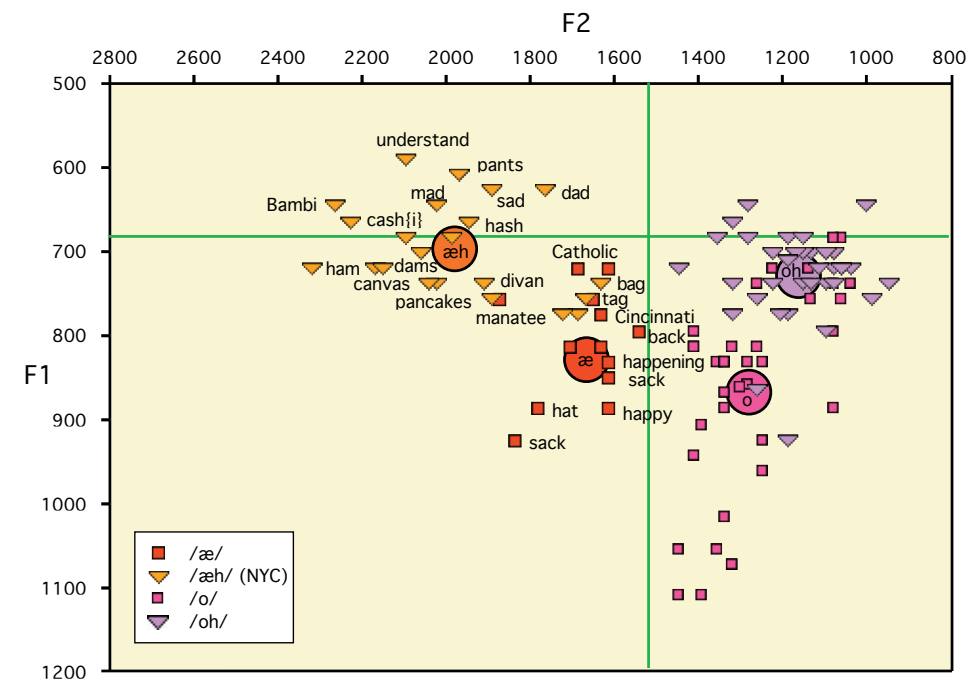


Figure 19.12. Low vowels of George K., 61 [1994], Cincinnati OH, TS 118. Highlighted symbols are vowels before nasal consonants

The distinction between /oh/ and /o/ is much clearer in Figure 19.12 (and in Figure 19.13 below) than in the other Midland vowel systems examined earlier in this chapter. The means of /o/ and /oh/ are quite far apart; the few short /o/ words found in the /oh/ region are almost all examples of /-ond/ (*bond, pond*), a word-set that is often tensed in Midland cities and may actually be assigned to /oh/ as an underlying form. Nevertheless, Boberg and Strassel (1995) found that younger Cincinnatians frequently show a more general overlap of /o/ and /oh/, indicative of an on-going merger that would bring Cincinnati into line with other Midland cities.



Figure 19.13 is the vowel system of a second Cincinnati speaker, a 58-year-old woman who worked as an accountant in a Savings and Loan firm. Short-*a*

<sup>11</sup> In the various speech communities neighboring New York City, the laxing of short-*a* before /g/ is one of the most common differences from the New York City pattern.

tokens are again divided into the same lax and tense categories as in NYC and are assigned the same symbols: orange triangles for the tense /æh/ set and red squares for the lax /æ/ set. The separation of the two sets is in general quite clear. The highest vowels are before voiced stops and voiceless fricatives (*sad, cash, dad*). Vowels before nasal consonants are more peripheral, but not higher. These tense vowels are long and often glide towards the center of the vowel system. The glide targets for tense /æh/ are indicated with square pink symbols. The targets are not the low second morae of Northern breaking (Figure 13.11), but the centering inglide typical of NYC.

There are also several clear differences from NYC:

- vowels before /g/ are lax (*tag, bag*); these are tense in NYC.
- the same tensing pattern is found in open syllables (*passive, fascinated, Catholic, davenport*) as in closed syllables, whereas open syllables are lax in NYC.
- the word *and* is tense; such function words are regularly lax in NYC.

The resemblance between Cincinnati and NYC is thus limited to the immediate phonetic environments for tensing as in Figure 13.2, and does not extend to the grammatical constraints or more complex phonetic conditions. The short-*a* systems of New Orleans and NYC are more closely related, since the main difference found between them concern the tensing of the function word *have* (Figure 18.11).<sup>12</sup> In any case, Boberg and Strassel (2000) show that this marked feature of Cincinnati speech is in recession among younger speakers, who are moving towards the general default pattern of the Midland, the nasal system. This development can be seen as parallel to the abandonment by younger Cincinnatians of the distinction between /o/ and /oh/, mentioned above. Both trends serve to further distance Cincinnati speech from the vowel systems of the Mid-Atlantic region, at the same time increasing its similarity to the surrounding Midland pattern. Medium sized cities like Cincinnati and Charleston, S.C. (Chapter 18) appear to be retreating in their most marked local features, and shifting towards the pattern of their larger regions. This does not indicate an overall decline in dialect diversity so much as a regional consolidation of the diverse directions of sound change in North America.

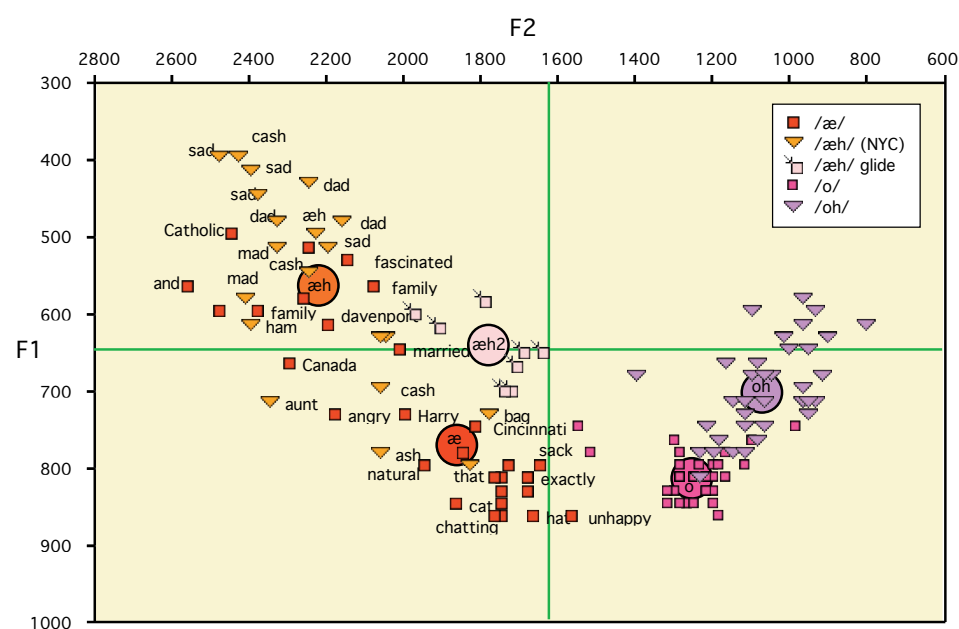


Figure 19.13. Low vowels of Lucia M., 58 [1994], Cincinnati OH, TS 118

## 19.5. St. Louis

Chapters 11 and 14 portrayed the city of St. Louis as a northern enclave in the Midland area, connected by a corridor along Route I-55 through Illinois to Chicago (Figure 19.14). The corridor includes Telsur subjects from St. Louis, Springfield, Bloomington, and the small town of Fairbury. The populations of these communities are given in Table 19.5. The city of Peoria, some 30 miles to the northwest of I-55, shows variable alignment with the defining features of the corridor.



Figure 19.14. The corridor from St. Louis to Chicago along Interstate Highway I-55 [Map from Yahoo Maps].

This alignment of St. Louis with the Inland North appears in its resistance to the low back merger (Maps 11.1, 11.2, and 19.1) and in the several indices of the Northern Cities Shift:

- the general raising of /æ/ (Map 11.1, 14.3, 14.4) ;
- the EQ measure of the reversal of /æ/ and /e/ (Map 14.6), ;
- the ED measure of the alignment of /e/ and /o/ (Maps 11.2, 11.7–11.11, 14.7);
- the UD measure of the relative fronting of /o/ and /ʌ/ (Map 14.8).

The St. Louis corridor is not completely aligned with the Inland North dialect area by these criteria. Map 14.9 shows that only one St. Louis speaker has all features of the Northern Cities Shift combined, and Map 14.11 shows that only four of the eight isoglosses that define the Inland North are extended to include the corridor.

<sup>12</sup> A similar resemblance of phonetic conditioning is found in Albany, where short-*a* before voiced stops and voiceless fricatives is included in the tense set, along with vowels before nasals in open syllables. Thus the basic phonetic conditions for tensing are exported from NYC more easily than the grammatical conditions and the open syllable condition.

Table 19.5. Populations studied in the St. Louis corridor

	City size	Metro. statistical area
St. Louis	396,000	2,548,000
Springfield	140,000	296,000
Peoria	113,000	346,000
Bloomington	51,000	139,000
Fairbury	3,600	3,600

In a number of other respects, St. Louis is more or less aligned with the Midland. Map 14.2 indicates that the entire St. Louis corridor is firmly adjoined to the Midland in the use of /oh/ for the word *on*. In this chapter only one map shows a separation of the St. Louis corridor from the Midland – Map 19.1 for the low back merger.<sup>13</sup> Map 19.2 indicates that St. Louis participates moderately in the fronting of /ow/, along with the Midland and the Southeastern super-region generally. All four St. Louis speakers have a mean F2 of /ow/ higher than 1200 Hz, but none have an /ow/ that is fully central. Map 19.3 shows that the St. Louis corridor has a mean F2 for /aw/ close to the central value of 1550 Hz, and three of the nine speakers are beyond 1550 Hz. None of the subjects in the corridor display the extreme fronting found in Indianapolis and Kansas City. In Map 19.4, one St. Louis speaker shows glide deletion of /ay/ before resonants, though none of the others in the St. Louis corridor do so. Finally, the youngest St. Louis subject participates in the fronting of /ʌ/.

This portrait of St. Louis is consistent with the overview provided in Murray (2000), reporting a series of dialect studies of the city (Lance 1974, Johnson 1976, Murray 1986, 1987, 1993, 1994, Faries and Lance 1993). Murray summarizes the mixed settlement history of the city that gave rise to the present assemblage of diverse linguistic features. As the “gateway to the West”, St. Louis drew settlers mostly from the South up to 1850, but after the Civil War, attracted more from the North and the Midland. In the twentieth century, St. Louis was subject to the massive migration to the big cities of rural African-Americans, especially from the Gulf States. Murray’s overview of the linguistic features of St. Louis is informative:

... St. Louisans typically pronounce an intrusive /r/ in *wash* and *Washington*, yet favor /e/ in *catch*, /oh/ in *fog* and *on*, /i/ in *creek* (Southern) ... they favor *dove* (Northern) as the preterite of *dive*, prefer *want off* and *wait on* (Midland) over the more general *want to get off* and *wait for* ... use *hadn't ought* (Northern) only slightly less frequently than general *oughtn't*, and most often express fifteen minutes before the hour as *quarter to* (Northern/Southern) ... St. Louisans tend to eat *string beans* and *corn on the cob* (Northern/Midland), dispose of *pits* from their cherries (Northern) and *seeds* from their peaches (Southern/Midland), carry water in *buckets* (Southern) and groceries in *bags* (Northern), and wheel their infants in *baby buggies* (Midland). (Murray 2000: 347)

Murray’s real-time comparisons of St. Louis speakers from 1982 to 2001 lead to the conclusion that the dialect pattern of the city is shifting in the direction of the Inland North, particularly in pronunciation. At the same time, many lexical and grammatical features of Midland origin remain stable.

The most notable feature of the traditional St. Louis dialect, is the merger of /ahr/ and /ohr/ in *are* and *or*, *card*, and *cord*, *farm* and *form*, etc. with /ohr/ remaining altogether distinct in *ore*, *core*, and *port*. A similar merger is found in central Texas and Utah, but there the merger takes place primarily in low position, while in St. Louis, it is /ahr/ that rises to merge with /ohr/. While the merger appears to be receding in St. Louis in Murray’s surveys and other data, it is well exemplified in the Telsur speakers shown in Figures 19.15–19.18.

In Figure 19.15, the back Vhr system of Judy H., 57, shows a complete overlap of /ahr/ and /ohr/, and a complete separation of /ohr/ from /ohr/. The two tokens of *mourning* are lower than the other /ohr/ vowels, but they are considerably higher than the two tokens of *morning*.

Figure 19.16, the back Vhr vowels for another woman of about the same age, shows the same pattern. The popular stereotype for this St. Louis merger is that it involves a reversal of /ohr/ and /ahr/, as in the phrase *Put the harse in the born*. Given a merger, some tokens of /ahr/ are apt to be higher than some tokens of /ohr/, as in Figure 19.16 where *barn*<sub>2</sub> is above *born*<sub>1</sub>. However, one can see here that the means of these vowels are at the same height, as the *t*-tests for Figures 19.15 and 19.16 show.

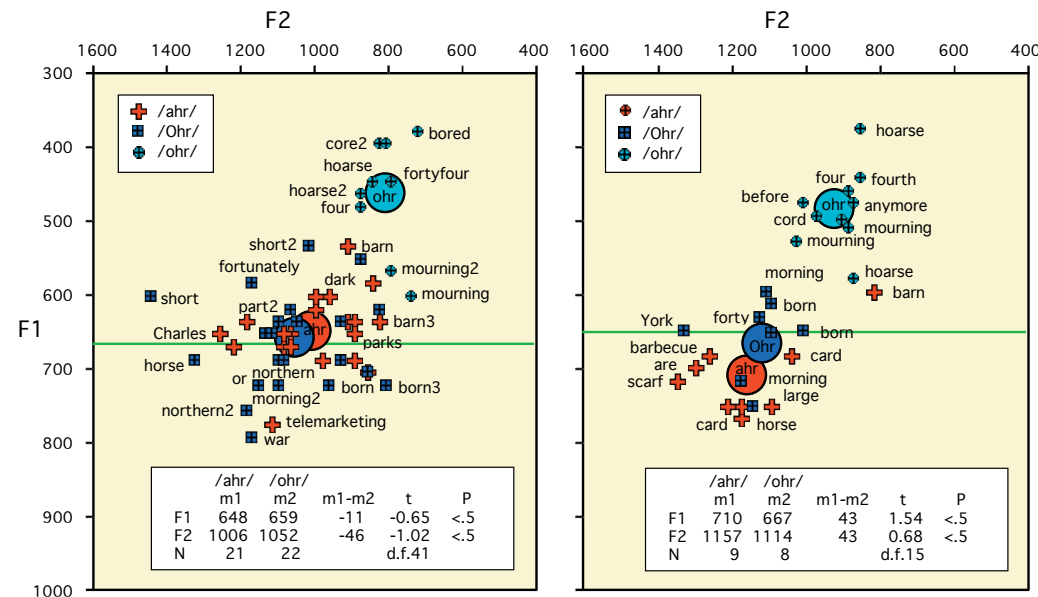


Figure 19.15. Back vowels before /r/ for Judy H., 57 [1994], St. Louis, MO, TS 109. /ohr/ = “Ohr”

Figure 19.16. Back vowels before /r/ for Joyce H., 53 [1994], St. Louis, MO, TS 167. /ohr/ = “Ohr”

Figure 19.17 shows the traditional St. Louis merger for a somewhat younger man, with some overlap of /ohr/ and /ohr/. Again, it is a low token of *mourning* that stands out from the rest of the /ohr/ class. Three exceptionally low tokens of /ohr/ – *born*, *corn*, *morning* – might support the popular notion of a reversal of /ahr/ and /ohr/, but other tokens show that the two word-classes are truly merged.

Figure 19.18 shows the corresponding part of the vowel system for the youngest Telsur speaker from St. Louis, Rose M. It shows the recession of the St. Louis pattern of back vowels before /r/ in favor of the system found in the rest of North America. The merger of /ahr/ and /ohr/ is in effect reversed for most vowels, and the distinction between /ohr/ and /ohr/ has all but disappeared. A close inspection shows some evidence remaining of the original situation: *Arch* is close to the combined /ohr/ ~ /ohr/ mean, and one token of *or* is found with the /ahr/ tokens. The latter is a common relic of a recessive merger of /ahr/ and /ohr/: while the general merger has disappeared in most of the Appalachian–Ozarkian region, the function words *or* and *for* often remain lower and fronter (closer to /ahr/) than the rest of the /ohr/ class, which has merged with /ohr/.

13 Resistance to the low back merger is tightly linked with the Northern Cities Shift, and may not be considered a separate feature.

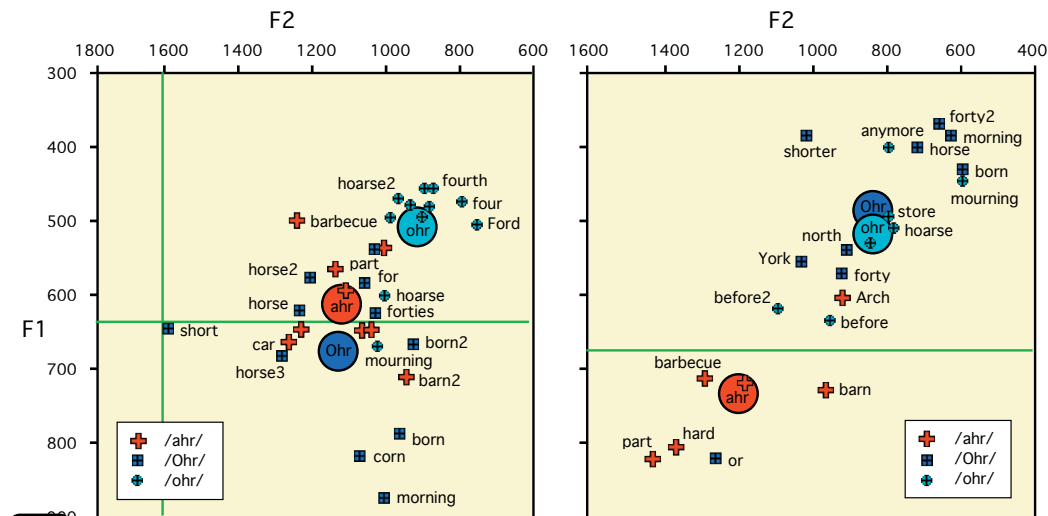


Figure 19.17. Back vowels before /r/ for Martin M., 48 [1994], St. Louis, MO, TS 111.

Figure 19.18. Back vowels before /r/ for Rose M., 38 [1994], St. Louis, MO, TS 161. /ohr/ = "Ohr"

The difference in age between Rose M. and Joyce H. is only 15 years, but the structural gap between the two speakers aligns with the general report that the traditional St. Louis merger is disappearing among younger speakers. Social class differences do not seem to be prominent here. Rose M. is a former dancer

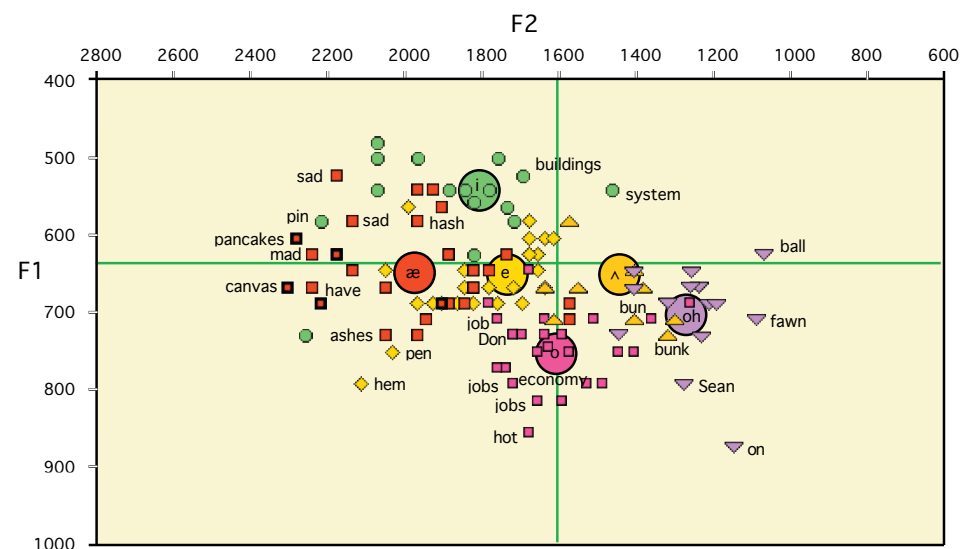


Figure 19.19. Northern Cities Shift in the vowel system of Martin H., 48 [1994], St. Louis MO., TS 111

who is now a costume seamstress; Martin M. is a manufacturer's representative; Joyce H. is a secretary; Judy H. is the wife of an account manager for a telephone company.

In St. Louis as in Cincinnati, unique local features are giving way to broader regional patterns. The difference between these two cases of regionalization is that while Cincinnati's regional identification is clearly with the Midland, St. Louis shows the influence of the competing regional models from the North.

The dynamics of the Northern Cities Shift in St. Louis are illustrated by Figures 19.19 and 19.20. In Figure 19.19 one can observe the general raising of *sad*, *mad*, *have*, and *hash* to about the same level as *canvas* and *pancakes*. The /ah/ tokens have moved front of center, as seen in *job*, *jobs*, *Don*, *not*, *top*, *economy*. The downward shift of /oh/ is most evident in *Sean* and *on*. The short-*e* class is not backed to any great extent. Several /ʌ/ tokens are placed well to the back (*bunk*), though there are some very low tokens before nasals (*pen*, *hem*).

Figure 19.20 displays the mean values for the vowel system of the same speaker. The effects of the St. Louis back vowel merger before /r/ can be seen: the mean for /ohr/ actually lower than the mean of /ahr/. The Northern Cities Shift vowels are connected at lower left to show the characteristic rotation. One can also observe the Midland-type orientation of the back upgliding vowels. Post-coronal /uw/ (Tuw) is merged with /iw/, and is shifted to the non-peripheral front position, and /uw/ not after coronals (Kuw) is fronted to high center position. On the other hand, /ow/ is only moderately fronted, about halfway to the mid-center position characteristic of Columbus (Figure 12.11). Though /ah/ is slightly higher than /o/, the two vowel classes are in effect merged, and the three vowels with /a/ nuclei are aligned in center position: /aw/, /ah ~ o/, and /ay/.

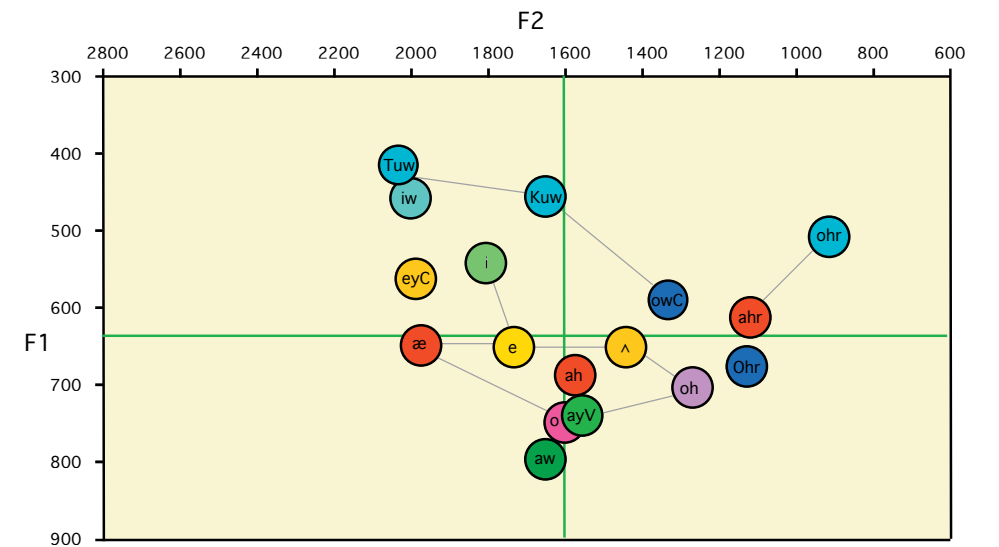


Figure 19.20. Mean vowel positions for Martin H., 48 [1994], St. Louis MO, TS 111