# The Politics of Language Change:

# Dialect Divergence  in America

**William Labov, University of Pennsylvania**

## Chapter 1

## About language and language change

This book is about language, about language change in particular, and especially about the changes that are now taking place in the dialects of North American English. It is also about the political causes and consequences of those changes. What is said about language and linguistic change has a firm foundation in four decades of research on American English. On the other hand, I am not an expert in politics. For this area, I have drawn from the work of a wide range of historians, political scientists, and cultural geographers to make the necessary connections.

**Some common sense views of language that are wrong**

People tend to believe that dialect differences in American English are disappearing, especially given our exposure to a fairly uniform broadcast standard in the mass media.  One can find this point of view in almost any discussion of American dialects, as for example in a recent exchange on "Dr. Goodword's Language Blog."[1] A contributor Bruce wrote:

> . . .the accents I do hear from people from around the country seem to be disappearing. People from New Orleans interviewed on TV or Radio seem to sound like me, as do many of those I hear from New York and elsewhere. I

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[1] http://www.alphadictionary.com/blog/?p=15. Accessed 3/2/10.

used to hear distinctive accents from people from Minnesota for example and

those also seem to be going.

Dr. Goodword responded:

> Bruce is absolutely right. Regional accents are dying out . . . the original
>
> dialects in this country were the results of the accents of the various
>
> immigrants who came to this country looking for a better life. They all landed
>
> on the east coast, which is why all the accents are currently in the east.
>
> However, as they migrated to the west, all these accents merged into one, so
>
> there are no distinctive regional dialects west or north of southern Ohio
>
> (maybe southern Illinois and a bit in northern Minnesota).

This overwhelmingly common opinion is simply and jarringly wrong. The

research reported here will demonstrate that the reverse is actually the case. New

sound changes in progress are driving the regional dialects of English further

and further apart, so that people from Los Angeles, Chicago, Toronto,

Philadelphia and New York speak more differently from each other than they

did in the middle of the 20th century. I would not expect most readers of this

book to accept this statement lightly and I will do my best to put enough

evidence before you to make it believable.  We will be dealing with sounds that

are not easy to describe in print, but I will try to direct your hearing so that you

can begin to observe some of these new sound changes around you in every-day

life.

This book is a product of sociolinguistic research, in which we inteview people in communities across the country and record conversation that comes as close as possible to the speech of every-day life. This approach produces surprising results that often run counter to preconceived intuitions and opinions. The growing divergence of dialects is only one case where our findings are contrary to accepted opinion.  It will also appear, in spite of public perception, that there is no such thing as "Brooklynese" (chapter 3). Chapter 4 will demonstrate that popular descriptions of "Ebonics" bare little relation to what African American people actually say.

**What we all know about language and what we don't know.**

In the chapters to follow, I assume no knowledge of linguistics, though many readers will be quite at home in that field. Even without any knowledge of linguistics, your own knowledge of language will be an important resource in what follows. Most linguists begin their introductory classes by saying, "You already know more about your language than any other subject you will ever study." You may not know that you know this, since most linguistic knowledge is implicit, hidden from conscious view. Most of what linguists do is to make that knowledge explicit, asking direct questions such as "Can you say X?," or more commonly asking themselves, "Can I say X?" This is a useful and productive procedure, and most progress in linguistic theory is built upon it. Yet other aspects of language are hidden from introspection, and can only be found by

observation of what people say. This is characteristic of many kinds of linguistic variation, including linguistic change.

The main topic of chapter 2 is such a case of variation, taken as an example of the uniform way in which our language shifts and changes from one time to another. It is the alternation between "Good morning" and "Good mornin'."[2] The basic parameters of this variation are open to introspection. As a native speaker of English, I know that I can say either variant. And if I ask myself, "Can I say *Flushin', Long Island"*, the answer is an accurate "No." The results of observation confirm this: no one has been heard saying *Flushin', Long Island.* On the other hand, introspection fails if I ask myself whether I am more likely to use the *-in'* variant in *Good morning* or in *I'm working on it.* Here the answer would probably be, "It all depends; both are possible." Yet all studies of what people actually say find that the *–in'* form is much more likely in progressive verbs like *workin'* than in nouns like *morning* and *ceiling.*[3] *(*Houston 1991). And if I ask, "Is Sarah Palin more likely to say *Good mornin'* than Barack Obama?" most people will answer, "Yes". But as we will see that answer is incorrect. It turns out that most of our introspective judgments about language are right, but a small percentage are dead wrong. The problem is that we don't have a clue as to where those errors are located. The data that will be used throughout this book will therefore be

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[2] The apostrophe signals that the nasal consonant is made with *apical* contact of the tongue against the gum ridge, while the *–ng* spelling indicates a velar contact with the back of the tongue against the soft palate. In phonetic notation, this is [gʊdmɔrnɪn] vs. [gʊdmɔrnɪŋ]. In every-day speech, this variation is usually called "dropping the g."

[3] See Labov 1989, Houston 1991. Roberts 1993

drawn from sociolinguistic studies that don't have that kind of uncertainty, drawing on recorded sociolinguistic interviews that last an hour or more. Our interviews have some questions in them, but they are not like survey questionnaires. Rather, they are shaped like conversation, often touch on personal topics of great importance and approximate—but never quite reach— the style that people use in speaking to their friends and family in every-day life. Because actual behavior is variable in the items we are interested in, this requires the systematic study of variation—how individual speakers vary from one style to another, and how speakers' language patterns vary from one social group to another.[4]

**The two main strategies of linguistic research**

Among the strategies that linguists follow in pursuit of a better understanding of human language, we can trace two main branches.

THE SEARCH FOR UNIVERSAL GRAMMAR. One way of understanding language follows a search for the features that are common to all languages, a "universal grammar."[5] However this common human language faculty may have originated, it must have remained constant during the period that the

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[4] For a description of these methods, see Labov 1966, 1984. But with this proviso: these methods are only useful when we are studying very frequent phenomena. It is not useful for many questions in syntax and semantics, which have to draw on examples that rarely occur in speech. As in other fields, there is no one way to skin a cat in linguistics.

[5] See Chomsky 1986 for an early definition of Universal Grammar.

human species dispersed across continents and evolved many language families that appear to us today to be unrelated. We know this by the fact that children of any genetic subgroup can learn any language as their first language equally well. By definition, this universal grammar has a null footprint in time.

UNDERSTANDING LANGUAGE CHANGE. The other route for greater understanding of language focuses on change. We ask how this great differentiation of language families, languages and dialects took place. We would like to know how any given language or dialect came to be, and more generally, what are the root causes of language change and diversity? The subject matter of this study is quite large: every aspect of language that is changing or has changed in the past. Historical linguistics attacks the problem through the written record of past changes; in recent years, the study of linguistic change and variation has focused on changes taking place around us, changes still in progress.

DARWIN'S VIEW OF LANGUAGE CHANGE. The study of language change will tell us about ourselves, what kind of people are we, and how we have evolved. Darwin was well aware of this. In the *Descent of Man* he famously wrote that "The formation of different languages and of distinct species, and the proofs that both have been developed through a gradual process, are curiously parallel" (1871). He then laid out 15 such parallels having to do with the effects of long continued use, such as

- *We find in distinct languages striking homologies due to communities of descent*

- *and analogies due to a similar process of formation. . .*

- *Dominant languages and dialects spread widely.*

- *and lead to the gradual extinction of other tongues. . .*

- *We see variability in every tongue, and new words are continually cropping up,*

- *Single words, like whole languages, gradually become extinct*

But when Darwin came to the crucial question of natural selection, he had to argue that

- *The survival or preservation of certain favored words in the struggle for existence is natural selection.*

As much we admire and follow Darwin, no linguist supports this view. The general consensus is that there is no progress in linguistic evolution. Writing on "Language and evolution," Joseph Greenberg summed up the consensus:

> Taking linguistic change as a whole, there seems to be no discernible movement toward greater efficiency such as might be expected if in fact there were a continuous struggle in which superior linguistic innovations won out as a general rule. – (1959)

The parallels between linguistic and biological evolution seem so strong that it is indeed puzzling to find that the crucial link of natural selection should be missing. Language change across the centuries has turned a single group of Proto-Indo-European dialects into a family of mutually unintelligible languages, including Russian, Hindi, Greek, Albanian, French, German, English and Icelandic. Linguistic change has not made it easier for speakers of those languages to communicate.

UNDERSTANDING LANGUAGE DIVERSITY. Before we begin a search for the causes of language change and diversity, it should be said that the mere fact of diversity is not a challenge to our understanding. When two groups of speakers

become separated over time by migration to distant parts, and communication
between them is drastically reduced, we expect their linguistic systems to
diverge. The many sources of variation in vocabulary, grammar and phonology
will inevitably lead them to drift apart, and any degree of convergence requires
an explanation.

On the other hand, we are not surprised when neighboring dialects
converge. Many recent studies of European dialects show how the dialect contact
leads to reduction of dialect diversity in the form of "dialect leveling."  In fact, if
these neighbors begin to speak more differently from one another, we are
surprised and puzzled. It follows that when two speech communities are in
continuous communication, linguistic convergence is expected and any degree of
divergence requires an explanation.

**The language faculty as "outward bound"**

This bears on our most general view of what the language faculty is and
how it varies. Many linguists believe that language is a property of the
individual mind, and it is only natural for each individual to have constructed a
different grammar or sound system. The sociolinguistic view, which guides my
own thinking, is that we tend to try to speak in ways that fit the general pattern
of our community.  What I, as a language learner, want to learn is not "my
English" or even "your English" but the English language in general. The
language learning faculty is *outward bound*, searching for a community consensus
rather than an individual model.

We can easily imagine a different scenario of linguistic evolution. If the language learner was fixed on the first linguistic pattern encountered, the language of the parent, then we would expect that when families move into a new area, children would grow up using the parents' dialect. Yet we have massive evidence that children do not: if they are brought in the new community before the age of nine, children will have the dialect system of that community, not that of their parents. It seems that linguistic evolution has developed a system that searches for the general pattern of the speech community and up to a certain age, continually rewrites the rules as it encounters new data.

If this search for what is "out there" is the driving force in language acquisition, we have to ask, what happens when the language learner encounters variation out there? To answer this question, the chapters to follow will consider a number of linguistic variables, and speakers' ways of dealing with them.

**The argument to follow**

Chapter 2 begins with the most general patterns—what we all know but don't know we know about linguistic variation. We will see that the linguistic variation of big cities like New York is not chaotic but governed by regular patterns across social groups and social situations. We will find a strong social consensus in how we change our way of speaking from one situation to another, and consider experimental evidence on how powerful that hidden consensus is. Chapter 3 will turn to the disruption of that consensus, and describe the sound changes that drive dialects apart—in particular, the Northern Cities Shift, which rotates the vowels of cities in the Great Lakes region. It will appear that these

changes interfere with our ability to understand one another, not only across dialects, but within the very community in which we were born and raised.

Chapter 4 pursues even larger language differences, confronting the growing gulf between white and black forms of English. We will look into the origins of this division and find that African-American Vernacular English is not a direct descendent of the English spoken by slaves on southern plantations, as we used to think. Its present form is rather a new development fostered by residential segregation in the great cities of the North, and spread in complex and mysterious ways throughout the country as a whole.

Chapter 5 deals with the consequences of the growing divergence in Black and White English. The immediate cause of this widening gap is the residential segregation characteristic of all the major cities of the U.S.  In addition to fostering dialect differences between Black and white Americans, residential segregation also has severe effects on African American literacy. The history of reactions to the use of different dialects of English in the classroom is a violent one, and the chapter ends by outlining some methods I have developed for teaching reading that take these linguistic and political factors into account.

Chapter 6 returns to the general study of dialect divergence and examines dialect as an emblem of local identity. The strengths and weaknesses of this account will be brought forward as the focus moves from neighborhoods to cities to metropolitan regions.  It will appear that in ways not yet understood, the mainstream dialect of the metropolis is geographically uniform. The widely used term  "Brooklynese" turns out to be a label for working class New York City speech, no matter where in the five boroughs the speakers may be living.

Chapter 7 examines the history of the Northern Cities Shift and the relation between linguistic change and political ideology over vast territories and several centuries. We will not leave race behind, for it will appear that attitudes towards race and racial inequality are profoundly embedded in that history. The inquiry will carry us back to the construction of the Erie Canal in 1817, the great religious awakening of the 1820s and 30s, the formation of the Republican party and the Civil War, then carry us forward to the Civil Rights Act of 1964, the geographic reversal of Democratic and Republican territories, and the striking coincidence of the Northern dialect and the Blue States of 2004 and 2008. The parallels between political and linguistic change show how intimately connected are these two forms of social behavior.

# Chapter 2

## A Hidden Consensus

Chapter 1 looked briefly at the difference between *–ing* and *–in'* in unstressed syllables at the end of the word; between *He is working* and *He is workin'*, or *Good morning* and *Good mornin'*.  Speakers of English have alternated between these two forms for over a thousand years. The *–in'* form is the regular descendant of the Old English participle ending in *–inde* and the *–ing* form is inherited from Old English verbal noun ending in *–inge*.  This alternation is a classic example of a *linguistic variable,* labeled (ING).

### The (ING) variable.

This linguistic feature was first examined quantitatively by the anthropologist John Fischer in a 1958 study of 15 children in a New England town . Fischer found that boys used more   *–in'* than girls, that a "typical boy" used more than a "model boy", and that children used much more *–in'* in informal speech than in the Thematic Apperception Test. I used the (ING) variable among others to study the social stratification of English in New York City in 1966.[6] This was the first systematic study of how speech varied systematically across social classes, ethnic groups, age groups. Before that was done, it was generally considered that the speech of large cities was "chaotic"

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[6] The original study (Labov 1966) was republished in a second edition in 2006 with extensive additions.

and "unpredictable"—that the variation from speaker to speaker and moment to moment was unpredictable.

### (ING) on the Lower East Side of New York City

Figure 1 is drawn from interviews with that first random survey of social classes on the Lower East Side of New York City. The vertical axis is the percent of the *–in'* variant out of all occurrences of (ING) in running speech.[7] The horizontal axis registers three different styles of speech.. On the left is *casual speech*, typically drawn from narratives of vital events in the speaker's life, which approaches the speech of every-day life; *careful speech* is the bulk of interview style; at right, the reading of particular words yields a view of the style in which the most attention is given to speech. Each of the lines connects the mean values for a given socio-economic groups: lower working class, upper working class, lower middle class and upper middle class.

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[7] The definition of this variable—the set of words in which both *–in'* and *–ing* are possible—is not a simple matter. It includes the verb *working* and the noun *ceiling*; it does not include the word *thing* but it does include *nothing* and *something*; it includes the verb *flushing* but not *Flushing, Long Island.*

Figure 1. Stylistic and social stratification of the variable (ING) in New York City (from Labov 1966).
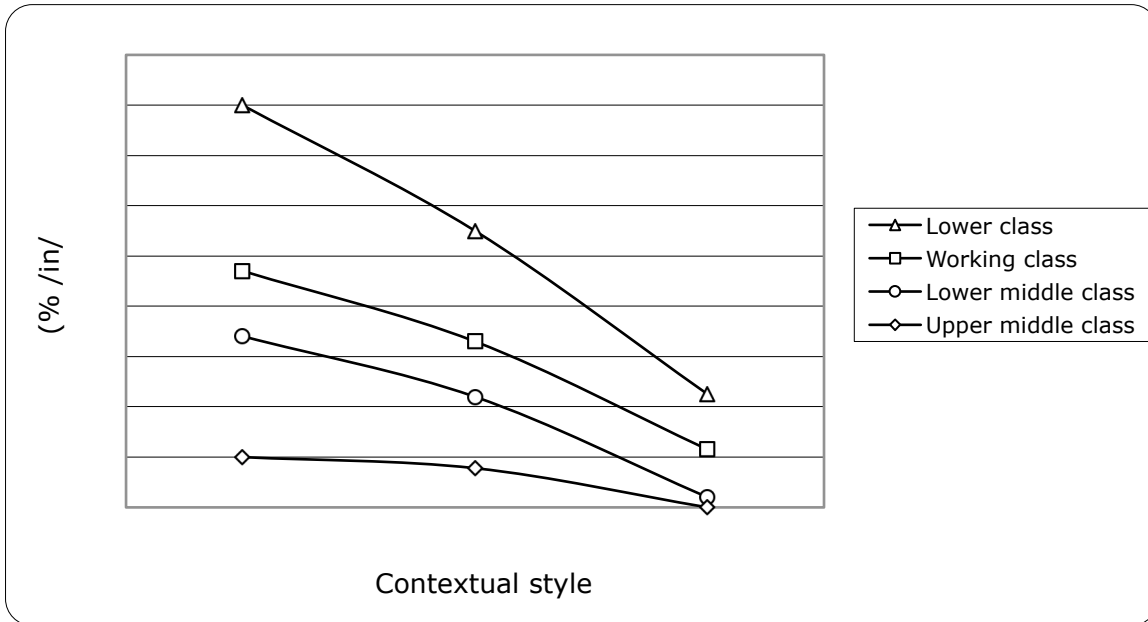


This regular pattern shows two independent effects, which tell us two different things about the speech community. For each style, we see social differentiation of the use of the (ING): the lower the social class, the more *–in'*. At the same time, all New Yorkers <u>agree</u> in their evaluation of this variable. All social class groups decrease their use of *–in'* with increasing attention paid to speech-. This display of independent effects of style and social class changed the linguistic view of the urban speech community. Now variation of this type is seen as "orderly heterogeneity", a new paradigm that defines a "speech community." We see in the constant slope of style shifting, a community united by consensus; yet in each context, differentiated by social class. Patterns like this

have since been found in hundreds of other cities and other languages.[8] The

study of such stable sociolinguistic variables has since yielded rich information

on the sharpness of social stratification in a given community. Those who show

steeper slopes of style shifting reflect a consciousness of social norms that is

associated with social mobility (Labov 1966). Social awareness of this pattern is

acquired early in life; we have recently learned that children acquire style

shifting of (ING) between three and four years of age (Roberts 1997).

## The social perception of (ING)

Recently we asked whether the fine-grained differences in speech

production seen in Figure 1 correspond to what people can actually perceive as

they listen to others speak. We carried out an experiment to see whether listeners

notice differences as small as 10% in the use *–in'* vs. *–ing.* We prepared seven

different  versions of a news broadcast with ten sentences, each containing one

verb with *–ing.* In these different versions, the speaker in used the informal *–in'*

in varying proportions: 0%, 10%, 20%, 30%, 50%, 70% and  100% of the sentences.

(Our speakers actually read the broadcast with all *–ing* and all *–in',* and we

spliced the words together in the different proportions.) Subjects were told, "A

young woman from Philadelphia has been studying to be a newscaster, and has

applied for a job with a local radio station. Here are seven versions of a trial newscast

that she read to submit with her job application. "

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[8] For a partial catalog of these results, see the final chapter of the second
edition of Labov 1966[2006].

Here are the first three of the ten sentences as heard in Trial 1 with a single *–in'* in

the second sentence:

•President Bush announced tonight that he was *putting* all available
White House resources into support for the new tax cut bill.

•Democratic leaders of the House and Senate are *preparin'* compromise
legislation.

•Republican spokespersons predicted that record numbers of *working-*
class Americans would be *receiving* tax refund checks before the end of
the year.

Subjects were asked to put a checkmark in one of seven boxes in a scale like this:

Perfectly                                                     Try another
Professional                                                  line of work
  1   2   3   4   5   6   7
 / _____ / _____ / _____ / _____ / _____ / _____ / _____ /

The results followed a remarkably consistent pattern, not only in

Philadelphia, but in other regions of the country as well.  Figure 2 shows the

result for an experiment administered to a group of 36 college students.

Figure 2. Philadelphia listeners' responses to Experiment 1 on sensitivity to frequency of *–in'* and *–ing.* Speaker: SA (Chicago). $r^2 = .97$
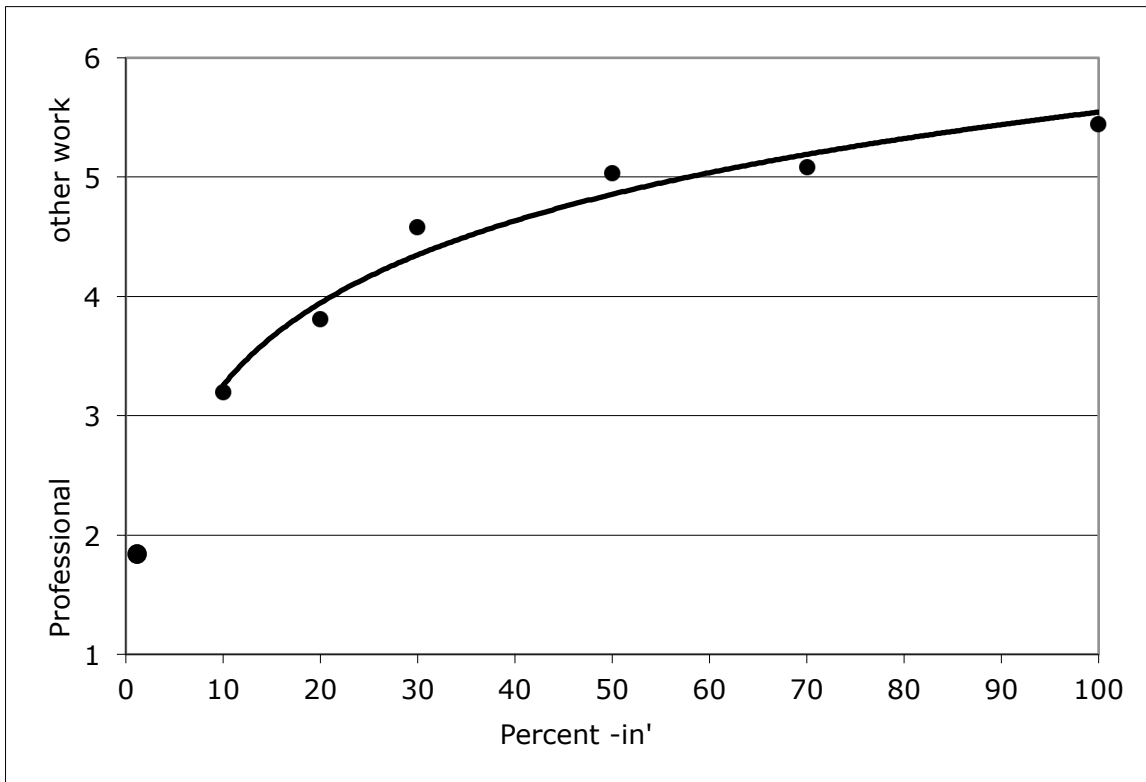


 The vertical axis is the mean ratings, running from "Professional" at the bottom to "Try some other line of work" at the top, so the lower the score, the better the rating. The horizontal axis shows 0, 10, 20, 30, 50, 70, 100% *-in'*. There are two main results that we can glean from this figure. The first is obvious. People agree that the *–in'* form is not appropriate for a news broadcaster, and they are sensitive to the use of *–in'* and *–ing* in a way that we would predict, being members of the same speech community: when listeners hear more *–in'*, they rate the speakers lower in their capacity to be broadcasters..

The second result is not so obvious: responses follow a declining curve as percent –*in'* increases. It is in fact a very specific curve, a logarithmic pattern. The $r^2$ figure of .97 means that the data fit this pattern very well: it accounts for 9This means that the impression created on the listener by an –*in'* pronunciation is proportional to the number he or she has already heard. To put it another way, listeners hear -*ing* as the norm for a news announcer, and –*in'* is a deviation from that norm. The effect of each deviation is not the same, rather it is proportional to the increase in per cent deviations from the expected norm. Thus listeners rate a perfect performance with 0% –*in'* at 18 on the scale, close to "Professional"; when they hear a single –*in',* their rating jumps to 32, almost double. When they hear a second –*in',* they raise the mean score only 6 points, from 32 to 38.  And when the percent –*in'* rises from 70% to 100%, listeners raise the rating increase of only 9%, 4 points on the rating scale.

### Extending the experiment to South Carolina.

We wanted to know whether this pattern was the same for speakers of different dialects of English, and so carried out experiments in other sections of the country. The experiment was repeated with undergraduates at the University of South Carolina. There we found that listeners responded with a somewhat flatter curve—they were critical of the use of -*in'* for newscasting, but less so. We then recorded a USC faculty member reading the same passage. His strong southern accent was radically different from that of the speaker of the Philadelphia experiment, who was a conservative

representative of the Chicago dialect. Though there are many other variables

that might affect the ratings of the two speakers by the South Carolina

listeners, the experiment extracts the identical curve of responses and the same

very high fit of the data to the logarithmic model. The $r^2$ correlations of .98 for

the Chicago speaker and.96 for the South Carolina speaker both show a very

close fit to the logarithmic curve.  The South Carolina listeners behave in the

same way as the Philadelphia listeners, no matter who they are listening to.

They agree that professional news broadcasters should not say *preparin'* but

stay close to the model of *preparing*, and they react in the same way: the effect

of each deviation from the norm is proportional to the increase in deviations.


## The political use of (ING)

We are all constrained by this social consensus, even presidents.  Figure

3is the use of *–in'* and *–ing*  by President Obama. I was able to observe a sample

of his casual speech in a recording made at a Father's Day barbeque on the White

House lawn. The president donned an apron and chatted with the well known

chef Bobby Flay as he picked up tips on good barbeque technique.[9] Figure 3

registers an *–in'* percent of 72% for this occasion. Next is President Obama'

careful speech at the Father's Day ceremonies that followed, asking and

answering political questions. His percent of *-in'* falls to 33%. The most formal

context shown is his scripted acceptance speech at the Democratic National

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[9] http://www.balleralert.com/forum/topics/president-obamas-fathers-day,

Convention, where we see only 3% *-in'*.

Figure 3. President Obama's use of (ING) in three contextual styles.
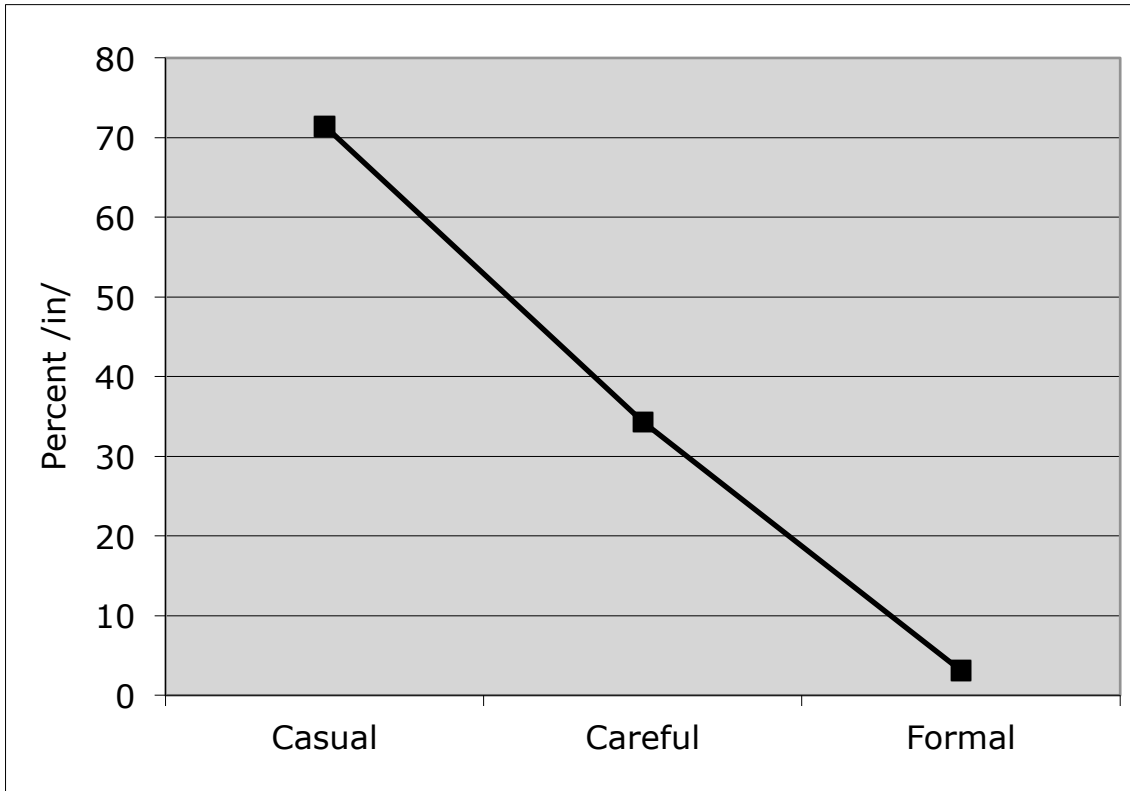
One might think that some individuals might defy this convention to establish their own brand of colloquial style. In fact, the Republican Vice-Presidential candidate Sarah Palin was widely criticized for her use of *–in'* in public speaking,

> When you speak in public, you use your best English, except for occasional emphases. Adopting Palin's de-G-ed "speakin'" is an assault on the language, just like perpetrating the lie that she's ready to lead is an assault on the future of the nation.
>
> --Rob Kall on Radio Station WNJC

However, if we take the same objective measures of the variable (ING), we find no difference between Sarah Palin and President Obama. For careful speech, we can take the interviews of Sarah Palin by Katie Couric, and for scripted formal style, her own acceptance speech at the Republican National Convention.  Figure 4 superimposes the figures for Sarah Palin on those for President Obama. One could not obtain a more complete agreement. It is evident that Sarah Palin is obeying the same norms for the variable (ING) as those that govern the speech of President Obama.

Figure 4. Sarah Palin's use of (ING) superimposed on Figure 3.



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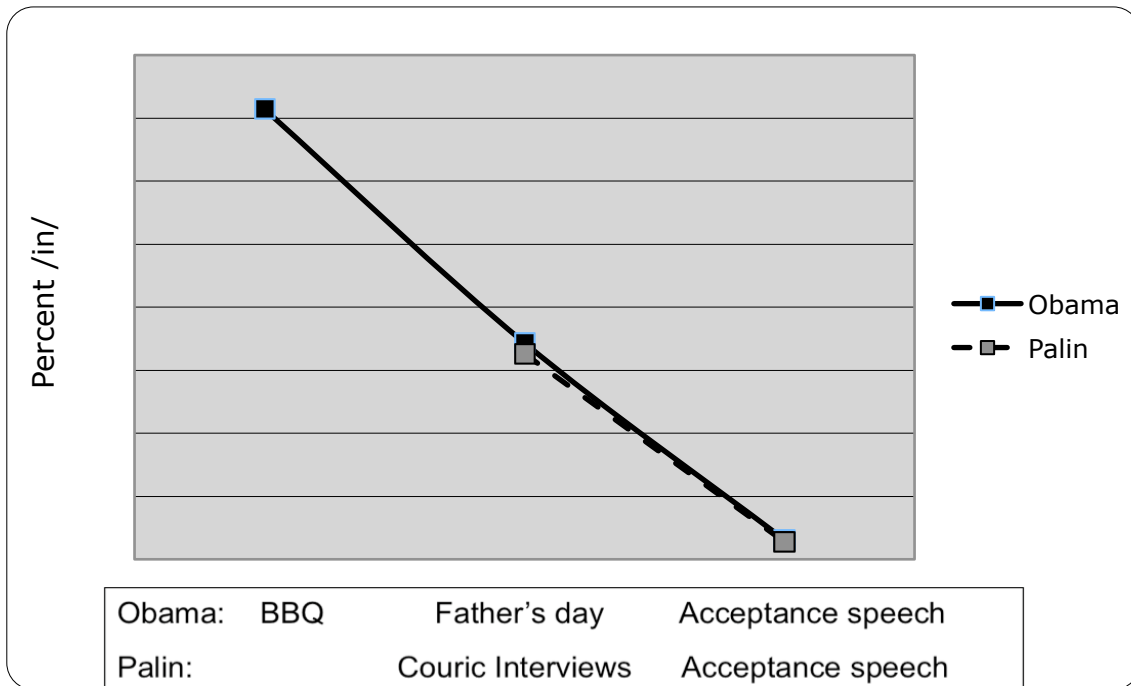
## The consensus

This consensus is publicly available and in one sense, understood by all. In the classroom, or on the pulpit, people will attribute the use of the *–in'* form to laziness, ignorance, or just plain rascality. Yet the high value we put on the *–in'* norm in other contexts is not hidden from public view. When we see the large illuminated sign, DUNKIN' DONUTS, we recognize the claim that *dunkin'* doughnuts taste better than *dunking* doughnuts. The *–in'* form, as we have seen, is associated with home language, and DUNKIN' DONUTS calls upon the general belief that home cooking is better than commercial cooking. Many other firms make heavy investment in the apostrophe. A Philadelphia travel agency is

named with an electric sign spelling out CRUISIN'.  We understand this as an advertisement that we will have a better time *cruisin'* than we would *cruising*.

To sum up, people do not speak in an unpredictable and chaotic way, in New York City or elsewhere.  The *–in'* variant does not represent a loss of control, laziness or ignorance. It alternates with *–ing* as a stable linguistic variable. People throughout the country use more of the *–in'* form when they are speaking informally, less when they are speaking formally.  People with more power, education and money use *–in'*  less often than people who rank lower on these dimensions of social life. We sum up these findings by saying that the variable (ING) is stratified by style and social class, evaluated by social consensus, and available for public discussion. It operates very much the same way throughout the English-speaking world.[10] As far as we know, the variation between *–in'* and *–ing* dates back to the 9th century AD.[11]

Most importantly, the (ING) variable is a prototypical example of orderly heterogeneity. It does not interfere with communication: we know that *working* and *workin'*, *dunking* and *dunkin'*, mean the same thing. Furthermore, the variation of (ING) works for us to establish levels of formality and informality

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[10] See Fischer 1958 for New England; Trudgill 1974 for Norwich, England; Bradley and Bradley 1979 for Melbourne, Australia; Cofer 1972 for Philadelphia; Houston 1996 for 20 cities in England; Douglas-Cowie  1978 for northern Ireland; Mock 1979 for rural Missouri;

[11] As noted at the beginning, *-in'* descends from an Old English noun ending, and *–ing* from a verbal ending. The historical reflex is seen in the fact that everyone uses more *–ing* in nouns and more *–in'* in verbs, though this is hidden from social consciousness and carries no social meaning.

and in any given context; the level of *–in'* also tells us something about the social status of the speaker. In a word, we understand (ING).  That does not prevent us from attacking Sarah Palin for "dropping her g's". Public rhetoric about language behavior is always several stages removed from reality. Because we understand what (ING) is all about, we can always pick it up and use it as a club to beat our opponents on the head and shoulders with, linguistically speaking.

## Chapter 3

## Hidden diversity


We are now ready to turn to a different kind of linguistic variation, which differs from (ING) on each of several counts. Instead of stability, we find rapid changes across generations; instead of universal use across in the English-speaking world, changes confined to a single dialect area; instead of a topic for public debate, we discover features that are entirely unconscious and never discussed in public. While (ING) did not interfere with communication, these changes do so, but in ways that are rarely recognized.  The changes in progress to be discussed in this chapter are indeed mysterious: they challenge us to search for the causes of such linguistic disruption, and to understand why people speak as they do.

As we turn to these recent changes in progress, the focus will be on the sounds of language, not words, the forms of words or their combinations in syntactic structure. Current changes in progress are generally limited to changes in sound patterns. Speakers of the regional dialects of North American English now differentiate themselves primarily by their vowel systems, not their grammatical systems, which turn out to be quite stable.[12] There is of course a

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[12] The Midland area (to be defined below) shows the use of positive *anymore* in sentences like, "Cars are sure expensive anymore"; of "swept" in place of "sweeping" in "The floor needs swept". The South shows a wide range of grammatical features, including double modals in "He might could do that" or negative inversion in 'Can't nobody do that." But none of these and other

great deal of fluctuation in vocabulary. We all find it interesting to learn that what is called *soda* in one place is called *pop* in another place, and *coke* in another. Yet the change of one word does not tell us much about change in another, and the long list of words that differ from one place to another does not form a coherent pattern or give us much insight into the machinery of speaking and listening.

The sound changes in question were first discovered in exploratory interviews in Chicago in the late 1960s and early 1970s.  I was talking to a teen-ager named Tony about a friend of his named Marty who almost got killed. He said, "Marty, he got caught in the lax." It was only after listening to the tape several times that I figured out that Marty had got caught swimming in the *locks* leading to Lake Michigan. This was only one of a set of sound changes that we came to recognize as "The Northern Cities Shift." Later, we encountered speakers from Detroit, Buffalo and Rochester who showed similar vowel systems.[13]

To acquaint you with these sound changes, I will draw from a series of experiments on cross-dialectal comprehension, designed to see if they did in fact interfere with communication.[14] In Chicago, Philadelphia and Birmingham, we

grammatical variables have been found to be involved in large scale and systematic expansion, like the sound changes to be discussed in this chapter.

[13] These observations were first reported in Labov, Yaeger and Steiner, *A Quantitative Study of Sound Change in Progress* (1972), the first large scale application of acoustic measurement to the study of linguistic change.

[14] The CDC research project at the University of Pennsylvania was supported by NSF under Grant 509687, "A Study of Cross-Dialectal Comprehension," from

recorded conversations with advanced speakers of the local dialect—young women in community colleges, We identified words that were in the forefront of change, and played them to subjects in three forms: first as isolated words, then in a phrase, and finally in the full context. When the 31 subjects from Philadelphia listened to the first item, 90% identified the word as "black."  When they heard the same word in the phrase context, "living on one___" a minority of 39% changed their minds and decided it must be the word "block." When they heard it in the full context, "senior citizens living on one___", a majority of 79% switched over to "block", but 21% still stayed with their original choice, "black." Most of the subjects came to realize that the speaker they heard was pronouncing the word "block" in the way that they themselves said "black".  When the same experiment was repeated in Birmingham, Alabama, the result were more dramatic—only 3% identified the isolated word correctly.

You might think that this has no serious consequences for communication, because people from Philadelphia and Birmingham don't spend that much time in Chicago. But the pattern was not radically different for Chicago listeners. In isolated words, Chicago college students were no better than the out-of-towners — only 2% identified the word correctly. With more context, they did catch up and pass the others. Ninety-seven per cent identified the word as *block* in the full context.

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It is extraordinary that the listeners in these experiments are the same group as the speakers: first-year students in local universities. The pronunciations that they do not recognize are their own. We must assume that college students have been exposed to the norms of other dialects, and have come to expect less local speech forms in formal situations like this experiment. For the local listeners, a little context brought them back to the reality. Yet 20 to 30% of the out-of-town listeners still could not believe that the word intended was what the context told them it was: "block".

The experiments showed similar patterns of recognition rates for four other words.  Chicago *that* was frequently heard as "theater", "Fiat" or  "Peter." Only a small minority heard it as a short-a word in isolation.  The word "steady" was consistently heard as "study" by most of the listeners:  only 8% of the Chicagoans got the word right.

Most spectacular was the mishearing of  Chicago "buses". In isolation, the great majority of listeners heard it as "bosses". In the phrase, "the <u>BUSES</u> with the antennas" there was little change, very few listeners identified the word correctly in the context: "the <u>BUSES</u> with the antennas on top."  Even the Chicago listeners persisted in identifying this word as "boss" or "bosses", in spite of the fact that "boss" made no sense. Only 31% picked up the intended meaning of "buses". The majority could not believe that someone would pronounce "bus" to sound like "boss" even though this was the spontaneous production of one of their classmates.

Finally, we note  that the word "talks" can be heard in isolation as "toxic",
though in the full context "We had all these conversations and <u>TALKS </u>about it"
most listeners got it right.

It's important to establish now that these various changes are not
disconnected events. There is a connectedness to it all that will help us
understand what is happening. The five sound changes form a complete,
circular, chain known as "The Northern Cities Shift," as shown in Figure 5. Each
of he word classes -- *bat, got, bought, bet* and *but*--shift one unit along the chain.
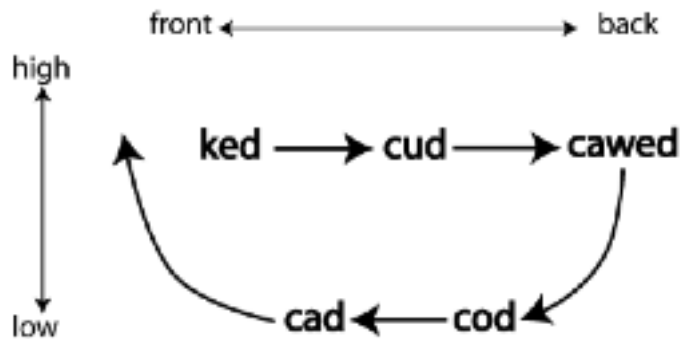
Figure 5. The Northern Cities Shift.



Figure 5 displays the five vowels in a two-dimensional space. The vertical
dimension is labeled "high – mid - low", indicating whether the tongue is high or
low in the mouth when the vowel is formed. The horizontal dimension is labeled
"front - back", indicating whether the high point of the tongue is toward the
front or back of the mouth.

The logic that connects these five changes resembles a game of "Musical
Chairs", in which each inhabitant of a position moves one unit to dislodge the

next. The initiating event appears to be the shift of short-*a* in *bat* to a front, raised

position, a sound very much like the vowel of *yeah.* It is not just this one word *bat*

involved, but all words spelled with short-a: *cad, bad, that, cat, attitude, cap,*

*happen, happening,* etc. This raising of short-*a* is familiar to speakers of any North

American dialect when it is followed by a nasal consonant *m* or *n*. In the most

extreme form, the girl's name *Ann* is pronounced like the boy's name *Ian*. But in

Chicago, **all** short-*a* words undergo this change; there are no words in this class

that retain the original sound of short-a that is heard in the "cat, bat, sat" of

many other dialects.

   Into the gap created by this shift, the vowel of *got* moves forward.  In the

most extreme form, *cot* sounds like *cat*, *block* like *black, socks* like *sacks*. This shift

of short-*o* creates a new vacancy in the phonetic space that it used to occupy:

there is no longer a short vowel in the low back slot. The vowel of *bought then*

moves down and front towards this position, along with other members of the

"long open-*o*" word class: *law, talk, cross, dawn, dog,* etc.[15]  On the other hand, the

fronted and raised short-*a* class has moved dangerously close to short-e. Short-*e*

then shifts to the back towards short-*u*, producing a confusion between *desk* and

*dusk* as short-*e* enters the short-*u* territory. Most recently, short-*u* has responded

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[15] For many readers of this chapter this will sound like nonsense. The two
word classes involved, in *cod* and *cawed*, *hock* and *hawk, Don* and *dawn*, have long
since merged for them, and are pronounced the same. This applies to readers
who were raised in Canada, Eastern New England, Western Pennsylvania and
the West generally. But in the North, the Mid-Atlantic States, and most of the
South, *cod* and *cawed* are not the same; short-*o* and "long open-*o*" are two distinct
categories.

to this intrusion by moving back, producing the potential confusion between

*buses* and *bosses, cud* and *cawed.* As noted above, the class of *bosses, talk* and *cawed*

has shifted down and front. The chain shift has come full circle.

The confusion that we observe in experimental settings is not the only sign of

interference with communication produced by the Northern Cities Shift. The

research team engaged in the study of cross-dialectal comprehension collected

some 900 examples of misunderstandings in every-day settings. We provided

our collaborators with printed forms for recording such misunderstandings

immediately after they happened, noting crucial information that would help us

determine what led to the breakdown in communication.  Especially important

was how long it took for the misunderstanding to be detected: before the other

person had finished speaking. In many cases, the misunderstanding was

uncovered by an immediate request for confirmation. But in other cases it might

not be discovered until many days later, as the result of new information that led

the person to realize that a misunderstanding had taken place. The standard

form looked like this:

| | |
|---|---|
| MISUNDERSTANDINGS | Date _____ |
| Speaker _____ | Hearer _____ |
| Dialect area _____ | _____ |

Speaker said [continue on back for full setting]:

Hearer heard:

Hearer corrected mishearing after ____sec _____min
_____ before utterance was over
_____ by speaker's response to look or query
_____ by inference from further utterances
_____ by accidental events that followed

It turned out that misunderstandings parallel to our experimental confusions of *block* with *black* are quite common in every-day life. A linguist from the east coast was driving through Chicago when she heard on the radio that "The Eden expressway is jammed salad." It took her quite a few minutes to realize what had in fact been said. Another linguist, raised in Cincinnati, was listening to a radio broadcast from Oshkosh; she heard a factory worker say, "The plant doesn't get enough orders to maintain aberrations." It was not until some time later in the broadcast that she stopped wondering why the plant would want to maintain aberrations, and understood that he had said *operations.* A Canadian phonetician heard a student from St. Louis say, "I did the casting for a play," but only after he asked her how she got that job did he come to understand that she had done the *costumes* for that play.

A woman from Kansas recorded a misunderstanding between her Kansas-raised sister and a Michigan-raised cousin, in a discussion of what kinds of things can go into a dishwasher. She could not understand why the Michigander was ready to put *chapsticks* into the machine, until she finally realized that it was *chopsticks* that he had in mind. This confusion of short-*o* with short-*a* can become encapsulated in print. A Michigan newspaper reported a local politician as saying he was sure whose "axe would be gored." It is of course possible that a series of misunderstandings has led to the use of *axe* is found in this fixed expression, but somewhere along the line we must infer the misunderstanding of *ox* as *axe.* A linguist from the east coast, staying at a Chicago hotel, was informed that coffee would be served every morning by the "padded plant," and it took some time for her to realize what that was an where to look for her coffee.

The misunderstanding can operate in the opposite direction, where speakers of the Northern Cities Shift interpret the short-*a* of outsiders as intending short-o. The same linguist asked an employee of a Chicago branch of the Target stores where she could find "baby sleep sacks"; the clerk pointed to a display of white socks. Several days later, this misunderstanding was re-played in a branch of  J. C. Penny.[16] An easterner wrote to me, "Neither my boyfriend Dave nor I are natives to Michigan. Dave had the following misunderstanding happen three times in the Lansing area, at two different grocery stores, with two different workers:  he asked for 'catfish' and the man behind the counter gave him cod, thinking he said *codfish*.

The schema of the Northern Cities Shift in Figure 5 indicates that short-*e* words can be misheard as short-*u* as the result of the backing of the *e* class.  A traveler from Long Island heard a woman from Milwaukee say, "They couldn't find the best." When he asked her what she meant, he got to understand that a *bus* was involved. A phonetician who went to work for Motorola in Chicago was on the commuter train one morning and overheard a commuter say, "I've got a mutual fund coming in".  This didn't sound so strange to him, given that many of the people on the train are financial folks.  He then heard the speaker clarify to her associate who had also misperceived the utterance: she had a mutual *friend* coming in.

The same Canadian phonetician mentioned above was walking alongside a woman from Madison, Wisconsin; she was pushing her bike and talking about

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[16] I am grateful to Beatrice Santorini, the linguist in question, for these observation.

where she got it from. He heard her say, "They make trucks in Wisconsin," which seemed quite irrelevant, but it was only a matter of seconds before he realized that she meant the bicycle *Treks.*

In the course of collecting this large body of misunderstandings we found that more than a quarter—27%--were the result of sound changes in one dialects or another. Since most of our observers were located in the east, the number of misunderstandings triggered by the Northern Cities Shift was relatively small. But it was enough to confirm the results of our experiments: that sound change led to a significant reduction in the capacity of language to do its main job of communicating meaning.

## Who speaks this way?

The Northern Cities Shift was first identified in exploratory interviews in Chicago, Detroit and Buffalo. From these and the more extensive studies of New York City and Philadelphia, there emerged a profile of the most extreme speakers of these regional dialects. They are upwardly mobile young women, in the second and third generation of newly arrived ethnic groups, with dense connections within the local neighborhood, and multiple social relations outside the neighborhood as well. In addition, one can say that the leaders of linguistic change are non-conformists who are not afraid to defy social conventions and social activists, ready to intervene when they see something going wrong and quick to respond to perceived injustice.[17]

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[17] The same profile was drawn in a study of a very different society, in an investigation of linguistic change in Cairo, Egypt by Niloofar Haeri (1996)/

Here is an excerpt from an early interview in Chicago in 1971 by Benji
Wald, with a 23 year old Carol M.  The words that show the Northern Cities Shift
are highlighted in italics.


INSERT CAROL M. HERE.

Another sample of the style of the leading exponents of linguistic change
can be drawn from an interview with Jackie G. in Chicago by Sherry Ash in 198?,
in connection with the project on cross-dialectal comprehension.

> SA: How old are you?
> JG: Ah . . . 19. I have a fake ID. . . that, uh, a police officer by the
> way gave me, we won't mention his name.
> SA: Give me the story about it.
> JG: Well my girl*friend* goes to Illinois State University out in
> Normal, Illinois, and *met* a policeman out there who gave us—he
> confiscated these IDs from other girls, and says, "Take this *back* to
> *Chicago* and put it to use." And it *happens* that this girl looks like
> me, she's *got* the brown eyes, the brown hair, the height, the
> weight, so all's I did was memorize the social security number and
> their *address*, and it's fine, it gets me everywhere. I mean I don't
> take it—I don't go out crazy, in this bar, like I *walk* out staggering, I-
> - you know. I know I have my limits. . . .
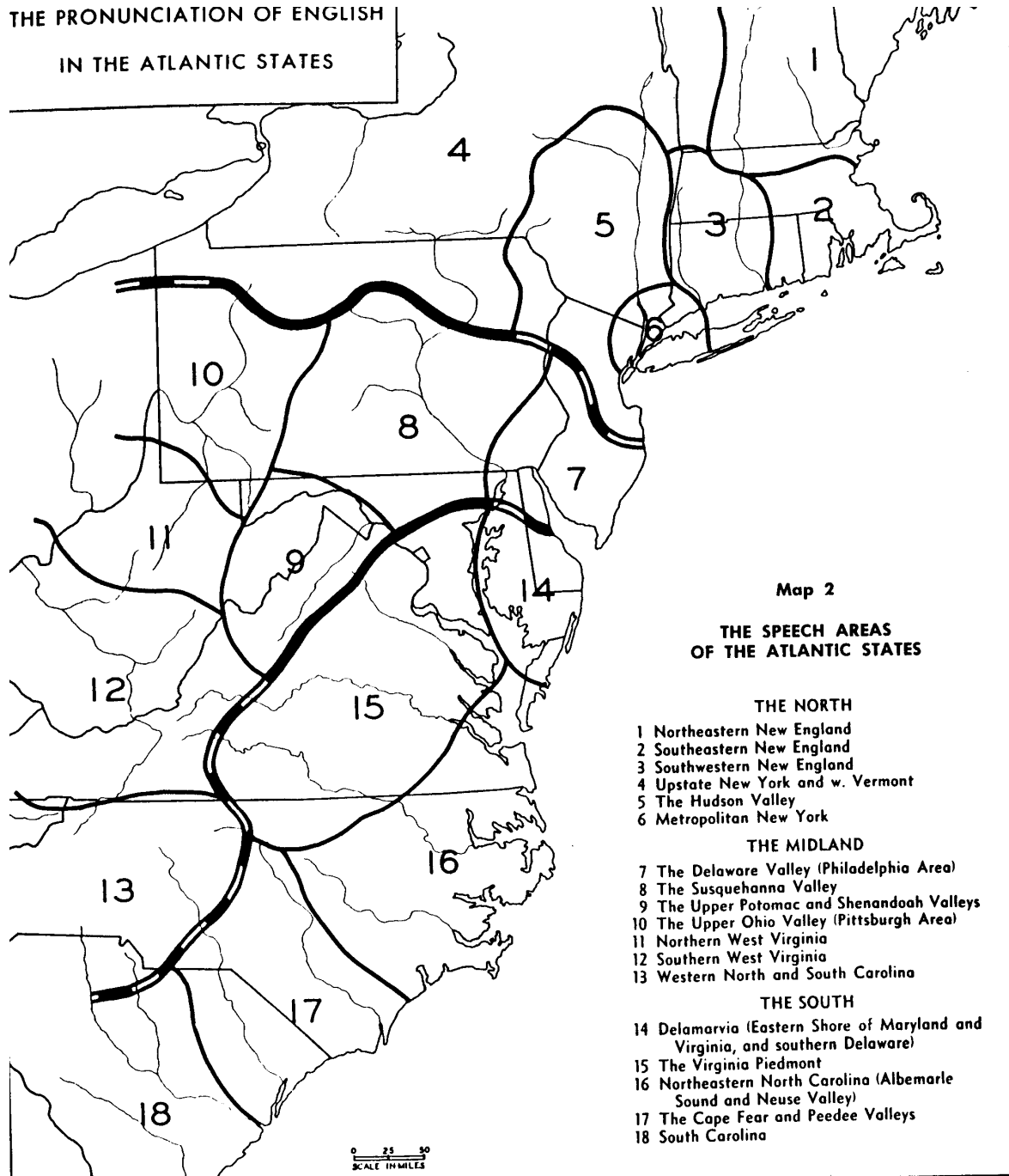
Where is the NCS to be found?

   The experiments on cross-dialectal comprehension focused on Chicago,
where the two speakers just cited were located. As we collected data on natural
misunderstandings it became evident that the Northern Cities Shift was active in

a much broader region. How widespread is the Northern Cities Shift and what are its limits?

To answer this question, we turn first to the analysis of American dialects as first developed by Hans Kurath in the Atlantic seaboard states. In his first study of regional vocabulary in mid 20ᵗʰ century (1949), Kurath found that the usual division of the American dialects into North and South was not adequate: the data pointed to a three-way division into North, Midland and South (Figure 6). The North is the area of original Yankee settlement from southeastern England (Fischer 1989), marked by such vocabulary items as *spider* for 'frying pan', *teeter-totter* for 'see-saw', *darning needle* for 'dragon fly'. The Midland is an area of largely Scots-Irish settlement, centering on Philadelphia in the east, and expanding to cover much of the Midwest. The Midland vocabulary opposes *bucket* to Northern *pail* and *mosquito hawk* to *darning needle* for 'dragon fly.'

Kurath and McDavid's mapping of *The Pronunciation of English in the Atlantic States (1961)* found North/Midland/South divisions along the same boundary lines. Most speakers in the North and in the South distinguished *which* from *witch;* the Midland speakers did not. Most of the North and the South distinguished *four* from *for, hoarse* from *horse, mourning* from *morning;* the Midland did not.

Figure 6. Dialect areas of the eastern United States (from Kurath 1949, Kuraath and McDavid 1961)



THE PRONUNCIATION OF ENGLISH
IN THE ATLANTIC STATES

Map 2

THE SPEECH AREAS
OF THE ATLANTIC STATES

THE NORTH

1 Northeastern New England
2 Southeastern New England
3 Southwestern New England
4 Upstate New York and w. Vermont
5 The Hudson Valley
6 Metropolitan New York

THE MIDLAND

7 The Delaware Valley (Philadelphia Area)
8 The Susquehanna Valley
9 The Upper Potomac and Shenandoah Valleys
10 The Upper Ohio Valley (Pittsburgh Area)
11 Northern West Virginia
12 Southern West Virginia
13 Western North and South Carolina

THE SOUTH

14 Delamarvia (Eastern Shore of Maryland and
      Virginia, and southern Delaware)
15 The Virginia Piedmont
16 Northeastern North Carolina (Albemarle
      Sound and Neuse Valley)
17 The Cape Fear and Peedee Valleys
18 South Carolina

Until recently, the only systematic mapping of North American
pronunciation was confined to the Atlantic States. The North/Midland/South
distinction was extended westward to the Great Plains area on the basis of
studies of regional vocabulary (Shuy 1962, Carver 1987), but no over-all view of
the dialect geography of American sound patterns was available. We noted
above that the Northern Cities Shift was first discovered in 1972 in exploratory
studies of Rochester, Buffalo, Detroit and Chicago.[18] Though this pointed to a
Northern origin, it was not possible to say how general the shift was, or how it
corresponded to Kurath's divisions, until the publication of the *Atlas of North
American English* by Labov, Ash and Boberg in 2006. This work provided the first
over-all view of the pronunciation of English on the North American continent,
based on a telephone survey of 762 speakers in the mid 1990s. It maps the vowel
systems of all 223 North American cities with a population of over 50,000.

Figure 7 shows the dialects of North American English as defined by the
Atlas. While Figure 6 is based on regional vocabulary, the boundaries of Figure 7
are formed by the outer limits of the active sound changes in progress. The areas
marked "North", "Midland" and" South" coincide generally with the westward
extension of the vocabulary of the three main regions of Figure 6. As we will see,
this is the result of the steady westward orientation of streams of settlement in
the 19th century. Within the North on Figure 7 is a smaller area labeled "Inland

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[18] The earliest evidence for the first two stages of the NCS appeared in an
unpublished paper of Fasold (1969), based on the sociolinguistic study of Detroit
of Shuy, Wolfram and Riley (1966). Fasold reported that lower middle class
white females led in the fronting of short a, short o and long open o for 12 men
and 12 women.

North." Below this is the Midland, now separated from the eastern seaboard by
the distinctively different dialects of Pittsburgh and Philadelphia.[19] In the Kurath
diagram of Figure 6, Appalachia is included in the Midland, but in Figure 7, it
forms part of the South. Within the South, two areas of maximal advancement of
Southern sound changes are labeled "Inland South" and "Texas South."

Figure 7. Dialects of North American English as defined in ANAE (from Map
11.15)



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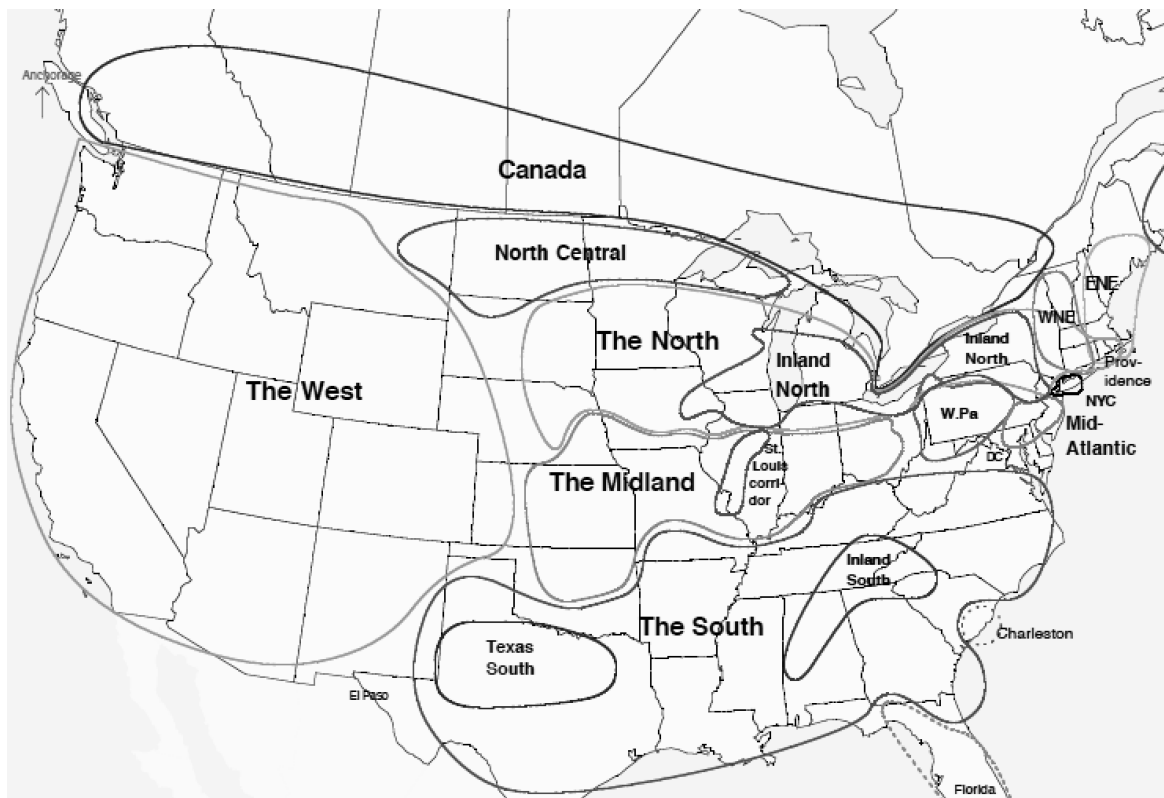
[19] Note that in Figure 8, the Midland is broken in two by a narrow strip
running from Chicago down to St Louis, representing the influence of Chicago
speech patterns on that city (Labov 2007).

We can now answer directly the question "where is the Northern Cities Shift:

to be found?" It is the speech pattern of the Inland North. Though this territory is

smaller than the North as a whole, it is actually a vast area bordering the Great

Lakes, extending eastward to cover most of New York Sate, and westward into

northern Illinois, southern Wisconsin and eastern Iowa. The Inland North a

subset of the larger Northern area, which extends the vocabulary and sound

patterns of the North in Figure 6, and in marked by the phonetic conditions that

make the Northern Cities Shift possible.[20] The line between the Inland North and

the Midland runs below the Western Reserve in Ohio, south of Toledo, veers

northward to near the upper border of Indiana, and then passes below the

northern third of Illinois and above the lower third of Iowa. Though it is not

prominent in public consciousness, the North/Midland boundary is the deepest

division in the phonology of the United States.  Dozens of words in the

traditional rural vocabulary differentiate the North from the Midland along this

boundary. Northern *pail* corresponds to Midland *bucket;* Northern *spider* to

Midland *skillet;*  Northern *faucet* to Midland *skillet.*  Many of these regional terms

have become obsolete. But in our studies of the sound systems of the North and

---

[20] One essential condition is the preservation of the distinction between
short-o in *got* and long open-o in *bought,* so that *don* and *dawn, cot* and *caught,*
*collar* and *caller,* are all different. If short-o moves back to merge with long open-
o, the Northern Cities Shift is no longer a possibility.

the Midland, we find ten different features that bundle together, differentiating

the North from the Midland in a uniform way.[21]

The Northern Cities Shift is found in all the cities of western New York state:

Utica, Syracuse, Rochester and Buffalo; in Cleveland, Ellyria, Massillon and

Toledo in Ohio; in Detroit, Ann Arbor, Flint, Grand Rapids and Kalamazoo in

Michigan; in Chicago, Rockford and Joliet in Illinois; in Madison, Kenosha and

Milwaukee in southeastern Wisconsin. The Northern Cities Shift is not identified

only with these but with every city in this region (Gordon 2000, 2001; Plichta and

Rakerd 2002; Thomas 20). The Inland North is the urban concentration of

Northern speakers, a vast conurbation of 88,000 square miles, with a population

of over 34,000,000.

On the other hand, cities of the Midland—Columbus, Indianapolis,

Kansas City, Omaha—show no signs of the Northern Cities Shift.


**Acoustic measurements**

In order to follow the progress of the Northern Cities Shift, we make use

of acoustic analysis. The Atlas was based on 134,000 such measurements, which

track vowel quality through the central tendencies of bands of high energy in the

spectrum of the vowel called *formants*. The location of the first formant is closely

correlated with the height of the vowel in terms of tongue position, and the

second formants give us an indication of the position of the vowel on the front-

back dimension. These measurements are considerably more precise and reliable

than estimates of tongue position made by ear, that is, by impressionistic

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[21] See Maps 14.4-9 of the *Atlas of North American English*.

phonetics.[22] Thus the raising of short-*a* corresponds to lower values of the first

formant and the backing of short-*u* corresponds to lower values of the second

formant.

Using such measures, we trace the geographic outlines and internal

consistency of the Northern Cities Shift to see how it evolved. The examples I

have used so far are drawn from the most advanced users of these sound

changes. At this point, we need a more general criterion, one that separate all

those engaged in the Northern Cities Shift from others. Since the NCS involves a

complex movement of five vowels, measures of its progress call for calculations

of positions relative to each other, rather than the position of individual vowels.

As we have seen, the NCS involves the fronting of short-o in *got, socks, block*  to

sound like *gat, sacks* and *black* and the backing of short-u in *but, bus* and *bunk* to

sound like *bought, boss* and *bonk.* For most dialects, short-u is a central vowel and

short-o is a back vowel, but under the influence of the NCS, they reverse their

relative positions on the front-back dimension. Figure 8 maps this aspect of the

NCS by what we will call the *UD criterion*: whether short-u in *but*  is pronounced

further back in the mouth than short-o in *got* or the reverse.  The solid circles

indicate speakers for whom the UD criterion holds: mean measures of the second

formant (F2) show that short-*u* is pronounced further back in the mouth than

---

[22] Nevertheless, impressionistic phonetic judgments play an essential role
in the study of sound change, since the more precise acoustic measurements are
also subject to gross errors in the identification of the first and second formants,
and here judgments made by ear serve to control and correct such errors.

short-*o*. The empty circles indicate all those speakers for whom short-u is farther

front than short-o.

Figure 8 .The homogeneity of the Northern Cities Shift in the Inland North

as indicated by the UD criterion: *cud* is further back than *cawed* (from ANAE Map
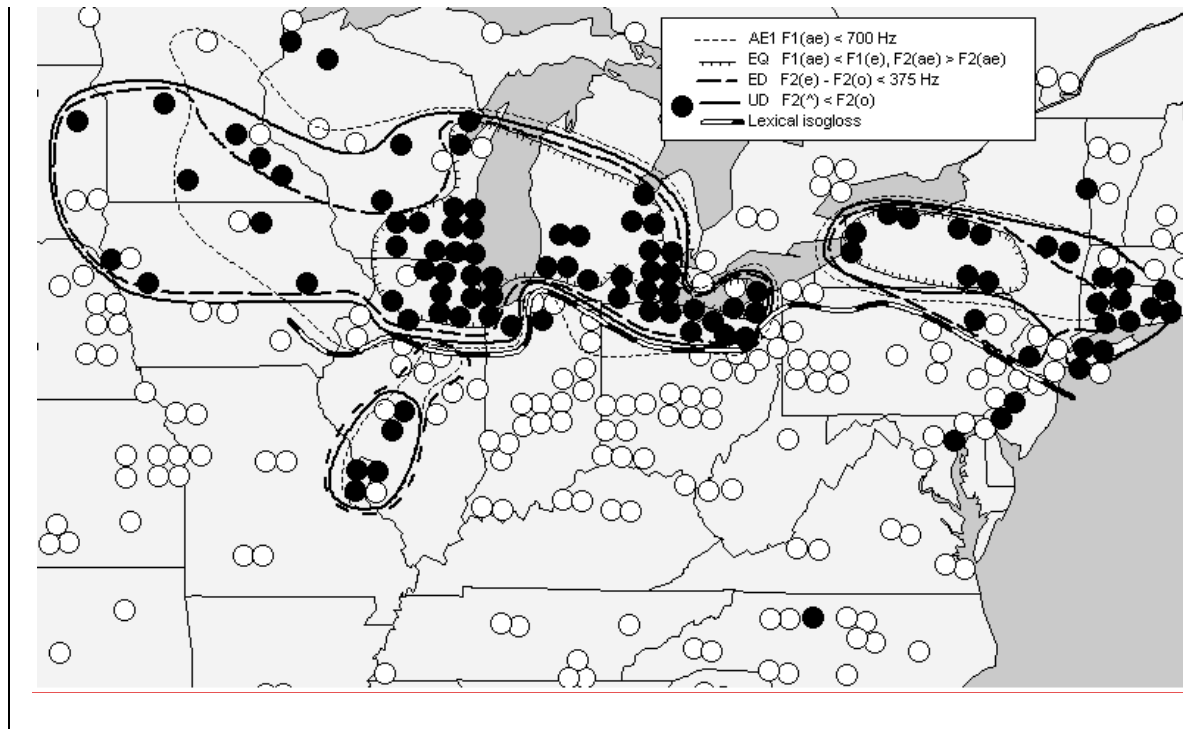
14.11).



Figure 8 clearly defines the southern boundary of the Inland North. The outer

boundaries of three other measures of the NCS are shown as well. [23]

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[23] The outer boundaries of points that satisfy these other measures are shown
on Figure 10 as well. These are:

AE1: A measure of the raising of short-a: short-a is in upper mid position (F1
less than 700 Hz).

EQ: Reversal of the relative positions of short-a and short-e: short-a is higher
and fronter than short-e.

The Inland North is then that inner area where all of these measures coincide. Within that inner area, the UD measure shows an extraordinary homogeneity: Figure 8 shows only 3 white circles inside the Inland North boundary out of 58. Below the North/Midland line, we see only white circles, except for the narrow corridor leading down to St. Louis[24] and a scattering of four points in the extreme eastern territory of the Mid-Atlantic region.

## The North diverging from the Midland

The fact that almost everyone in the North has adopted this back pronunciation in *but* and *bunk* does not in itself point to divergence, the major theme of this book. It might be that short-u was relatively back since the earliest period of settlement of the North and relatively front from the earliest settlement of the area to the south, the Midland. We can check this by taking advantage of the wide range of age among the Atlas subjects to see if there is change in "apparent time"—that is, are younger speakers pronouncing these words further back than older speakers in the same region. Figure 9 accordingly plots the backness of short-u words against age for each speaker in the Inland North and the Midland. The vertical axis is the mean value of the second formant (F2) for

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ED: Approximation of short-e and short-o on the front-back dimension: the F2 difference between them is less than 375 Hz.

[24] This "St. Louis corridor" traces the influence of the Chicago Northern Cities Shift on St. Louis. See Labov 2007 for the history of this influence along Route I-55, the forerunner of fabled Route 66.

short-u. At the top of the scale the value is 1800: this produces a sound closer to

short-*e* than short-*u*, so that *bunk* is close to *benk* and *bunch* to *bench*. At the

bottom of the scale, where F2 is as low as 1200, *bunk* sounds like *bonk*. The

horizontal axis shows age of the Atlas subjects from 12 to 78.  Inland North

speakers are shown as open circles and Midland speakers as dark squares. The

two lines are partial trend lines for age for each dialect area: the solid line for the

North, the dashed line for the Midland. For the older speakers on the right, it is

evident that there is no difference between the North and the Midland. But the

values for North and Midland become steadily more different as we examine

younger speakers, until there is no overlap at all for speakers age 20 and below.

Figure 9. Divergence in the fronting and backing of short-u by age for the Inland

North and the Midland.
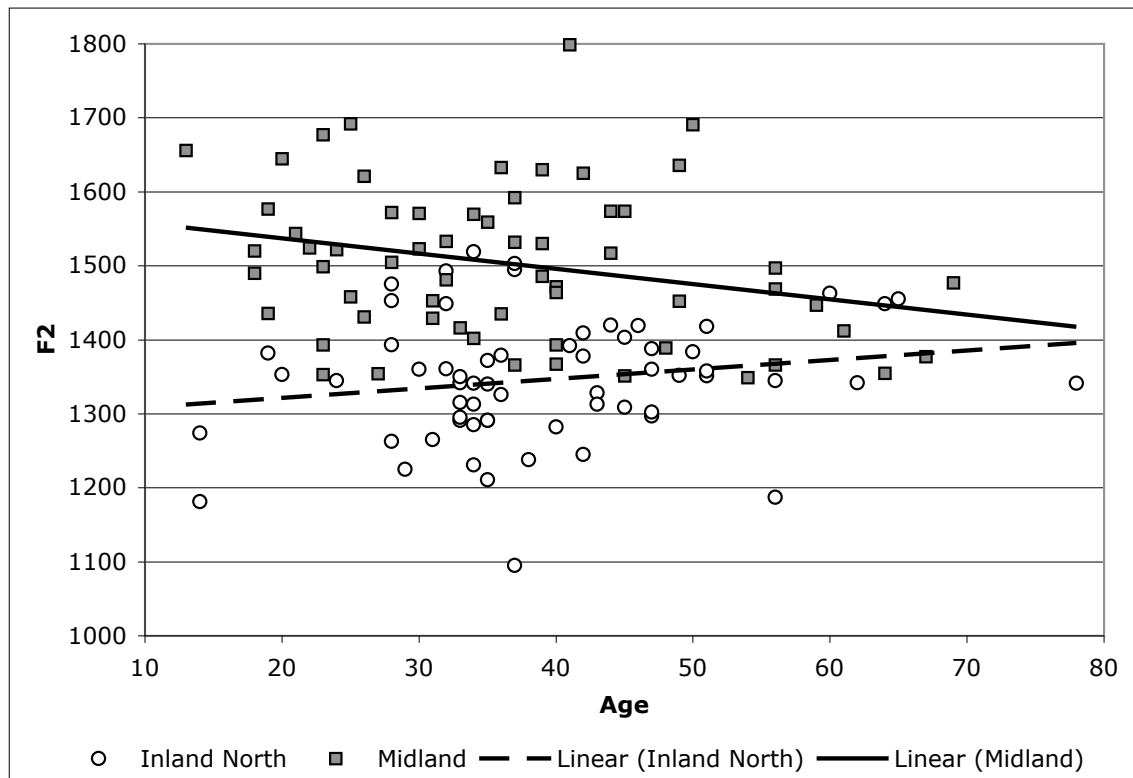
There are two possible explanations for such an age pattern. It may be that this is a stable situation, and that in every generation, young people in the Midland use fronter forms of short-u and young people in the North use backer forms, and that as they grow older, both groups shift towards a common mean value. But this is not likely. We have real time data, recordings made in the 1960s in Chicago, which show no such backing of short-u among young people. The most likely interpretation of Figure 9 is that this view of change in apparent time is a reflection of change in real time, and that the two regions are drifting further apart in their pronunciation of short-u as time goes on.

This view of change in real time is strongly reinforced by the results of a recent study of the durability of the North/Midland boundary in Ohio by Erik Thomas (2010). Thomas analyzed the older speakers recorded for the Dictionary of American Regional English in 1965-70, with birth dates from 1880 to 1907. He compared these with 42 younger speakers that he interviewed himself in 2006-2008, with birth dates from 1970 through 1994. The vowels that he studied included three of the five involved in the Northern Cities Shift. Thomas concludes:

> The results of this study show that the old Northern-Midland boundary established by settlement patterns of the early nineteenth century has been preserved to a great extent in vowel variation. In fact, vowel variants seem to mark the boundary more distinctly than they did in the past. p. 419

**Why is this happening?**

This display of language change in progress poses two questions for explanation. What can account for the uniform direction of change throughout the vast area of the Inland North? Secondly, what accounts for the sharpness of the boundary between the North and the Midland? One possibility is that this reflects discontinuities in communication networks: that the people in the Inland North form one linguistic community and the people in the Midland another, and as a result of this discontinuity they are simply drifting apart.

The most prominent linguist of the 1930s, Leonard Bloomfield, developed this explanation for the location of dialect:

> Every speaker is constantly adapting his speech-habits to those of his interlocutors. . . When any innovation in the way of speaking spreads over a district, the limit of this spread is sure to be along some lines of weakness in the network of oral communication, and these lines of weakness, in so far as they are topographical lines, are the boundaries between towns, villages, and settlements. (1933:476).

Bloomfield's speculation was based on a thought experiment that recorded every act of communication between all members of the community. Though he did not think that such a study could really be accomplished, it can be done today by he use of various indicators of communication. In an earlier study, I used state reports of average daily traffic flow on their main highways to trace the flow of communication across the eastern United States (Labov 1974). I found that most of the boundaries identified by traditional dialect geography did

indeed correspond to low points in the network of communication. More recently, Dirk Brockmann and colleagues at Northwestern have tracked communication patterns through the movements of currency, as shown by nine million reports on the online bill-tracking page, wheresgeorgecom. The network of dollar bill flux shows the amount of communication each two of the 3,109 counties of the United States by these records of exchange of dollar bills.[25] In the major patterns of communication that emerge, the various cities of the Inland North are linked to different networks. The cities of New York State—Utica, Rochester, Syracuse and Buffalo—are directly connected  to New York City. But most other cities of the Inland North—Cleveland, Detroit, Flint, Milwaukee—are linked to Chicago. Furthermore, the Chicago network reaches across the North Midland line to the Midland cities of Columbus, Dayton and Indianapolis. We find no reflection here of linguistic boundaries in the communication patterns. In fact, most of the traffic flow is across the North/Midland boundary. It follows that the differences in pronunciation between the North and the Midland are not due to a lack of communication across that boundary. So we must look for some other explanation of this growing separation of the North and Midland dialects.

In Chapter 2, we saw that sociolinguistic variables can be stable over time and across generations, across regions, establishing a common stratification by

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[25] Brockmann's computational model is best known for its use in tracking and predicting the spread of the swine flu epidemic (NY Times May 3, 2009 http://www.nytimes.com/2009/05/04/health/04model.html?_r=1). The communication patterns that emerge from the dollar bill flux are very similar to those produced by studies of air line traffic by Alessandro Vespignani of Indiana University.

style and social class. In contrast the recent linguistic changes that increase diversity are stratified by age, regionally differentiated, with little differentiation across styles or social classes. These new linguistic changes lie far below the level of social awareness and are never mentioned in public discussions. Most importantly, they challenge our understanding of why people behave as they do. What then are the causes of this increasing linguistic diversity?

One way of looking at it is purely mechanical. The chain shifts of vowels can be compared to trains moving in opposite directions. Most of the vowels shifts that we are considering here are unidirectional; they are not likely to back up and reverse. In my recently completed Volume 3 on *Principles of Linguistic Change* (Labov 2010), over half of the chapters are devoted to a structural accounting of how one change engages another. But such structural descriptions do not yield an understanding of the driving forces that keep the changes moving to achieve the radical dislocation that we see here. This is perhaps the most long standing and puzzling question of linguistics. In 1856, the Indo-European scholar Rudolph von Raumer summed up the state of current knowledge in this way:

> We ascertain that the sounds of words have changed when we compare the
>
> older state of languages with the more recent. The process of the change itself
>
> however has not yet been investigated enough. If we penetrate deeper into the
>
> darkness which in many ways veils these questions, we find a huge multitude
>
> of highly different processes at work.

Some 50 years later, Saussure reviewed the situation in similar terms:

The search for the causes of phonetic changes is one of the most difficult

problems of linguistics. Many explanations have been proposed, but none of

them thoroughly illuminates the problem (1959:147).

Finally,  we may quote Bloomfield, writing in 1933:

Although many sound-changes shorten linguistic forms, simplify the

phonetic system, or in some other way lessen the labor of utterance, yet no

student has succeeded in establishing a correlation between sound-change

and any antecedent phenomenon: the causes of sound-change are unknown.


## Is there convergence as well as divergence?

The recent development of diversity in the Inland North, headed by the

Northern Cities Shift, is not unique. The Atlas of North American English shows

vigorous new sound changes in Canada, the Mid-Atlantic States, Western

Pennsylvania, the Midland and the West. The dialects of Chicago, Philadelphia,

Pittsburgh, and Los Angeles are now more different from each other than they

were fifty or a hundred years ago.  The metropolitan dialects of Boston and New

York appear to be stable. On the other hand, dialects of many smaller cities have

receded in favor of the new regional patterns. The unique dialect of Charleston

has given way to a general Midland form (Baranowski 2007) and so has the

dialect of Cincinnati (Boberg and Strassel 2000). St. Louis is abandoning its

traditional merger of *far* and *for, card* and *cord,* and has adoped many features of

the Northern Cities Shift (Labov 2007). We find that the dialect of the South is on

the whole slowly receding: younger speakers everywhere in the South are

shifting away from the marked features of Southern speech (ANAE Chapter 18).

The study of remnant dialects in isolated coastal communities shows movements

in both directions (Wolfram and Schilling-Estes 2004). In Ocracoke, on the Outer

Banks of North Carolina, the traditional pronunciation that has led the residents

to be called *Hoi Toiders* is receding among younger speakers.  In Smith Island, in

Chesapeake Bay, it is intensifying.

One of the most striking examples of convergence is the importation of

consonantal /r/ into the "r-less" dialects of the eastern United States. In the

traditional pattern of these dialects, /r/ after a vowel is pronounced as an

extension of the vowel, often followed by a glide, as in the well known oratorical

style of Franklin Roosevelt. In this system, words spelled as *car* are pronounced

as "cah" unless the next word begins with a vowel. This was not the type of

speech imported from England when the colonies were first settled. The first

evidence we have for this r-less British speech is found in Walker's dictionary of

1795, representing the London pronunciation that is still dominant in both the

standard Received Pronunciation and in Cockney. In the first part of the 19th

century, this r-less pattern was adopted by almost all the eastern seaboard cities

of the U.S.: Boston, Providence, New York, Richmond, Charleston and Savannah.

On the east coast, only Philadelphia resisted this trend, reflecting its Scots-Irish

settlement history and its position as the center of resistance to British influence.

Shortly after the end of World War II, this norm was reversed. Speakers in

the *r-less* citiesbegan to pronounce final /r/ in careful speech, just as they

pronounce final *–ing* (Labov 1966).  The effect on every-day speech has been

more extreme in the South, where the records of the Atlas of North American

English show an overwhelming shift to r-pronunciation among young people.
Figure 10 shows this Southern pattern for White subjects. The horizontal axis is
age and the vertical axis the percent pronunciation of *r* as a consonant. There is
no r-lessness among the people under 40 in formerly *r*-less Richmond, Columbus
or Mobile: all the speakers in that age range are at the 100% level.

Figure 10. Rapid advancement of r-ful pronunciation in the South by age among
White ANAE subjects of the 1990s.
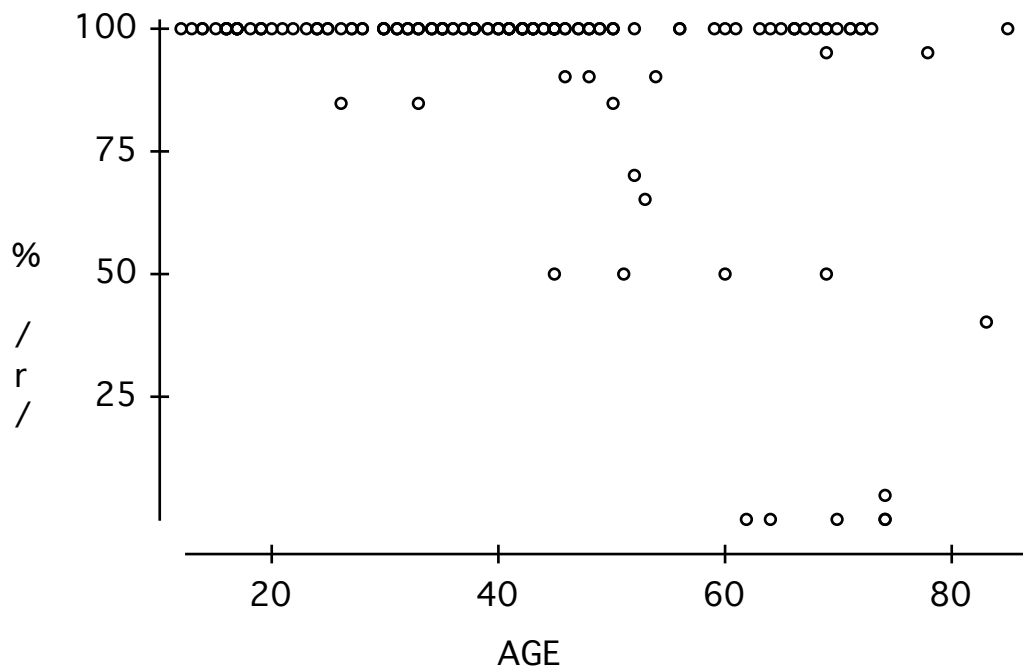


## The overall view of divergence and convergence

The general picture of North American dialects shows both convergence
and divergence, as local dialects give way to regional dialects. But except for the
South, those regional dialects show no signs of giving way to the influence of the
mass media, they all displaying new and vigorous sound changes in progress.
Chapters 6 and 7 will plunge further into the question of what is driving these

new developments, and search for some answers that will fit the vast scope and uniformity of the sound changes described here.

Before we begin the inquiry into this question, we must confront the fact that the view of American English dialects presented so far is incomplete. It is drawn from a mapping of the mainstream white dialects. We have to acknowledge another, deeper division in the language between these mainstream white dialects and the speech of African Americans, who participate only marginally in these sound changes, but join instead the development of a dialect which moves off in an entirely different direction -- African-American Vernacular English. The next chapter will follow that direction and ask why this should be so.