

Boundary Communities in the Dialectology of New York State
a dissertation proposal by **Aaron J. Dinkin**

1. Background

1.1. Nature of dialect boundaries

The *Atlas of North American English* (henceforth *ANAE*: Labov et al. 2006) is the most comprehensive study undertaken to date of regional dialect variation in the United States and Canada. It analyzes data from speakers in the principal cities in every English-speaking region of North America to divide the continent up into some dozen or so major dialect regions based on the patterns of phonological and phonetic change that predominate in each area.

Since these regions are defined in terms of the major cities they contain, the boundaries between them lie in most cases in less densely populated regions between the large cities. Therefore *ANAE* does not address the question of to what degree the smaller cities and towns outside the major urban areas share the linguistic features on whose basis the region as a whole is defined. Moreover, it provides little information as to where in the intercity territory the boundary lies. Only in the fairly rare case that two cities that are very close to each other are placed by the *Atlas* in different dialect areas (e.g., Detroit, Mich, and Windsor, Ont., in the extreme case) can the boundaries between the regions be located with much confidence. Cities belonging to two different dialect regions may be located hundreds of miles away from each other, while data on the territory between them may be entirely lacking; in that case the boundary between the two regions may lie anywhere in the intervening area. Therefore the dialectological status of communities close to the boundary remains in most cases unknown. There are at least four general possibilities for the status of such communities:

1. A **sharp** boundary line. Communities on each side of the boundary line have all the linguistic features on whose basis the region is defined, to the same extent that communities distant from the border do. This is the situation which obtains at the border between the Inland North and Canadian regions at Detroit and Windsor (*ANAE*), and the recent work of Johnson (2007) suggests that the same is or was the case at the border between the Eastern Massachusetts and Rhode Island dialect regions.
2. A boundary line with **fading** features; regional features fade out near the boundary. Communities close to the boundary exhibit the characteristic features of one region or the other to a weaker degree: either the sound changes are less advanced, or only a minority of speakers show their effects, or both; but each community can still be classified as belonging to one of the two regions.
3. An **overlapping** boundary area. There is an area between the cities around which the two regions are defined in which the diagnostic linguistic features of both regions are found—either there are speakers who possess linguistic features characteristic of both regions, or some speakers show the linguistic

pattern of one region and some show the other. The research of Bigham (2006) suggests that the area in southern Illinois between the South and the St. Louis Corridor may be such a region.

4. A **null** boundary; regions do not meet. There is an area between the two dialect regions that does not participate in the characteristic sound changes of either region. This intermediate area may have a more conservative system that is in principle structurally open to the sound changes of one or both of the regions adjacent to it, or it may possess sound changes of its own that are distinct from those of the major dialect regions surrounding it.

These different possibilities for the manifestation of dialect boundaries are closely tied up with the manner in which innovations originate and propagate across their regions. We may propose a model where dialect boundaries are based entirely on original settlement patterns, and a sound change begins simultaneously in precisely the region that was originally settled by a population whose linguistic system was favorable to that change. In this case, we should expect a sharp boundary, as in (1): how close a community is to the regional boundary should not prevent it from undergoing the characteristic changes of the region to the same extent that all other communities subject to the change do. Under a “cascade” model of dialect diffusion, however—in which a linguistic change originates in a major urban center, and then spreads to nearby cities and regions along lines of communication—we should expect fading boundary areas as in (2): the reason the boundary exists is merely because that’s as far as the innovation has spread to date, and it’s only recently reached the outlying areas. Under this model, the null boundary as in (4) can be seen as merely a less advanced state of the fading boundary area, in which the advancing wave of the diffusing sound change has not yet reached very far into the territory between cities. Situation (3), overlapping areas, may obtain if the characteristic sound changes of two regions are not incompatible with each other and therefore are able to spread into the same region without blocking each other’s movement; alternatively, it may be result of population movement bringing speakers from both the dialect regions on either side into the intermediate territory.

1.2 New York State

The state of New York provides an ample laboratory for the study of dialect boundaries, in that at least five of the major dialect regions defined by *ANAE* intersect in or near New York State; these are displayed in Figure 1. The western part of the state, south of Lake Ontario, is of course the cradle of the Northern Cities Vowel Shift in the Inland North dialect region. The southeastern corner of the state belongs to the New York City dialect region. Albany, 150 miles north of New York City, is accounted by *ANAE* to be part of the Western New England dialect region—specifically, Southwestern New England—although it exceptionally displays features borrowed from the New York City system that other Southwestern New England cities lack. Moreover, there are other dialect regions adjacent to New York State whose boundaries with New York City, the Inland North, and Southwestern New England remain to be determined. The following areas may overlap New York State in smaller communities, although they do not include any of the cities in New York sampled by *ANAE*.

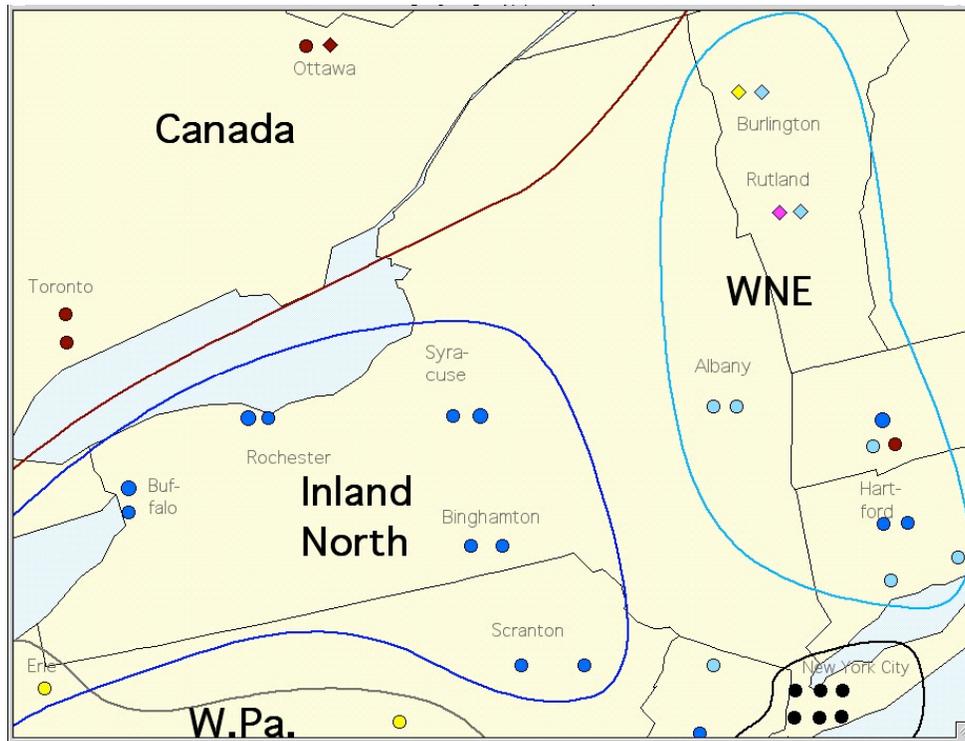


Figure 1. New York State in *ANAE*

First, northeast of New York City is an area left uncategorized by *ANAE*, containing northwestern New Jersey and northeastern Pennsylvania. Next, Northwestern New England is the other half of *ANAE*'s Western New England region, centered in Vermont; Boberg (2001) argues that it and Southwestern New England should be considered separate dialect regions. Northwestern New England lies east of northern New York's Adirondack State Park. And finally,¹ the Canadian dialect region is adjacent to the northern extremity of New York State; there are cities in New York that are closer to Ottawa and Montreal than to any American city that *ANAE* samples. In fact, New York's North Country (shown in Figure 2), including Adirondack State Park, is an area of perhaps 20,000 square miles in which *ANAE* has no data at all because of the lack of large cities. (The largest city in the North Country, Watertown, has a population of 27,000, and is on the edge of the region.) But this region sits at the convergence of three of *ANAE*'s principal dialect areas: Canada to the north, the Inland North to the south, and Northwestern New England to the west. The frontiers of these three dialect areas must pass through the North Country, and with them the facts about the status of linguistic boundaries in sparsely populated areas.

The aim of this dissertation will be to examine dialect boundaries in the eastern part of New York State, between and among the regions of Inland North, Canada, Western New England, and New York City, focusing chiefly on the Inland North and Western New England. These four dialect regions, although close together, are distinguished from one another by a variety of linguistic features. The Inland North and

¹ The Western Pennsylvania dialect region is also adjacent to parts of New York State, but lies far enough west that it is outside the scope of this project.

Canada are both marked by distinctive chain shifts operating in opposite directions to each other, with Canadian backing of /æ/ and /o/ and Northern Cities fronting of both of them (along with other changes). New York City is one of the most well-known and stigmatized American dialects, and possesses unusual features such as the split short-*a* system, a highly raised and tensed /oh/, and variable non-rhoticity. Western New England is a linguistically unmarked region, having few distinctive sound changes of its own; as mentioned above, however, it is divided into two parts, as described by Boberg (2001) and *ANAE*: Northwestern New England, based in Vermont and distinguished by its *caught-cot* merger, and Southwestern New England, based in western Massachusetts and Connecticut, which is phonologically the same as the Inland North but lacking the full raising of /æ/ above /e/ which initiates the Northern Cities Shift (NCS). My aim will be, in identifying the locations of the boundaries between these dialects and the phonological systems of speakers in communities near the boundaries, to learn more about the social, linguistic, and historical factors that cause dialect boundaries to be located where they are, and about the manner in which various types of linguistic features can spread across boundaries.



Figure 2. Adirondack State Park, from Google Maps

Some things are already known about the boundaries of these dialect regions with each other and with other regions. The boundary between the Inland North and Canada at Detroit/Windsor, as mentioned above and discussed in more detail in Boberg (2000), is a sharp boundary: the regional features of both dialects are fully robust right up to the border, insofar as *ANAE*'s sampling permits us to say. The same is likely to be true of the boundary between the same dialect regions at Buffalo, but the dialectological status of the

Canadian communities adjacent to Buffalo does not appear to have been studied; no specific phonological information on Hamilton, the closest Canadian city to Buffalo, is given by Boberg or in *ANAE*. In any event, the boundaries between the Inland North and Canadian regions at Detroit and Buffalo are both in thickly populated urban and suburban areas. On the other hand, the closest large Canadian city to Syracuse is Kingston (unsampled in *ANAE*); and the 125 miles between Syracuse and Kingston² include a significant amount of sparsely populated territory. The largest city between Syracuse and Kingston is Watertown, in Jefferson County, whose population density is only 34 people per km².³ So it will not be a surprise if between Syracuse and Ottawa, we find the boundary between the same two dialect regions has different characteristics than it has in urban areas.

The New York City dialect region is known to end very abruptly west of the city itself (*ANAE*); it includes a couple of New Jersey cities across the Hudson but by no means all of the New Jersey cities in the New York metropolitan area. The extent of the New York City dialect in the northerly direction is unknown, however—little or no dialectological research seems to have been done in recent years on the Hudson Valley between New York City and Albany. Albany is described by Labov (to appear) as displaying strong influence from New York City with respect especially to its short-*a* and short-*o* systems, despite being part of the Western New England dialect region by *ANAE*'s criteria. Thus the boundary between the New York City and Western New England dialect regions might be described as being of the overlapping type—the territory between the two regions proper contains communities that exhibit features of both dialects. Meanwhile, the cities of Paterson and Passaic, N.J., just northwest of the New York City dialect area, are not categorized by *ANAE* into any principal dialect area at all, on account of their lack of any particularly distinctive innovations. This indicates a null boundary between the New York City dialect area and the Inland North, with a significant area of territory excluded from the distinctive linguistic features of both regions. The boundary between the Canadian dialect region in Montreal and the Northwestern New England dialect region in Vermont is trivially null as well, since Montreal and Vermont are separated by some 60 miles of Francophone Quebec.

The boundary between the Inland North and Western New England—particularly Southwestern New England—is of especial interest in light of Boberg (2001)'s observation on the basis of the *ANAE* data that Southwestern New England is phonologically indistinguishable from the Inland North, and differs from it only in phonetic detail, namely “the relative advancement of the Northern Cities Shift”. On the other hand, in *ANAE* itself it is conjectured that the reason the NCS took place in the Inland North but not in Western New England is a result of the unique settlement history of the Inland North. In particular, the NCS is the consequence of the population explosion that took place in western New York State as a result of the construction of the Erie Canal. The Canal brought settlers from both Western New England and New York City into the Inland North region, thus blending populations with dissimilar short-*a* systems. This then (*ANAE* argues) created a koineized dialect with an unstable short-*a* system that was particularly prone to being raised and tensed in all environments, thus initiating the

² 125 miles by road. It's closer as the crow flies, but that involves crossing Lake Ontario.

³ Contrast this with 225/km² in the Niagara Region between Buffalo and Hamilton, and 212/km² in the county containing Windsor.

NCS. In other work (Dinkin 2006) I have proposed a mechanism to explain from a phonological perspective why the blending of populations might have caused this to take place. If this is the case, it should have implications for the nature of the boundary between the Inland North and (South)western New England as dialect regions. Under the *ANAE* account, we would expect a more or less sharp boundary between dialect regions: those communities whose population developed as a result of the settlement drawn by the Erie Canal should be subject to the NCS, and those that are not should not be, regardless of how close they are to the border. Moreover, linguistically this difference should be manifested in the phonological system itself; under this account Western New England has not undergone the NCS because it does not have the special phonological properties that the Inland North speech communities had, contrary to Boberg (2001)'s argument that Southwestern New England differs from the Inland North only in phonetic detail. If, on the other hand, Boberg's analysis is correct, we should expect to see something more like a fading boundary area: Southwestern New England is open to the NCS and is headed in the same direction, but is merely less advanced, so as you approach Southwestern New England from the direction of the Inland North the NCS features should manifest more and more weakly, without disappearing suddenly. Making the whole issue more complicated, the *ANAE* Telephone Survey found only one speaker outside the Inland North region who met most of the phonetic structural criteria for the NCS, and that speaker was in Rutland, Vt.: Northwestern, not Southwestern, New England.

2. Pilot project and implications

In the summer of 2006 I undertook a pilot study (reported in Dinkin & Labov 2007) to begin trying to determine the location and status of the Inland North / Western New England border. The easternmost city *ANAE* describes as being in the Inland North is Syracuse, which is some 150 miles of Interstate 90 away from Albany, the westernmost city in the Western New England region. I conducted interviews with speakers from four cities along I-90, bridging the gap between Syracuse and Albany: Utica, Gloversville, Amsterdam, and Schenectady.⁴ Utica and Gloversville were found to be in the Inland North by the criteria of *ANAE*, and Amsterdam and Schenectady were in Western New England; but the results—while very suggestive in a number of respects—remain ambiguous with respect to the status of the boundary between the two dialect regions. The source of the ambiguity is in part merely that I interviewed only two speakers in each of Gloversville and Amsterdam: although that's enough to place the dialect boundary between them by the criteria of *ANAE*, it doesn't give a detailed enough view to establish the nature of the dialect boundary with certainty.

On the one hand, there's some evidence for a fading boundary area between the Inland North and Western New England in the data from the speakers in Gloversville. In particular, my adolescent speaker from Gloversville, 16-year-old Julie M., has a fully-developed NCS (see Figure 3), while my adult speaker, 52-year-old Betty S., has only the incipient stages of the NCS—for example, /æ/ is raised just slightly higher than /e/ and /e/ is moderately centralized (see Figure 4).

⁴ For the locations of these cities, see Figure 9 below.

expanding slowly eastward; it's strong enough in the adolescent speaker in Gloversville that we'd expect to see at least some sign of it in the adolescent speaker in Amsterdam, only ten miles away.

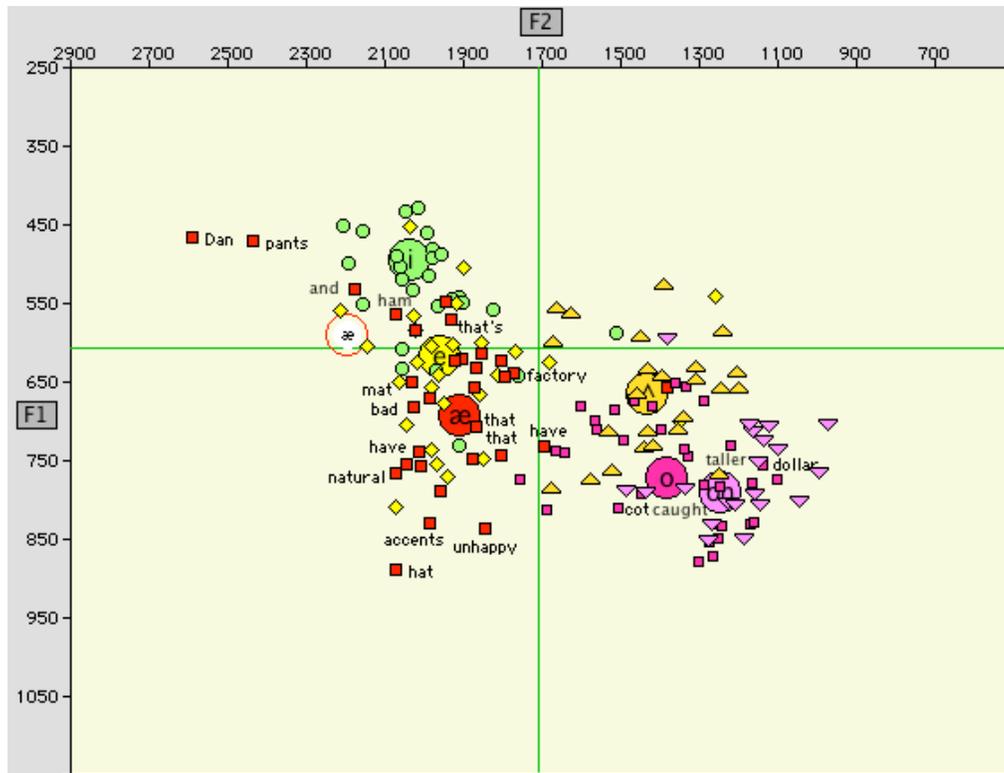


Figure 7. Laurence C. (13): Amsterdam

Moreover, having a linguistic boundary between Gloversville and Amsterdam at all is surprising from the standpoint of patterns of communication and travel. Residents of Gloversville and Amsterdam—two small cities between 15,000 and 20,000 in population—both appear to consider themselves as part of the greater Albany/Schenectady metropolitan area, although Gloversville is geographically about the same distance from Albany as it is from Utica. The residents of Gloversville that I spoke to read Albany and Schenectady newspapers, travel to Albany for recreation, and so on: neither informant mentioned any city other than Albany and Schenectady in response to my questions about regional affiliation. Under the Cascade Model of the spread of linguistic innovations (which is indicated to some extent by calculations based on city size in *ANAE*), it's generally expected that an innovation should spread from major city to major city along the lines of communication, and the innovations will then spread out from the major cities into the smaller communities within their respective spheres of influence. Thus, since Gloversville is within the regional sphere of influence of Albany and Schenectady, and has no particular degree of interaction with cities to the west like Utica and Syracuse, it's a surprise that the NCS should have reached it at all without reaching Albany.

However, the difference between Syracuse and Amsterdam becomes easier to explain if we look at it from the point of view of the analysis of the origin of the NCS

essentially the same dialect region at different stages of advancement in sound change, or the *ANAE* model, in which they have fundamentally different phonologies owing to their differing settlement histories. Doing more detailed sociolinguistic research in both cities will remove some of the ambiguities that are inescapable when one has only two data points from each city. Merely clarifying the apparent-time situation in both cities will go a long way toward clarifying the nature of the dialect boundary between them. If, for example, Laurence C. is an outlier, and it turns out that younger speakers in Amsterdam do tend to have somewhat more Northern Cities–like vowel systems, that would be evidence for a fading boundary between the Inland North and Western New England; conversely, if Betty S. turns out to be an outlier and adults in Gloversville tend to have more developed Northern Cities systems, that would be evidence for a sharp boundary.

3. Research plan

My general methodology in identifying communities to study and gathering data from them will be generally similar to that employed in the summer of 2006 for the pilot study described above, only more structured. In the summer of 2007, I intend to take several short trips to strategically located cities in different parts of New York State in order to establish the general lay of the land and fill in, as it were, some of the more important dots between the cities studied in *ANAE*. These will most likely include Oneonta (between Binghamton and Albany), Glens Falls (between Albany and Rutland, Vt.), Poughkeepsie and/or Kingston, N.Y. (between Albany and New York City), Watertown (between Syracuse and Canadian cities), and possibly Port Jervis (between Binghamton and New York City, on the tri-state border with New Jersey and Pennsylvania) and Plattsburgh (in far northern New York, beyond Adirondack Park and only 20 miles from the Quebec border). These cities are chosen, for the most part, to be population centers located approximately halfway between two cities described in *ANAE* as belonging to different dialect areas; see Figure 9 for a clearer picture of their locations.

In these cities, I intend to carry out a series of Short Sociolinguistic Events (SSEs). An SSE (defined by Ash 2002) is a 10–20-minute anonymous or semi-anonymous interview which obtains information about the state of the linguistic features being studied as well as the geographic and social patterns of the community. An SSE includes free conversation about the community and its travel and communication patterns with other communities, as well as some formal data elicitation methods such as word lists and minimal-pair judgments. SSEs are initiated by recruiting potential subjects in parks, offices, recreation centers, and other public places. (In Utica, in July 2006, I was able to conduct a decent-seeming 10 SSEs in the 24 hours I was in town.) I'll use the results of these SSEs to determine the dialectological status of these intermediately positioned cities and familiarize myself with the general geographic and demographic patterns of the area. During this period, I also plan to make similar trips to the Gloversville and Amsterdam areas in order to fill in with more detail the picture of those communities I developed in the pilot study.

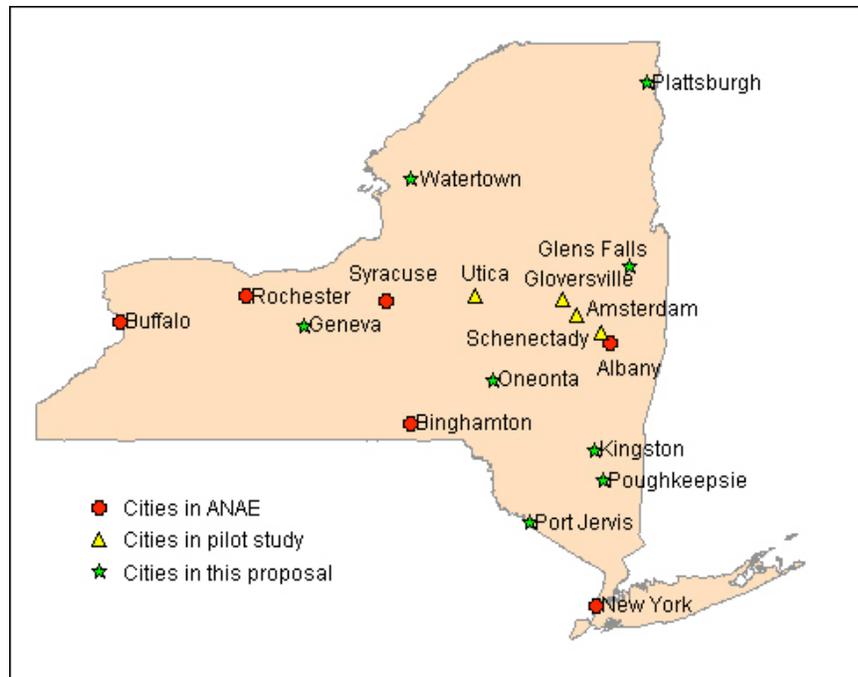


Figure 9. Cities discussed in this section

The results of the Short Sociolinguistic Events in these cities will give me an idea of which direction to look in for the dialect boundary—if, for example, I find the NCS in Oneonta, I'll know to look for the boundary of the Inland North in communities east of Oneonta. Having gained a general idea of where to look for the dialect boundary, I intend to carry out telephone interviews in the communities near where I expect the dialect boundaries to be, as I did in Groversville and Amsterdam in my pilot study; from these interviews I hope to be able to gain information not only about the dialectological status of my interview subjects but also about the general regional orientation of their communities, as manifested in traffic patterns, media access, and generally which larger nearby cities my subjects most closely identify themselves with. In addition to communities close to the dialect boundaries, I may conduct phone interviews with speakers in cities outside my eastern New York State area of focus for the purpose of comparison with communities in eastern New York. For example, Geneva, N.Y., is a city deep within the Inland North region; but apart from being distant from the eastern boundary of the Inland North it shares a number of geographic features with Groversville. Like Groversville, Geneva has a population of approximately 15,000; it's about 50 miles from major cities to both the east and west (Rochester and Syracuse for Geneva, Utica and Albany for Groversville); and it's located close to but not directly on Interstate 90. Therefore Geneva seems like a useful control case for comparison with Groversville: to the extent that Groversville differs dialectologically from Geneva, the difference can with moderate confidence be attributed to the fact that Groversville is close to the border of the Inland North and Geneva isn't.

For the telephone interviews I'll generally follow the protocol of *ANAE* for choosing subjects and conducting the interviews. However, my intention will be, once I've conducted enough phone interviews to identify communities close to the boundary, to travel back to those communities and conduct more detailed on-site sociolinguistic and

formal research than can easily be done over the phone. To that end, during my phone interviews I'll ask the subjects whether they would be willing to help me out further with an in-person interview when I travel to their community.

When I make trips to my target communities near the dialect boundary, then, I'll be able to conduct interviews including more formal experimental methods than can be carried out over the telephone, ranging from reading word lists to carrying out commutation tests⁵—these formal methods will be targeted at extracting data on the specific linguistic variables that are discussed in the following section. I'll also ask my phone interview subjects to recommend other members of their families and social networks who might be amenable to being interviewed, in order to deepen my picture of the sociolinguistic status of these communities near the border. Also, I hope to be able take advantage of my presence in such a town to learn more about the early histories and settlement of the area, and, if circumstances permit, to carry out more SSEs or rapid and anonymous data collection.

4. Analytical issues

Locating the boundaries between dialect regions, of course, is only half the problem. Once the boundaries are located, identifying what linguistic features can spread across dialect boundaries, and under what circumstances, is the other half. The dialects that meet in eastern New York State happen to possess a collection of features that will allow me to examine the boundary behavior of various types of linguistic change: chain shifts, exemplified primarily by the NCS but to a lesser extent in the Canadian shift as well; the *caught-cot* merger, found in Canada and Northwestern New England, but not the other New York State regions under examination, and the *marry-merry-Mary* merger, found in all the regions except New York City; phonemic split, in the fully biphonemic short-*a* system of New York City as well as the ongoing split in /ay/ whose geographic parameters are not yet known; and lexical change in an individual morpheme.

The behavior of of linguistic changes at dialect boundaries is of interest not only for purely dialectological reasons but also because it gives insight into the way these changes are represented within the linguistic knowledge of speakers. For example, as I discuss below, the relationship of communities just outside the Inland North to the Northern Cities Shift will have implications for the theory of how chain shifts interact with the phonological system. I also expect that, by comparing the phonological status of the short-*a* and /ay/ systems in the communities I study, I'll be able to gain insight into the phonological process by which phonemic splits are initiated. I approach this research with the general working hypothesis that *sounds* and *words* are what are most capable of spreading across dialect boundaries—that is to say, on the one hand, the surface-level phonetic-implementation characteristics of individual abstract phonological units, and on the other hand the lexically-stored representations of individual lexical items, rather than the overall structure of linguistic systems. I'll be guided by this hypothesis in my analysis of the structural status of the linguistic changes I examine below, but I'll also be able to test it by comparing how well my analyses predict the dialectological facts I find.

⁵ A commutation test is a test for determining whether a speaker is subject to a phonological merger by having the speaker listen to recordings of their own pronunciations of two words in a minimal pair and trying to distinguish between them.

4.1. The spread of the NCS from a dialectological and phonological perspective

The issue of the spread of chain shifts is closely tied up with the question of the nature of the distinction between the Inland North and Western New England, discussed above. Labov (p.c.) argues that, while isolated sound changes can diffuse across the boundaries between dialect regions, complex systems of chain shifts cannot (or at least, have a very low probability of doing so—for this to happen would basically require each sound change of the chain shift to spread across the boundary independently, rather than the chain shift diffusing as a unit). If the relationship between the Inland North and Southwestern New England is as Boberg describes it, however, and Southwestern New England is merely the portion of the Inland North which has not yet become fully subject to the NCS, then obviously chain shifts *can* spread across boundaries between dialect regions—indeed, the boundary is actually defined by how far the sound change has spread to date, and may advance. However, even Labov’s model must allow for chain shifts to spread across the boundary of a dialect region under certain highly specific circumstances. In particular, if the first step of a chain shift in a particular vowel subsystem spreads across a dialect boundary into a second region where that subsystem is in a condition similar to the condition that same subsystem was in in the first region before the chain shift started, then that same chain shift will be likely to initiate itself in the second region in the same way. This appears to be the exact situation that Boberg describes for Southwestern New England, of course. So the question about the linguistic boundary between Western New England and the Inland North can in this case be restated as a phonological question: is the condition of the short and long-and-ingliding vowel subsystems in present-day Southwestern New England comparable to that that was present in the Inland North when the NCS began?

I have conjectured (Dinkin 2006), following a suggestion in *ANAE*, that the phonological triggering event for the NCS may have been the development of a lengthened or tensed allophone of /æ/ that variably alternated with the ordinary short allophone in all environments. This conjectured system may be contrasted with the nasal short-*a* system prevalent in New England, in which the tensed allophone of /æ/ categorically alternates with the ordinary short allophone in pre-nasal environments. What is unknown, however, is what the phonological status of the non-pre-nasal allophones of /æ/ in Western New England actually is. It may be, for example, that non-pre-nasal /æ/ in Western New England is *also* variably realized with a lengthened allophone. Labov & Baranowski (2006) found that, in a set of Inland North data they examined, phonemically long vowels were on average about 50 milliseconds longer than short vowels with the same formant values. This suggests more generally that a phonetic-length criterion should exist for distinguishing between long and short vowel-phoneme subsystems. I hope to be able to take advantage of their finding to determine whether or not /æ/ participates at all in the long-and-ingliding subsystem of speakers in Western New England. Note that /æ/ appears from a *phonotactic* perspective to be clearly part of the short-vowel subsystem, for example in that like other short vowels it cannot appear without a following consonant. Indeed, Labov & Baranowski use the *phonotactic* difference between /ah/ and /e/—/ah/ can appear word-finally and /e/ can’t—to motivate their search for the *phonetic* contrast between them. However, a word may be part of the

phonological long and ingliding subsystem without necessarily appearing in the phonotactic environments which would prove it: consider the tensed /æh/ phoneme of the New York and Philadelphia vowel systems, or the lengthened /æ:/ phoneme of Australian English (Leitner 2004). Thus my hope is that looking at the (often-overlooked) phonetic feature of duration will make it possible to tell whether a particular phoneme has moved into the phonological class of long-and-ingliding phonemes even without changing its actual phonotactic distribution. I also intend to develop some formal experimental methods to explore this same question in my interviews when I visit boundary communities: I plan at least to conduct syllable-division tests,⁶ as well as perhaps collecting possible-word judgments on /æ/-final neologisms. If /æ/ is already participating in the long-and-ingliding vowel subsystem in Western New England, then Western New England is probably more open to the NCS spreading into it. If /æ/ is strictly a short vowel in the phonology of Western New England, then for the NCS to spread into the area would require not only a phonetic change in /æ/—a change in *sounds*, as discussed in my general analytical hypothesis above—but also a fundamental change in its phonological manifestation, which, being a change in the underlying structure of the system, I take to be less susceptible to spreading across dialect boundaries.⁷

4.2. Mergers

The most frequent cases of linguistic changes diffusing across regional boundaries, of course, are mergers, by what Labov (1994) refers to as Garde's Principle: mergers expand at the expense of distinctions. One merger present in most of the region I am looking at is the three-way *marry-merry-Mary* merger; it will be interesting to see how far south towards New York City the merger extends from the Inland North regions. *ANAE* reports the three-way merger as absent from not only New York City but also the Northern New Jersey cities that are outside the New York City dialect area proper, so it may be absent as well from the communities in the unclassified area of New York State north of there, between New Jersey and the Inland North.

A merger that plays a more prominent role in variation across the dialect regions I'll be looking at is the *caught-cot* merger. Canada and Northwestern New England have the merger; the Inland North and New York City are among the regions *ANAE* describes as being most resistant to the *caught-cot* merger, and New York City's tensed /oh/ has spread to Albany (Labov, to appear); the rest of Southwestern New England has *caught* and *cot* unmerged, but Boberg (2001) suggests it may be susceptible to the merger through expansion from Northwestern New England. One of the surprising findings of my pilot study was the *caught-cot* merger in Laurence, the 13-year-old informant from Amsterdam, with no trace of the merger in my adult Amsterdam informant, or indeed in

⁶ In these, the informant is presented with a monomorphemic two-syllable word, such as *haddock*, and asked to separate the two syllables of the word and pronounce them as if they were separate words. If the first syllable is given as /hæ/ instead of /hæd/—or more generally, if /æ/ appears syllable-finally more often than /e/, /i/, and so on—that supports the hypothesis that /æ/ is phonemically part of a long-vowel subsystem. This is a methodology I have employed before in a pilot study comparing theories of syllable-boundary location.

⁷ A short /æ/ phoneme can undergo NCS-like raising as a merely phonetic change, of course, but might not trigger the chain shift because a short-vowel phoneme doesn't bear the same phonological relationships to the other phonemes near it as a long phoneme does.

any of my other interview subjects between Utica and Schenectady. Now, Johnson (2007) reports the *caught-cot* merger springing suddenly into being for speakers below a certain age, with no trace of merger in their parents or even older siblings, in communities on the edge of the Rhode Island dialect region, but those communities are adjacent, in a continuous and densely-populated area, to the *caught-cot*-merging Eastern Massachusetts dialect region. In Amsterdam, on the other hand, it's harder to see where the *caught-cot* merger may have diffused from. The nearest regions to Amsterdam where the merger is known to exist are Northwestern New England, which is separated from Amsterdam by Albany, where the *caught-cot* distinction appears secure, and Canada, which is separated from Amsterdam by some 150 miles of sparsely-populated Adirondack Park. Thus there are three obvious explanations for how the *caught-cot* merger could have spread to Amsterdam: (1) Although Albany itself maintains the distinction securely, the merger spread to Amsterdam from Vermont by way of the other, smaller communities in the area, bypassing Albany (which would be protected from the merger by being influenced more strongly by New York City); (2) the merger diffused down from Canada by way of the small communities in Adirondack Park; or (3) the merger arose spontaneously in Amsterdam, without influence from neighboring dialect areas, in the way it must have done originally in Western Pennsylvania, Northeastern New England, and other areas. It's known that mergers expand at the expense of distinctions, but not whether a merger is capable of spreading past an obstacle like those in (1) and (2)—a major city not subject to the merger, or wide expanse of very sparsely populated territory.⁸ Further research in Amsterdam and the dialect-boundary regions near it will help illuminate just how powerful the expansive tendency of phonological mergers really is. (The fourth possibility, of course, is that Laurence is an anomaly or outlier, and the *caught-cot* merger is not actually in progress in Amsterdam. Further research in Amsterdam will also help rule out the fourth possibility, if it is false.)

4.3. Phonemic splits

The variety of short-*a* systems in the dialects intersecting the area which I plan to study will allow me to empirically investigate some theoretical questions about the origin of phonemic splits. I'm considering splits from the point of view of the "life cycle" of phonological change, as described e.g. by Bermúdez-Otero (2007), according to which phonological rules, conceptualized in a modular feed-forward model of phonology, evolve through a series of distinct phases. In Phase I, a regular sound change begins when what was formerly merely a "physical or physiological phenomenon" enters the linguistic competence as a rule for phonetic interpretation of phonological features; such a rule acts with a phonetically gradient effect. In Phase II, this becomes phonologized, so the formerly gradient phonetic rule becomes a rule acting upon the discrete phonological entities which are the *inputs* to phonetic implementation; I will discuss this phase further below. In Phase III, the rule becomes part of the lexical phonology, now being able to

⁸ A related, and yet more challenging problem, is the presence of diagnostic NCS features in one of *ANAE*'s speakers in Rutland, Vt., mentioned above. As we know, the NCS doesn't have the expansive power of mergers, and Rutland is separated from the Inland North by Adirondack Park as well as Albany, Schenectady, and Amsterdam. Although Rutland is in Northwestern, not Southwestern, New England, this speaker supports Boberg's view of the relationship between Western New England and the Inland North.

interact with morphology and develop lexical exceptions; and in Phase IV, it ceases to be a synchronic phonological rule at all, and becomes wholly morphologized or merely an “idiosyncratic residue in lexical representations”.

For instance, consider the New York City short-*a* system, which has already undergone a clear phonemic split. Although there are general phonological criteria which describe the distribution of /æ/ and /æh/, there are lexical exceptions (for example, *alas* has /æ/, not /æh/, despite ending in a voiceless fricative); and moreover the phonological criteria themselves are morphologically sensitive. For instance, by the general phonological criteria, /æ/ is required before intervocalic /n/ as in *planet*, but on the other hand *planner* contains /æh/ because the rule requiring /æ/ in that environment is blocked by the presence of a stem-level morpheme boundary after the nasal. In the “life cycle”, the New York City short-*a* system has reached at least Phase III: the synchronic rule relating /æ/ to /æh/ is a rule of lexical phonology, allowing it to interact with stem-level morphological processes and develop lexical exceptions, while still remaining a phonological rule.⁹

It’s Phase II of the life cycle that I’m interested in examining. In this phase, termed the *quasiphonemic* phase, a rule operates exclusively on the discrete phonological implementation rules. This creates allophonic alternations that are quasiphonemic, in the sense that, although the distribution of the allophones is entirely noncontrastive and predictable, the allophones are distinct at the phonological level of representation. It’s at Phase II that secondary phonemic splits can occur—that is to say, if a subsequent sound change eliminates the distinctiveness of the conditioning environment for a Phase II rule, the quasiphonemic contrast becomes phonemic, rather than merely disappearing when its conditioning environment is gone. The particular question that I intend to examine in the context of the short-*a* systems of New York State is how distinct from Phase III the quasiphonemic Phase II really is. Is a quasiphonemic distinction, as defined above, really different in a speaker’s linguistic competence from a phonemic distinction associated with a lexical-phonological rule, like New York City’s short-*a* system? Bermúdez-Otero argues that in order for lexical diffusion to occur between two phonemic classes the contrastive distribution between them has to be marginal; what if the contrastive distribution is totally absent? For this I will contrast the nasal short-*a* system with the New York City system.

Note first that the nasal system clearly appears to have the characteristics of a Phase II phonological rule: the pre-nasal and non-pre-nasal allophones occupy completely disjoint regions of the phonetic space, in a manner similar to the phonetic distributions of separate phonemes. But the distribution is completely phonologically regular, with neither lexical exceptions nor morphological conditioning. The so-called continuous short-*a* systems described in *ANAE*, by way of contrast, display a Phase I pattern: the pre-nasal tokens of /æ/ are still higher and fronter than any others, but merely as the front end of a broad phonetic distribution rather than one of two discrete classes.

Lexical irregularity is not, in principle, necessary if a rule is in Phase III—it’s just made possible by Phase III. In the case of the New York City short-*a* system, even if there were no lexical exceptions at all—that is, if no lexical diffusion had occurred—we would be able to tell that tensing is lexicalized (and therefore Phase III) because of the

⁹ By contrast, /t/-flapping, a post-lexical phonological rule, operates equally in monomorphemic *matter* and across a morpheme boundary in *hatter*.

contrast between *planet* and *planner*. Stem-level morphological processes counterbleed the tensing of /æ/: the open syllable in *planner* is only created in the derivation of the word after all the rules of lexical phonology have been applied. But how can we tell that an apparently Phase II rule isn't actually Phase III, in the absence of such a counterbleeding (or counterfeeding) relationship? With the nasal short-*a* system, there is no way in the current state of English phonology to create such a counterfeeding or counterbleeding effect: there are no word- or stem-level morphological processes that can change whether or not an /æ/ is before a nasal. Morphology and pre-nasal /æ/-tensing don't interact at all, by feeding, bleeding, counterfeeding, or counterbleeding. However, that in itself does not necessarily mean that the tensing of /æ/ before nasals is synchronically a post-lexical effect. If there's no opportunity for an interaction with morphological structure to arise, and lexical diffusion has not begun yet, there's no way to distinguish Phase II from Phase III. The /æ/-tensing of the nasal system could in principle be part of the lexical phonology, and thus be a (redundantly) phonemic contrast, even though lexicalization does not change the surface realizations of any words. I call such a notional phenomenon *covert lexicalization*. My interviews with speakers who have the nasal short *a* system will include formal methods designed to investigate whether the split between pre-nasal and non-pre-nasal /æ/ is covertly lexicalized.¹⁰

There does not appear to be an attested Phase II stage in the history of the New York City short-*a* system: this would be a stage at which the syllable-structure constraint exists but is *bled* by stem-level morphology, and so *planet* and *planner* both have lax /æ/. The seeming absence of such a system (both in the history of New York City and elsewhere in English dialectology) is a suggestion that Phases II and III are the same: when a rule becomes phonologized, it also becomes lexicalized. Labov (to appear) examines the spread of the New York diphonemic short-*a* system up towards Albany and observes that as it diffuses across the boundary of the New York City region, it becomes a single phoneme with an allophonic alternation similar to the general distribution of the two phonemes of the New York system.¹¹ Tellingly, the open-syllable constraint of the New York system disappears in Albany: the Albany pattern is not capable of having a difference in tensing between *planner* and *planet*. Labov characterizes this as a loss of *abstraction* in the spread of the New York City system: Albany speakers, in the process of accepting diffusion of New York City short-*a* tensing, do not perform morphological analysis of surface word-forms, and thus they don't acquire the opaque interaction of tensing and morphology. This suggests that not only can a phonemic split not spread as such across a dialect boundary, but it cannot even remain a Phase III rule with a morphologically conditioned alternation. This appears to be evidence *for* the existence of Phase II: a Phase III split cannot spread across a dialect boundary and is replaced with a similar Phase II rule in the new region. But even here, note that it does not become the hypothetical Phase II counterpart of the New York system described above, in which morphology *bleeds* tensing: it seems as if, in order to become non-lexical, the tensing system must be one that does not interact with morphology *at all*. This supports the hypothesis that Phase II and Phase III are only distinguished by whether a morphological

¹⁰ For example, inventing language games that involve word-level operations that add or remove a /n/ from after an /æ/. If *The fish got wet* becomes *The finsh gont went*, what would happen to *The cat got mad*?

¹¹ I found roughly the same Albany system in one of the three speakers from Schenectady in my pilot study; Schenectady is the closest to Albany of the four cities examined in that study (see Figure 9 above).

operation exists which *can* interact with the phonological rule, and not by whether the rule itself is part of the lexical phonology. Thus if I have the opportunity to interview any more speakers with an Albany-like pattern I'll test them for covert lexicalization too.

Covert lexicalization, if it exists, can give us the key to whether it's possible for phonemic splits to spread into new speech communities. As Labov (to appear) observes, just as mergers tend to expand across boundaries more easily than any other sound changes, splits must for the same reason be the hardest to diffuse—the failure of the diphonemic New York short-*a* system to remain diphonemic in diffusing to Albany is an example of just that. However, *covert* lexicalization should be able to avoid the pitfalls attached to dialect diffusion of phonemic splits simply because, in this case, all that needs to diffuse from one dialect region to another is merely a single phonological rule: it's equivalent to the diffusion of a single sound change. Note that this implies that in the first instance a covertly lexicalized alternation will, on diffusion into a new region, appear as at best a quasiphonemic alteration (if there is any cognitive difference between quasiphonemic Phase II and covertly lexicalized Phase III): a change in *sounds* spreads to a new region, but the accompanying change in the *structure* of the system doesn't do so automatically. However, such a Phase II rule could easily again become covertly lexicalized in the new region, for the same reasons as it became lexicalized in the first. At this point, two adjacent regions share a covertly lexicalized alternation. If this situation matures into a full phonemic split at a later date by means of lexical diffusion, both can participate in the split—at this point, only changes in individual *words* are spreading, upon a common structural matrix already shared by both communities which was created merely by the spread of changes in *sound*. Alternatively, if the two communities, after the covertly lexicalized alternation has spread from one to another, do not remain in close contact with one another, they may undergo *different* phonemic splits later on.

Another phonemic split in progress in American English is the phonemicization of Canadian raising of /ay/, observed in the Inland North by Vance (1987) and examined in greater detail in Philadelphia by Fruehwald (2007). This originates apparently as a case of secondary split. It must have begun as an allophonic alternation by which /ay/ was higher before voiceless consonants than before voiced consonants. Then this alternation was obscured by a sound change eliminating the distinctiveness of the environment for Canadian raising: in particular, Canadian raising is counterbled by /t/-flapping. Thus, for example in the word *writing*, adding a vowel-initial suffix causes the final /t/ of *write* to undergo flapping (and merge with /d/ in that environment), and so the /ay/ in *writing* is Canadian-raised but precedes a surface-voiced consonant. Thus, the contrast between *writing* and *riding* is in the quality of the stressed vowel, not the voicing of the medial consonant. (Note that this split also interacts with morphological composition: suffixation and flapping in *writing* counterbleeds raising just as suffixation in *planner* counterbleeds short-*a* tensing.) And with this contrast in place, the stage is set for the phonemic split to develop further by means of analogy and lexical diffusion. Some informal (which is to say, unreliable but suggestive) observations during my pilot study indicated that Canadian raising might have different phonological statuses in Utica and the Albany area, and so I intend to investigate the phonological status of Canadian raising in each of the communities I gather data from.

Moreover, assuming there are communities in my region of study in which Canadian raising is not already fully phonemicized, studying the phonologization of

Canadian raising contributes to the question of how phonemic splits arise in a way that is complementary to the study of covert lexicalization in the nasal short-*a* system. Where the nasal short-*a* system may be subject to covert lexicalization—that is to say, lexicalization despite the lack of a surface contrast between the quasiphonemes—Canadian raising may exhibit the opposite, lack of lexicalization despite an apparent surface minimal pair. This is because the specific operation which counterbleeds Canadian raising (unlike in New York short-*a* tensing) is itself a post-lexical phonological rule, namely *t*-flapping. This means that Canadian raising could, at least in principle, remain a post-lexical rule in Phase II and still precede flapping in the phonological derivation, despite the existence of minimal pairs such as *writing* and *riding*, which on the surface seem to indicate a phonemic contrast between the raised and unraised allophones of /ay/. Thus, just as by studying the nasal short-*a* system will contribute towards answering the question of whether a counterbleeding or counterfeeding relationship is *necessary* in order to turn an allophonic alternation into a phonologized split, studying Canadian raising in the same manner will approach the converse of that question, whether counterbleeding/counterfeeding relationships are *sufficient* for phonologizing an allophonic relationship. Thus I intend to approach from both directions the question of how phonemic splits originate, and the status of Phase II in the phonological-change “life cycle”.

As discussed above with respect to short-*a* systems, if two speech communities adjacent to each other both possess a Phase III split, and in one community that split begins to turn into a legitimate phonemic contrast (that is, it becomes lexically unpredictable—exceptions arise to the lexical-phonological rules governing the distribution of the two quasiphonemes) through lexical diffusion, then that lexical diffusion can in principle itself diffuse to the second community; this situation is impossible if the second community doesn't already have a lexicalized split. If I find phonemicization of Canadian Raising in one of the communities I examine, I will be able to examine whether the effect of dialect-region boundaries on the spread of lexical diffusion is the same as their effect on the spread of sound change. Now, the movement of, say, the word *fire* or *tiger* from the unraised /ay/ class to the raised /ay/ class, provided the distinction between those two classes is lexicalized, has more in common from a structural perspective with a lexical variable such as the choice between *soda* and *pop* or *bathroom* and *washroom* than with a sound change like the backing of /e/ or the fronting of /ow/. So we should expect the spread of phonological lexical diffusion and its interaction with dialect boundaries to follow the same general principles as the spread and boundary behavior of lexical items. The most famous lexical variable in American English, the *soda-pop* variable, is well known to follow a boundary which is distinct from all other known dialectological boundaries in North America. Most relevant to the present discussion is the location of the eastern boundary of *pop* territory, which separates the eastern extremity of the Inland North from the rest of it: *ANAE* places the *soda-pop* boundary between Rochester and Buffalo, while the data collected by McConchie (2002) places the boundary between Syracuse and Rochester, but in either case it's clear that it passes *through* the Inland North territory. It's not very far from the edge, on the scale of the Inland North as a whole, but it certainly separates two or three major Northern Cities Shift population centers on the *soda* side of the line from nearly all the others on the *pop* side. Since it appears that a major (and comparatively recent in

emergence) lexical variable can distribute itself basically independently of the boundaries of the major dialect regions, I expect to find something similar to be the case regarding lexical diffusion of Canadian raising, provided that the dialect regions concerned are all ones that have lexicalized Canadian raising.

4.4. *Elementary secondary stress*

In my pilot study I found one other unexpected lexical feature of eastern Upstate New York: an unusual secondary stress on the penultimate syllable of words like *eleméntàry*, *documéntàry*, *sediméntàry*, leading to a stress clash between the antepenultimate and penultimate. (I take this, at least for the time being, to be a lexical fact about the suffix *-ary* rather than a sound change per se.) In my pilot study I found this unusual feature of *-ary* to be categorical or near-categorical in most of my speakers in Utica and Gloversville, and to be present in at least a couple of tokens for each speaker but on the whole much less frequent in Amsterdam and Schenectady. This pattern seems to indicate a lexical change that began somewhere in the Inland North region and has spread east across the boundary between the Inland North and Western New England. In this case, the secondary stress on *-ary* provides evidence for the hypothesis that lexical variables should spread across boundaries between dialect regions that sound changes can't cross easily (or at least, that lexical changes spread farther faster than sound changes).

As mentioned above in the discussion of the New York City influence on the Albany short-*a* system, Labov (to appear) argues that as a morphologically complex linguistic change spreads to new regions and communities, it loses abstraction and systematicity as speakers in the new communities fail to note the role of morphological structure in the change they're coming to participate in. Note that the implications of this principle for a morpholexical change like secondary stress in *-ary* are just the opposite of the implications for a morphophonological change: a morphophonological change will spread as a sound change, losing its structural aspects, while a change such as that of *-ary* would spread as a change in individual words. In the case of New York City short-*a* tensing, Albany speakers fail to take note of the morphological structure distinguishing *planet* from *planning*, and overgeneralize the short-*a* tensing rule to apply to both of them. In the case of secondary stress in *-ary*, however, the result of failing to take note of morphological structure would be merely taking each lexical item (*elementary*, *documentary*, *sedimentary*, etc.) as independent, and ignoring the fact that they all contain the morpheme *-ary*. In this case, what we'd expect in a speech community to which *-ary* secondary stress had diffused would be for the secondary stress to have reached that community in some lexemes but not in others. That is, in the community where this feature originated, the secondary stress is a property of the morpheme *-ary*, but in communities to which it's diffused, for example, *elementary* and *documentary* show the penultimate secondary stress but *sedimentary*, *rudimentary*, and *parliamentary* do not.¹² There's some evidence from my pilot study that this may be actually the case, but

¹² This differs from the case of diffusion of the New York City split short-*a* system to Albany, of course, in that there's nothing stopping this change from going to completion, as the remainder of the *-ary* words can gain penultimate secondary stress in the new community by diffusion from the first community in the same way the first ones did.

more research will be necessary to find out what the true situation is with the *-ary* secondary stress in New York State. This feature provides an unexpected opportunity to study the dialectological diffusion of lexical features.

5. Summary

To summarize, I intend to study the dialect geography of the eastern part of New York State, following up on the research pursued in my pilot study (Dinkin & Labov 2007). Eastern New York State is a congenial region for studying many issues related to dialectology because five or more dialect regions with different linguistic features converge in a comparatively small area of territory. In addition to merely mapping out the isoglosses of the region with more exactitude, this will allow us to gain a clearer understanding of the dialectological status of smaller communities close to a linguistic boundary, a topic unaddressed by *ANAE*; and since there are several distinct dialect boundaries in the area I'm studying, in particular it will be possible to find out how the type of boundary (and status of communities on the boundary) depends on the nature of the two linguistic systems it separates. By examining communities on dialect boundaries I will also be able to gain insight into the manner by which linguistic features diffuse across boundaries, particularly lexical features (which are not well-studied in this respect), but also the *cot-caught* merger and the other characteristic sound changes of the regions. I also expect that I will be able to gather data to bear on the phonological question of the origin of phonemic splits. My plan is to begin in the summer of 2007 with some on-site data gathering in chosen communities while the weather is still warm, to establish the general outline of the regional layout; then in the fall and winter I intend to employ telephone interviews to identify the communities closest to the boundaries; and finally in the spring of 2008, I'll make trips to those communities for more in-depth data collection. I expect to finish the dissertation prior to December 2008.

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