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THE
TENSING
AND
LAXING
OF
SHORT 'A'
IN

NEW HAVEN, CONNECTICUT

YALE COLLEGE SENIOR ESSAY
MAJOR: LINGUISTICS
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This essay is dedicated to
EDWIN HOTCHKISS TUTTLE (1879—1939)
pioneer describer of New Haven pronunciation
who for reasons unknown 'Took his own life'

and to
MR. PERRELLI (1910—)
still non-rhotic at 120 Crown Street
who was right in saying 'It's just all dialects'
but wrong in saying 'I can't help you, my friend'

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APOLOGIES

This study incorporates elements of dialectology, historical linguistics, phonology, and sociolinguistics. Unfortunately, I did not have much prior knowledge of these fields. I carried out linguistics research, as it were, at the same time as linguistic research. Because of constraints on time and energy, I was unable to pursue all leads to their ends; in addition, my observations rarely rest on an up-to-date framework. My understanding of American dialects is rooted in the *Linguistic Atlas* tradition of Hans Kurath; I have only begun to assimilate conflicting ideas, such as J. L. Dillard's. My grasp of Lexical Phonology is rudimentary, and there are other relevant phonological concepts which I feel unable to ignore yet unqualified to discuss. And the one thing it seemed I could do—distinguish between two varieties of a vowel—I did not do enough, as I listened to and analyzed only a small fraction of the available recorded material. Despite these limitations, I hope this work will prove interesting and useful to future students of New Haven and/or American dialect phonology.

INTRODUCTION

The inhabitants of New Haven (Connecticut) have a characteristic way of speaking, just like people from any other place. Of course, someone with a 'New Haven accent' has a 'Western New England accent,' a 'Northern accent,' an 'American accent' at the same time; it depends on who is listening and what they're listening for. New Haven English is a dialect of American English, unique but not independent. Its relationship to neighboring (and distant) dialects has historical roots but makes contemporary sense as well.

This runs the risk of implying that everyone in New Haven talks alike, which is untrue. There is variation within any speech community, some of which is socially stratified, meaning that it varies systematically with social class. And only a further fraction of this stratified variation is socially stigmatized, meaning that speakers are consciously aware of it.¹ One such stereotyped feature of many American English dialects is called the 'raising of short *a*.' For example, not everybody in New Haven pronounces the name of the neighboring town of *Hamden* with the same stressed vowel sound. Some use a sound like that in *yeah*, others a sound closer to that in *idea*.² And almost everyone would agree that the former is a 'classier,' 'more correct,' 'more refined' pronunciation, the latter 'nasal,' 'harsh,' 'sharp'; put simply, raised equals worse. Underlying the difference in pronunciation is an agreement on what it signifies.³

Another underlying agreement is that short *a* in *Hamden*, whether raised a little or a lot, is different from short *a* in the name of the suburb of *Madison*. The distinction is not confined to the names of towns, of course: *ham* and *mad* show the same opposition, as do *man* and *had*, for that matter. The first element of these pairs is called 'tense' and the second 'lax,' and while the tense vowel is subject to raising, the lax vowel is not.⁴ Many American English dialects seem to show the same socially stigmatized raising of tense short *a*. Where dialects differ substantially is in the distribution of tense and lax forms: that is, which short *a* words are in which group.⁵ For example, Philadelphia's distribution of tense and lax forms – its

¹ In the sociolinguistic literature, this distinguishes two types of variable. A 'marker' is socially salient, while an 'indicator' is merely socially significant.

² Linguists call the stressed vowel nuclei in *yeah* and *idea* 'mid' and 'high' respectively, a description that was originally supposed to refer to where they were pronounced in the mouth. The dimensions of vowel 'height' and 'backness' (both words above have 'front' vowels, while *coat* and *cute* have mid and high back vowels, respectively) have since been reinterpreted in acoustic (rather than articulatory) terms. Instead of trying to estimate tongue shapes and jaw positions, one can measure and plot the frequencies of the several formants (similar to musical overtones) that give a vowel its distinctive sound. On either usage, a change from low to mid to high is naturally called raising.

³ However, the social stigma is not as strong as has been reported for New York and Philadelphia. This study did not observe very much style-shifting away from vernacular norms, even in reading word-lists. This was true regarding a number of dialect features, including the behavior of short *a*.

⁴ There has been much debate over the terms 'tense' and 'lax' – some generative grammarians have posited these as truly fundamental features (see Jakobson & Halle 1964). Lass (1976) has argued convincingly against this position, preferring the opposition 'long' / 'short'. Labov (1994: 531) considers all four to be 'cover terms': '*long* / *short*, like *tense* / *lax*, does not refer to any physical dimension – certainly not to duration alone – but instead refers to a set of features...' But the opposition *tense* / *lax*, in the literature as well as in this study, is treated as having some phonological coherence.

⁵ 'Short *a* words' are words which had short *a* in Middle English – phonetically probably [a] (Dobson 1957, Lass 1976). More specifically, they are words which have [æ] in conservative American English dialects, such as that of Minnesota, where tensing and raising does not seem to be a concern. In the following discussion, mainly words with *stressed* short *a* are treated, principally because the quality of the vowel is much easier to discern

'short a pattern,' for short – is quite different from New Haven's. But what William Labov has said about the one city is equally true today about the other: "The most general and striking fact is the complete absence of any social awareness of the distributional facts about short a."⁶ Labov (1989) and Kroch (1992) have shown that in Philadelphia, the details of the short a pattern are shared by every social stratum in the community;⁷ and this study has found the same to be true of New Haven.

The image of invariance is somewhat belied by the fact that short a patterns do change over time. Labov (1981, 1989) and others have observed some change in progress among a younger generation of Philadelphians. New Haven youth, by contrast, seem content to reproduce the pattern of their parents. But as this study will attempt to show, a century ago the young people of New Haven were being radically innovative. Over a few decades, they overthrew their inherited short a pattern and instituted another.⁸

For every linguistic change that occurs in a community at a particular point in time, there also arises the question, 'Why then?' Someone more familiar with New Haven history than with linguistics, however, might not consider there to be a serious 'actuation problem' in the present case. For though New Haven's dialect changed dramatically between 1890 and 1920, its demographics surely changed more (see the demographic chart in the Appendix).

Approximately 500 English Puritans had founded New Haven in 1638. By 1830, the population of 11,000 essentially still consisted of the descendants of these original colonists.⁹ From then on, successive waves

when it is under stress. Occasionally, unstressed short a words will be mentioned; the distinction is not seen as a theoretically critical one.

⁶ Labov 1994: 508. People certainly notice the quality of the vowel in particular words, but not the *pattern* of tense and lax forms – which is, linguistically, the more significant thing. Admittedly, the oversight is less 'striking' in New Haven, where the distribution is simpler, more predictable, and even, seemingly, more natural than that of Philadelphia.

⁷ To reiterate, what is universally shared is the short a pattern, the distribution of words into tense and lax categories, not the degree to which tense words are raised! Remember 'the need to differentiate sharply between the tensing of /æ/ to (æh) and the raising of the variable (æh).' (Labov 1981: 286)

⁸ At roughly the same time, other significant features of the dialect also changed. New Haven adopted a rhotic pronunciation – meaning that people stopped 'dropping their r's in words like *car* and *Harvard Yard*. Whether these two major changes are linked in some way – among other questions raising the possibility of dialect contact, such as 'Where did the new patterns come from?' – is discussed in Part IV.

⁹ In 1801, for example, there were only 142 foreign-born residents, or 3% of the population. Already in the seventeenth century, though, there were some African-Americans, mainly slaves. There has always been some immigration to New Haven (from Long Island, from Massachusetts, from other American colonies, then states, and from Europe), but before 1830 there were no large waves of immigrants forming their own communities or neighborhoods. Writing within quite an Anglocentric tradition, historian Marcus Hansen describes the attitude of the first two centuries thus:

"Land was wealth and time increased its value. [The proprietors] retained the unoccupied portion as a heritage for their children or even great-grandchildren. This explains the irregular chronology of settlement. New Haven was founded in 1638. Hamden, at its rear, was not settled until the 1730's – a century later. The rougher terrain accounts in part for this delay, but the principal explanation is the fact that the lands which became Hamden were owned by New Haven and reserved for coming generations... The social and cultural consequences of this policy was a pronounced provincialism. *Population was not invited into established towns, and if it appeared it was not encouraged to remain.* The numbers steadily grew, but they grew from within, not from without. Thus every community had a solidarity in families, religion and culture which could trace a direct descent from the characteristics developed by the original founders.' (Kurath 1939: 98-99) Italics added. Interestingly, both informants A. S. and H. W. referred to the 'provincialism' of New Haven, even today.

of European immigrants augmented a native population that was itself growing faster than before. The Irish and Germans came first, the Italians and Eastern Europeans (principally Poles and Russian Jews) around the turn of the century. The proportion of the population that was foreign-born reached one-third by 1910. The twentieth century has seen New Haven become less 'foreign' but no less an 'ethnic' city: when the population reached its peak of 163,000 (during the 1940's), the exodus of the original Yankee nucleus was well underway. Many of those who were better-off moved to the suburbs, which were growing much faster than the city itself. Between 1950 and 1960, the suburbs' population overtook that of the city, indicating that, by this time, many Irish and Italians were leaving the city as well, making way for newer waves of immigration from Puerto Rico and above all the American South.¹⁰

By far the largest of New Haven's earlier immigrant groups were the Italians. In 1930, fully 25% of Greater New Haven's population was Italian-American (60,000 out of 240,000). The legacy of their numerical predominance is that, according to the 1990 census, more than twice as many people claim Italian ancestry as any other European nationality, not just in New Haven but in each of the eleven surrounding towns.¹¹ The dates of their arrival (1875-1924) overlap rather neatly with the period of language change. Though it is tempting to explain the change's origin that way, the correspondence is probably a coincidence. But this is not to say the Italians were not instrumental in spreading the change! The very fact of language change over this period is perhaps not surprising. Given such a tumultuous population history, it might be language stability – that anything of the older speechways was preserved at all – more than language change, that demands explanation.¹²

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There is a long tradition of studying the tensing and raising of short *a*, which made this study possible.¹³ The general view is that George Trager was the first to describe the phenomenon in detail (Trager 1930), although previous generations of linguists were certainly aware of it (Grandgent 1891, Babbitt 1896). In fact, a Yale graduate student named Edwin Tuttle described the phenomenon in his own speech as early

¹⁰ Of course, great economic changes underlay this demographic transformation. New Haven had been founded with dreams of commercial success, but these foundered and the economy became mainly agricultural. Institutional greatness was ensured when the Collegiate School (later to be named Yale) relocated there in 1716. Maritime commerce became predominant in the second half of the eighteenth century. After the Revolution, "New Haven was still a small, quiet, semirural seaport town." (Shumway & Hegel 1988: 21) One hundred years later, the city was a transportation hub and on its way to becoming a major industrial center. The glory days lasted until the 1950's, when 'many of the city's major manufacturing industries left.' (Leonard 1988: 58)

¹¹ Along with the city, these towns comprise what the census calls Greater New Haven: Bethany, Branford, East Haven, Guilford, Hamden, Madison, North Branford, North Haven, Orange, West Haven, and Woodbridge. (1990 population: 256,125). In some of these towns one can find evidence of the Yankees who are

conspicuously absent from most parts of the city. 'English' is the second largest ethnic group in Guilford and Woodbridge, the third largest in Bethany, Branford, Hamden, Madison, North Haven, and Orange. (Karr 1993)

¹² Anthony Kroch actually restates the theoretical problem, in general, in those terms, arguing that 'spontaneous change is the natural condition of language, occurring without any particular social motivation, and that what needs an explanation is why some classes resist such changes.' (Kroch, paraphrased by Guy 1990: 53)

¹³ The New Haven dialect currently exhibits a number of other interesting features, any one of which could in theory make for an interesting historical study. But there is little background in the linguistics literature for discussing the near-merger of *fair* and *fear*, for example, or the appearance of a true glottal stop in words such as *Shelton*, *Clinton*, *couldn't*, *wouldn't* (and even, for some speakers, *weren't*). Short *a*, on the other hand, had been analyzed in great synchronic detail in Philadelphia (Labov 1989) and New York (Cohen 1970).

as 1902. Tuttle (b. 1879) was from New Haven, Trager (b. 1906) from Newark, New Jersey.¹⁴ Both described what was going on in their own speech, but claimed that what they observed was much more universal to American English.¹⁵ Later, Trager concluded that a true phonemic split had occurred in his dialect: for him, tense and lax short *a* were two different vowels, as fundamentally distinct as those of *kin* and *keen* (Trager 1940, Trager & Smith 1951). Tuttle had essentially come to the same conclusion, without using the word 'phoneme', of course. Meanwhile, the competing analysis of American English being proposed by Hans Kurath, the director of the *Linguistic Atlas* projects, did not recognize a phonemic split in any dialect of American English (Kurath & McDavid 1961, Virginia McDavid p.c.). Henry Lee Smith tried in vain to use the *Atlas* materials to back up his own view, and was only able to make tentative and unpublicized conclusions about the geographic extent of the tense-lax distinction (Smith 1951).

More recently, Paul Kiparsky proposed a phonological model that updates, so to speak, the view held by the dialectologists. Within Lexical Phonology, there are two types of phonological rule, each of which can create a contrast from one underlying phonemic representation: lexical rules and postlexical rules.¹⁶ So in a Trager/Tuttle-type dialect, certain groups of words are made tense by a lexical rule (Kiparsky 1988).¹⁷ In other dialects, whose short *a* patterns even Trager would not have considered to show a phonemic opposition, a simpler 'postlexical rule' takes care of whatever tensing and raising occurs. Labov long

¹⁴ Incidentally, Newark was founded by emigrants from New Haven, in 1666.

¹⁵ Tuttle refers to the tense vowel as 'long æ,' but his description of it leaves little doubt that he is describing the same phenomenon. He is trying to defend the general claim that vowel length is distinctive in American English and this may lead him to extrapolate too much from his observations. He does report, however, hearing the distinction from 'natives of nearly all the states east of the Mississippi, as well as of several Western ones.' (Tuttle 1903)

Trager makes a similarly sweeping judgement in the 1930 paper:

'The rules seem to hold not only for A[merican] S[tandard] E[nglish] but also in New York City, in the South, and in Southern New England (at least in those words where "short a" is not replaced by *ah* or any intermediate sound).'

By 1940, Trager – in keeping with linguistic fashion, it should be noted – said he'd always just been talking about 'my English.' (1940: 255) If this study accomplishes anything, it should halt any premature desire to reject the earlier observations of greater generality for a short *a* split in America, recalling the danger of assuming that present patterns were present in the past.

¹⁶ 'Postlexical rules' apply automatically whenever their conditions are met. They cannot refer to the internal morphological structure of words, and never have exceptions. Postlexical rules are responsible for many of the common allophonic distinctions in English. For example, stops are aspirated only in syllable-initial position: *pot* [p^hot] vs. *top* [t^hop]. Aspirated and non-aspirated stops are in complementary distribution and will never provide a minimally contrastive pair.

'Lexical rules,' on the other hand, can access non-phonological information about a form (lexical item), so they can create minimal pairs: the contrast between *singer* [sɪŋə] and *finger* [fɪŋgə] is created when a lexical rule deletes the morpheme-final /g/ in *singer* but not the morpheme-internal /g/ in *finger*.

Structuralists such as Trager were theoretically obliged to analyze such pairs as deriving from different underlying phonemic representations. Combining the above opposition with the pair *singer* vs. *sinner* completed the case for the existence of the phoneme /ŋ/. Lexical Phonologists do not need such a phoneme; they can posit underlying /sin+er/, /sing+er/, and /finger/ and let assimilation and deletion rules do the rest.

Similarly, if two words contrasted by having tense vs. lax short *a* – such as tense *adder* 'one who adds' vs. lax *adder* 'snake' – structuralists would necessarily see two phonemes, while Lexical Phonologists could have one phoneme /æ/ that is tensed by lexical rule. (Kaisse & Shaw 1985, Trager 1940)

¹⁷ Also, individual exceptional words are marked [+Tense] or [-Tense] in the lexicon, and the rule then does not apply to them.

resisted this view but has recently accepted it, giving up the idea of a phonemic distinction in any dialect (Labov 1994).

The fact that the most detailed descriptions of short *a* tensing were written while Labov still adhered to the phonemic-split framework was not a considerable obstacle to the present study. Nor was the fact that LP, the new framework, has fallen out of favor as a phonological theory.¹⁸ This is because the major focus of the study was to investigate changes in pronunciation, to extend the historical knowledge of American dialects, and thus to deal with facts that must be confronted from any theoretical orientation.

This study gathered various kinds of evidence for the change that took place in New Haven. For the present-day pattern – the ‘after picture’ – five people were interviewed. For the ‘before picture,’ the primary sources of evidence, besides Tuttle’s 1902 description, were tape recordings of New Haveners born in the nineteenth century – a rather famous Yale professor (b. 1865) and an upper-class woman (b. 1888) foremost among them.¹⁹ Recordings of the *Linguistic Atlas* informants, selected as representative of the speech community in 1931, are supposedly available but did not arrive in time for my study. The published *Atlas* volumes were helpful, though somewhat less so than had been hoped.

It was more difficult to find out about the intervening period – the ‘during picture’ of change in progress. This is not only because that period was presumably much more complicated and heterogeneous than those before and after. The New Haven Colony Historical Society’s oral history tapes (recorded in the 70’s and 80’s) give a broad coverage of this period: perhaps 50 hours of the speech of immigrants and people of many ethnicities born in New Haven around 1900. But these tapes are untranscribed and time did not permit anything like a full analysis of them.²⁰

The method used to analyze the tapes was simple; all words containing a stressed short *a* were impressionistically judged as tense or lax, through repeated listenings when necessary. This discrimination was very easy for the present-day recordings, but with the older generations there tended to be less raising of the tense vowel;²¹ it was therefore harder to make a judgement between tense and lax. Acoustic analysis would have been performed in an ideal world; this quantitative technique provides a more accurate picture of the distribution of tense and lax forms.

The data are presented in the Appendix in charts whose format is modified from Labov 1989. The two most important variables governing short *a*, the identity of the following consonant and the position of the vowel relative to syllable and word boundaries, are crossed to form a grid, in the boxes of which the words themselves are shown. It would take the analysis of many hours of speech to arrive at a perfectly

¹⁸ In the currently fashionable Optimality Theory of phonology, there are no rules at all. However, many phenomena that LP dealt with well have yet to be reformulated in the terms of OT.

¹⁹ Two resources were overlooked: an archive of oral history recordings at UConn, Storrs; and the oldest generation of living New Haveners (aged over 70).

²⁰ Again, the Storrs archive would probably have a more organized, cataloged, homogeneous set of recordings which have transcripts and would be great to look into, if time had permitted.

²¹ But the vowel was still tense. Raising is primarily a twentieth-century phenomenon, while the tensing of short *a* – a more complex and interesting phenomenon – goes back considerably further.

clear and detailed picture of an informant's short a pattern; the data gathered are sufficient, however, to reach a number of interesting conclusions.²²

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Part I of this study – *After* – presents and discusses the present-day New Haven short a pattern and its relationship to one current model of American dialect differences.

Part II – *Before* – describes what the pattern seems to have been before the change that started in the 1890's, and discusses how it fit in with nineteenth-century accounts of American dialect differences.

Part III – *During* – discusses, tentatively, how (and why) the change came about in New Haven.

Part IV provides more general reflections, conclusions, and suggestions for future research.

PART I: AFTER

Labov, Yeager, and Steiner published *A Quantitative Analysis of Sound Change in Progress* (hereafter LYS) in 1972. In this work, they distinguish for the first time between a 'tensing rule' and a 'raising rule' and concentrate mainly on the operation of the latter. Their focus is furthermore on New York City and the 'Northern Cities' of Buffalo, Chicago, and Detroit. But they do mention New Haven in an introductory paragraph that situates New York in its dialectal context:

[M]oving northeast to New England [the tensing rule] is sharply simplified; we find that in New Haven, for example, all vowels before nasal consonants and only those are tensed and raised. (LYS 1972: 48)²³

This brief description proves to be entirely accurate. The rule is easy to formulate in phonological terms; what Labov has called the "nasal pattern" is governed by

[+front, +low] → [+tense]/ _____ [+nas] (adapted from Labov 1994: 537)

Kiparsky was unaware of this nasal pattern, and so gave an inaccurate description of the details of such a dialect, but his essential point, that a postlexical tensing rule is in operation, seems well taken.²⁴

²² This is partly because of the large number of potentially significant 'tensing environments.' Also, there is evidence that in some dialects, uncommon words pattern differently than common words – uncommon words are by definition rather scarce in the stream of everyday speech. This study benefited from having the subtle observations of a linguist (Tuttle) to complement the direct evidence in the speech of his contemporaries. But in one crucial case (that of the auxiliary or modal verb *can*) an expectation stemming from Tuttle's description was confuted by the actual data.

²³ Presumably this observation was made in the course of the 'exploratory interviews' carried out by LYS during 1969-70. It is also possible that no formal interviews were carried out in New Haven, and that the observation stems from personal observations of New Haven speech on the part of L, Y, or S. No other mention of New Haven occurs in the 1972 study.

²⁴ Though it comes close to (re-)equating tensing with raising, Labov now agrees that tensing could be 'a postlexical shift of height at a low level of abstraction.' (Labov 1994: 539) This is in describing the Northern Cities, however, where there is a phonetically continuous range of forms from tense to lax, rather than two sharply distinguished categories, as in the nasal pattern. On the other hand, New Haven does resemble the

In New Haven today, any short *a* that precedes a nasal consonant (an *n* or *m* – for *ng* see below) is tensed and raised. There are literally no exceptions to this generalization: words which for various reasons are lax in other dialects, such as *and*, *animal*, *am*, *can*, *ran*, are all tense. When short *a* precedes a non-nasal consonant, the sound is lax, also without exception.

It is hard to know how much data should be presented to 'prove' this finding. The six informants interviewed, ranging from age 21 to 62 (whose tokens of short *a* are presented on charts in the Appendix), all show the nasal pattern. Although the degree of raising seems to be quite variable (women seem to show more raising more than men, the working class more than the middle class), the distribution of tense and lax forms is shared by all.

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Neither Labov's 1972 description nor his 1994 phonological rule restrict tensing to before *front* nasals; but this may have been an oversight or a slight exaggeration of the simplicity of the rule. Most dialects that exhibit the 'nasal pattern' do remain lax before the back nasal (or velar nasal – spelled *ng*, phonetically [ŋ]).²⁵

In New Haven, however, the back nasal's behavior is somewhat more interesting. Informant A. S., a linguistics student, reported that in his father's family, short *a* was tense before the back nasal. The vowel in words such as *bank*, *Frank*, *tank* was apparently raised just as much as that in *ban*, *Fran*, *tan*, etc.²⁶ Informant J. C. is a middle-aged woman who grew up in the same neighborhood as A. S.'s father; she indeed exhibited some tendency to tense in the pre-*ng* environment. Though he was unaware of it, so did A.S. himself, but of a different type. While J.C. can apparently choose stylistically between a lax vowel and a tense vowel as raised as any short *a* in her speech,²⁷ A.S. produced a form phonetically intermediate with respect to his usual tense and lax classes.²⁸ The following chart displays the behavior of all present-day informants:

Northern Cities in having tensing 'without any trace of lexical irregularity or grammatical conditioning.' (Labov 1994: 539)

²⁵ In the dialects governed by lexical rule, the status of the back nasal is either unclear or somewhat variable. LYS, presumably following Cohen 1970, reported that in New York City 'a few speakers raise velar nasals, or at least raise them partially, so it is not clear what the class of *bang* is.' (LYS 1972: 49) But all subsequent descriptions of the New York pattern simply omit the back nasal from the list of tensing environments (in keeping with the Philadelphia pattern?). In recent years, the phrase 'tensing before nasals' has been used as a somewhat careless abbreviation for 'tensing before front nasals.' In the Northern Cities, short *a* before the back nasal is generally 'lower than [before] /n/ but more peripheral than [before] most non-nasals.' (LYS 1972: 80) This was the case for some New Haven informants as well.

²⁶ All his spontaneously offered examples were of the shape –*ank*, but he felt sure the same tensing and raising would be present in words like *bang*, *rang*, *sang*. The informant felt that this usage was quite restricted, even among an older generation: he did not consider it typical of all New Haven. Informant K. B. felt that an older female co-worker of hers had tensing in this same environment.

²⁷ "Don't keep all your eggs in one bank [lax]. Spread it out, [getting excited] so if one bank [tense] is too busy and you're in a hurry, you could always go to the other bank [lax]."

²⁸ In general, however, it was difficult to judge short *a* in the pre-*ng* environment, so this impression calls out for instrumental verification.

Informant (Sex, Age)	Behavior before [ŋ] in reading word list ²⁹	In conversation ³⁰
1. A. S. (M, 20)	Intermediate	Variable
2. K. B. (F, 20)	Intermediate or Lax	Lax
3. E. H. (F, 20)	Intermediate or Lax	Lax ³¹
4. M. P. (F, 39)	Lax	Lax
5. J. C. (F, 50)	[no word list]	Variable
6. H. W. (M, 62)	[no word list]	[did not appear]

A speaker who tensed consistently before all nasal consonants, front and back, would have an even simpler phonological tensing rule than the one that produces the (front) nasal pattern. Such a speaker might be viewed as having overshot the mark when simplifying the tensing rule, and therefore as having a 'hyper-nasal' short *a* pattern. In general, though, the New Haven pattern is not marked by tensing before the back nasal, and the term 'nasal pattern' will be used in the following pages to indicate tensing before front nasal consonants and a non-committal stance regarding the back nasal.

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As alluded to several times above, the nasal pattern is by no means limited to New Haven: it is in fact one of the four major patterns found in American dialects. The others are, briefly, as follows:

- a) The Northern Cities pattern, where short *a* is always tense – initiating a chain shift that affects five other vowel phonemes – and the degree of raising is governed by a postlexical rule. (Labov 1991, 1994)
- b) The so-called mid-Atlantic pattern, where the tensing of short *a* is governed by a complex lexical rule. The tense vowel is found *only in closed syllables* (and derivatives thereof). Following front nasals (*n*, *m*) and voiceless fricatives (*f*, *s*, *th*) condition tensing throughout the region, as do voiced stops (and several other consonants) in New York City. Certain classes of words are always lax despite their phonetic shape: for example, the 'weak words' *am*, *and*, *can* (throughout the region), and the irregular verb forms *ran*, *swam*, *began* (mainly in Philadelphia).³² This type of short *a* pattern is characterized by 'lexical

²⁹ The word list was not a very sophisticated one, being comprised solely of short *a* words. It was therefore somewhat obvious what feature was being investigated. However, as mentioned earlier, there was little or no hypercorrection observed in word-list style, whereas in New York, '[t]here are only a very few speakers who will read a list of words with *bat*, *bad*, etc., without correcting some words which are always tense in the vernacular.' (LYS 1972: 51) This difference is further evidence that a different *type* of tensing rule (postlexical rather than lexical) is in operation. The Northern Cities apparently exhibit the same lack of hypercorrection in word-list style; this could be because the Northern Cities Shift is relatively new and not (yet) a marker (LYS 1972: 92), or because of a difference in rule type.

³⁰ Unfortunately, the sequence short *a* + back nasal is rather rare in conversation. With Informants 4 and 5, the author steered the discussion with questions like "I'm having a lot of trouble with my bank. What bank do you use?" Unfortunately, this presented the informant with two tokens of the author's own (lax) vowel in the word.

³¹ K. B. and E. H., in reading the word list, seemed to pronounce some forms ('hang, bank') as lax while others ('Hank') sounded intermediate between their normal lax and tense positions. The two differed in that when asked to describe which words sounded alike and which different, K. B. grouped the back nasal with the laxing consonants; E. H. grouped it with *n* and *m*.

³² 'Weak words' can be pronounced unstressed, with schwa as the vowel. This is an alternative to the grammatical description of them as 'function words.' The irregular verb forms must be treated as a grammatically-defined group. This is significant because it is theoretically impossible for a postlexical rule to

diffusion,' which means that in certain phonetic environments words may be unpredictably tense or lax – for example, Philadelphia has tense *bad*, *glad*, *mad*, but lax *sad*.³³ Despite the drastic difference in the tensing process, raising (of the tense vowel) may be governed by the same postlexical rule as in the Northern Cities.

c) The pattern found in the South, involving a split into *three* surface forms – lax, upgliding, and ingliding – and has several unique features. Labov (1991: 22) is inclined to see a lexical split as in the Mid-Atlantic, except there may be *three* underlying phonemes. In any case, the Southern pattern(s) are quite distinct from the Northern and will not be given their due in this paper.

The tensing and raising of short *a* is today considered to be one of the most important phonological features of American English.³⁴ However, the geographical distribution of the various patterns has never been fully and accurately described, primarily because the feature's importance was not apparent to the directors of the *Linguistic Atlas* projects.³⁵

The Northern Cities pattern was once described as extending from the White Mountains westward (Labov 1991: 14). On this view, Western New England is within the Northern Cities area, and New Haven's pattern is hence uncharacteristic of its region.³⁶ More recently, the Northern Cities (or Inland North) area has been redefined as beginning west of the Hudson Valley (Labov 1997: 7-8)³⁷ In either case, the region extends west across New York State and northern Pennsylvania, through parts of Ohio, into all of Michigan and parts of Illinois and Wisconsin.

The extent of the mid-Atlantic pattern is more difficult to determine, because it may be receding, and most data on it are at least several decades old. Making a distinction between (stressed) *can* 'is able' and *can*

refer to a grammatical information. It is equally impossible for a lexical rule to apply to (non-lexical) function words – this proves to be a problem in Part II.

³³ In Philadelphia, the stable *-ad* distribution shows lexical diffusion halted midstream, but diffusion has also been witnessed as an ongoing process: in Philadelphia today, tensing is creeping through the words where short *a* precedes an intervocalic *n* or *l*: words such as *Janet* and *personality*.

³⁴ At least for Labov and his students: "Two of the most important variables in the classification and description of American English dialects are the split of /æ/ and the merger of /o/ and /oh/ [e.g. *cot* and *caught*]." Boberg & Strassel 1995: 225.

³⁵ For this reason, it is very difficult to gather evidence on short *a* tensing from the *Atlas* materials – little of which has even been published. Some have concluded from this that the phenomenon is 'obviously quite a recent development' (Wells 1982: 477) Linguists of the 1890's, though, were well aware of it – or more precisely, of its concomitant raising: '*Past*, as I have heard it pronounced in Philadelphia, has often sounded to me nearly like *paste*.' (Grandgent 1891: 271) Labov (1994: 536) concludes that short *a* tensing, in some sense, predates the settlement of the American colonies. See Part IV.

³⁶ Unless Southwestern New England, where the nasal pattern prevails, is treated as a separate region.

³⁷ This is somewhat of an oversimplification: Labov makes a distinction between a dialect that possesses the 'pivotal conditions' (1991) or 'generating conditions' (1997) for the Northern Cities (six-vowel) Shift, and one that is actually participating in it. This may account for the difference in the dialect borders. Binghamton and Syracuse may be the easternmost cities conclusively participating in the shift; such cities as Albany and Hartford (to say nothing of Danbury, Springfield, Pittsfield, Rutland, Burlington...) may nevertheless possess the generating conditions – a wholesale tensing of short *a*. Western New England has not been sufficiently studied, considering its importance as the 'hearth' that in large part settled the Inland North (Kurath 1949, Carver 1987).

'metal container' has traditionally been the touchstone for membership in the mid-Atlantic dialect group.³⁸ Henry Lee Smith, Jr., used a 'dozen years' of (apparently unpublished) phonological observations – more important, to him, than differences in vocabulary – to outline the region:

This reviewer [of Kurath's *Word Geography* (1949)] has been using the term Central Atlantic Seaboard for the area delimited by the extent of the /æ/ - /eh/ distinction in /kæn/, /kehn/; /mæri/ 'marry', /mehri/ 'Mary', and the like. This distinction disappears west of Pittsburgh and Washington, Pa., but extends into the northern belt in much of the Hudson Valley region. In fact, there is an almost exact coincidence between the northern and western boundaries of the Central Atlantic Seaboard area and the western and northern boundaries . . . [of Kurath's] Hudson Valley and Susquehanna Valley. But whereas to Kurath these are subareas of the Northern and Midland dialects, the present writer's opinion is that the Central Atlantic Seaboard, extending from Albany to regions in Virginia just South of the Potomac and thus including northern, midland, and southern varieties, is one of the major areas of American speech in its phonological characteristics and is also very important sociologically. (Smith 1951: 11)

But that was fifty years ago. Today the pattern is found intact only in the major cities of the region: in New York, Philadelphia, and perhaps Baltimore.³⁹ And where the mid-Atlantic pattern has vanished, it has generally given way to the nasal pattern, which may have originally been characteristic of regions where the vowels of *cot* and *caught* have merged: western Pennsylvania, Eastern New England, and the Far West (Labov's 'third dialect,' 1991: 30-31).⁴⁰

³⁸ The very postulation of a unified Mid-Atlantic region was a denial of Kurath's claims about the North-Midland boundary.

³⁹ This is principally based on a survey of Yale undergraduates currently being carried out by the present author. The distinction between *can* and *can* – less stable, admittedly, than other mid-Atlantic features such as tensing before voiced stops and voiceless fricatives – is virtually defunct in New Jersey, in Westchester and Rockland County, never mind in Albany and Virginia! Even by 1970, Cohen found that the pattern started to break down virtually at the New York City limits, though the fact is rarely reported. In short, linguists are being too ambiguous in describing the 'mid-Atlantic pattern' with phrases like 'as we move from New York to Philadelphia to Baltimore' (Labov 1981: 284) without the caveat 'as long as we don't stop along the way'!

⁴⁰ Without a great deal of documented evidence, linguists have recently been assuming that the nasal pattern is ubiquitous in New England, that 'New England' is as good a geographical label for the nasal pattern as 'Northern Cities' is for the everywhere-tense pattern (Roberts and Labov 1995: 102, Labov 1994: 537). This over-generalization is probably based on accurate observations in Southwestern New England (e.g. LYS on New Haven), very few observations in the interior, and conflicting reports from Boston and other Eastern regions. Besides the necessity of dealing with broad *a* there, such Eastern sources as Laferriere (1977) and even LYS (1972: 74, talking about *rural Maine*) clearly report tensing in a number of non-nasal environments, and this may not be a recent innovation (*contra* Laferriere 1977 and Labov 1994: 538n). Noticeable *raising* of non-broad forms might be the innovation in Boston; the present author would hypothesize that the Boston dialect is structurally akin to the Northern Cities – or rather that the Northern Cities dialect is like Boston, minus broad *a*.

The more relevant point is that when speakers in the Boston area 'lose their accent,' pronouncing post-vocalic *r* and not producing broad *a*, they universally acquire the nasal short *a* pattern. This may be true elsewhere in New England, except there the 'before pattern' is less clear – Charles Boberg (p.c.) reports substantial non-nasal tensing in 'Western New England,' which this author has confirmed in a Vermont speaker.

Boberg (p.c.) proposes the designation 'Western pattern' for the nasal pattern. It is certainly widespread in the Far West (e.g. California), but not universal (e.g. Montana). Since parts of the Midwest show the nasal pattern as well (Dayton and other non-Northern, non-Southern parts of the Midwest, according to Boberg and Strassel

The nasal pattern is making inroads in other places as well. For example, Boston's traditional dialect had a complex short *a* distribution: on top of what looked like a tense/lax split, words such as *half*, *bath*, *can't* were pronounced with a low central [a], known as 'broad *a*.' That pattern is preserved today by many individuals, but when (younger or higher-class) speakers abandon it, it is the nasal pattern they acquire. And it has recently been demonstrated that Cincinnati's traditional short *a* pattern is disappearing – again in favor of the nasal pattern (Boberg and Strassel 1995).

Two lines of explanation could be suggested for this trend. One points to the universality or naturalness of fronting, or raising, or tensing, before nasals.⁴¹ The other sees the expansion of a relatively new, relatively 'standard' American English dialect at the expense of older regional patterns.⁴² Any explanation along universalist lines must tackle the question of why the inevitable change didn't occur the moment its 'generating conditions' were met, while any socio-historical explanation must find evidence for the attitudes and contacts it presupposes. The two views are opposed – internal vs. social, inevitable vs. arbitrary – but they are also rather intercompatible.

Returning to the shrinking mid-Atlantic region, characterized by lexical split and closed-syllable tensing before fricatives and stops as well as nasals: the pattern seems unstable outside the limits of a few large, dialectally idiosyncratic urban speech communities. Late in the twentieth century, one could suggest a correlation with the decline of the inner city and its abandonment as a cultural – hence linguistic – center. But that assumes the shrinkage is of recent origin. There is no reason to assume that the Central Atlantic Seaboard region, large though it is in Smith's 1951 description, reflects the greatest extent of those speech patterns. As Part II will show, it was certainly once larger.

PART II: BEFORE

The most authoritative source of evidence for the pronunciation of New Haveners born before 1890 would seem to be the *Linguistic Atlas of New England*. Atlas director Hans Kurath was himself the fieldworker in New Haven, and he interviewed two people: a 75-year-old man (a harness maker and antiques dealer)

1995: 27), the term 'Western' might be misleading. Until the *Phonological Atlas of North America* is published, hopefully clearing up geographical blurriness, it would be best to keep calling it the 'nasal pattern.' Unless, that is, the old term 'General American' appeals...

⁴¹ This view rests on the erroneous assumption that tensing of short *a* began before front nasals. Guy (1990: 59) provides no evidence for why it 'evidently began in a fairly narrow range of phonetic environments (before front nasals).' Wells (1982: 478) quotes an early statement of Labov's to suggest 'that the change always first affects the environments before /_m/ and /_n/.' Niels Davidson-Nielsen (1990:75) explores this position in greater detail, discussing Old English rather than modern short *a*. His conclusion: 'I wish to argue that there is a universal tendency for vowels to raise before nasal consonants.' Labov partly agrees, noting how 'the nasalization of low vowels recurs in many languages in many periods, favored by the general tendency for the velum to be lowered with low vowels.' (1994: 290)

⁴² This is the natural conclusion to be drawn from Boberg & Strassel 1995 (as confirmed by Boberg, p.c., though the paper itself has a narrower, regional orientation). And Labov at one point (1994: 538) refers somewhat obliquely to 'the general extension of tensing before nasals in American English.' This position is more that of the dialectologist, not concerned with – and deeply skeptical of – phonetic universals.

and a 45-year-old woman (librarian and former schoolteacher).⁴³ Detailed phonetic transcriptions of the way they pronounced some 750 words and phrases are collected in the six *Atlas* volumes. Of these, 89 potentially contain a stressed short *a*.⁴⁴

At the time the fieldwork was carried out (1931-2), it is possible that the *Atlas* directors were unaware of the phenomenon of tensing and raising of short *a*.⁴⁵ And it is certainly true that the phenomenon is not given any mention in the report – based entirely on *Atlas* data – entitled *The Pronunciation of English in the Atlantic States* (Kurath & McDavid 1961).⁴⁶ But since the designers of the *Atlas* worksheets included examples of short *a* in many phonetic environments, it would seem possible to reconstruct the patterns of tensing and raising from the *Atlas* records themselves.⁴⁷

In New Haven, however, this is only possible to a limited extent. Kurath was less willing than other New England fieldworkers to record raised, lengthened, nasalized, or diphthongal forms of short *a*.⁴⁸ In his transcriptions for New Haven, however, the following range of forms does appear: [æ], [æ̹] (lowered), [æ̠] (raised), [æ:] (lengthened), [æ̠] (ingliding), [æ̃] (nasalized); and sometimes two of these diacritics occur together. Of these variant processes, all except for lowering are, phonetically speaking, parts of the process of tensing and raising of short *a*.

Assuming that the New Haven informants actually had tense and lax forms in their speech, and given Kurath's conservatism regarding short *a*, it is likely that he would have sometimes recorded a simple [æ] for a tense vowel. When the record does show something besides [æ], on the other hand, it is a good

⁴³ Their names, not published in the *Atlas*, were Leonard Bostwick and Ethel Lord Schofield. The latter worked at the New Haven Colony Historical Society, where a Frederick Bostwick had preceded her as librarian and curator. In the classification scheme of the *Atlas*, Schofield was a Type III-B informant (superior education, younger), and 'cultured' to boot, while L. Bostwick was a Type II-A informant (high-school education, older or old-fashioned).

⁴⁴ Potentially, because the informant sometimes produced a different phrase than what the interviewer was trying to elicit: so Bostwick had 'come in' instead of the verb form 'calve.' Other items were not recorded for all informants: did Kurath feel uncomfortable and decide against prompting Schofield to say 'castrate'?

⁴⁵ Charles H. Grandgent was on the committee, but he was in fact dead at the time...

⁴⁶ Virginia McDavid reports that Kurath was well aware of the phenomenon, and of Trager and Smith's analysis, but considered his own phonemic analysis superior. Kurath's view was that no dialect of American English had more than one short *a* phoneme, and that there was 'a tensing in some dialects.' (Virginia McDavid, p.c.) The phonological report based on the *Atlas* records, *The Pronunciation of English in the Atlantic States* (Kurath & McDavid 1961: 103-4), discusses the regional variants of short *a*, including upgliding and ingliding diphthongs, but does so for only five words (*ashes, dance, half, glass, sack*), requiring recourse to the actual published *Atlas* volumes, where available.

⁴⁷ Within limits: Henry Lee Smith 'went through much of the unpublished material for the Middle Atlantic States over a decade ago, endeavoring to collect evidence for the limits of the area where the distinction is made between *can*, 'am able' /kæn/ and *can* 'container' /kehn/. Even after the material from the work-sheets was plotted on maps it was impossible to draw any reliable conclusions.' (Smith 1951: 10) This must have been a singularly futile exercise, however, since the *Atlas* worksheets had not sought to elicit these particular items!

⁴⁸ This is true despite his being judged third best, out of nine fieldworkers, for 'minuteness in phonetic recording.' (Kurath 1939: 52) An alternative explanation is that Bostwick and Schofield might not have raised short *a* as noticeably as some of the lower-class and/or younger informants in parts of Connecticut surveyed by other fieldworkers. However, the relative scarcity of diacritics on stressed short *a* is a characteristic of Kurath's entire region.

sign that 'something was going on'; i.e. that the vowel was tense. The following is a list of all words for which *both* New Haven informants used a tensing-compatible alternative to plain [æ]:

Pan
 Began
 Aunt (today in New Haven, aunt is universally pronounced with broad a: an Eastern form)
 Can't
 Ram
 Mass (as in the Catholic sacrament)
 Shafts (part of a wagon, pronounced 'sha[v]z')
 Mad
 Bag

Though there are phonetically analogous words – *clam, swam, past, glad, bad* – found only as [æ], the above list does provide an outline of the tensing environment for these speakers.⁴⁹ Tensing occurs at least in monosyllables 'checked' (or 'closed') by front nasals, front voiceless fricatives, and voiced stops. It may occur elsewhere as well, in words where Kurath 'under-transcribed' tense forms as [æ], and in environments not represented in the *Atlas* data.

Thus, *Atlas* data is sufficient to show that New Haven used to have tense short a in more environments than it does now; specifically, short a is tense before many of the same consonants as in New York today.

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The next source of data on the 'before' period comes from a linguist named Edwin Tuttle, born in New Haven in 1879. Tuttle published his observations, on his own dialect and on American English in general, in 1902, as part of a proposal for a phonetic alphabet (see Appendix).⁵⁰ When some of his distinctions – including his separation of 'long æ' and 'short æ'⁵¹ – were challenged by a linguist in Sweden, Tuttle made instrumental measurements supporting his contention that vowel length was phonemic in American English.⁵² The report of these experiments is reproduced in the Appendix.

⁴⁹ Schofield has more lengthened forms (13) and fewer ingliding forms (4) than Bostwick (5 and 6 respectively); Bostwick has the only nasalized forms (2). This suggests that Schofield's tense vowel hardly at all advanced along the raising 'track,' as usually the first step is 'lengthening and a shift toward a more peripheral position.' (Labov 1994: 503). This finding for Schofield is not surprising, given her greater education and 'cultured' status. Given the limitations of this data, it is not possible to tell if Schofield and Bostwick differ in their *tensing* patterns.

⁵⁰ Tuttle had graduated from Yale in 1901 and was enrolled in the Graduate School, working with E. W. Scripture, director of the Yale Psychological Laboratory. Incidentally, his experiments were carried out in a building, Herrick Hall, that stood on the site of the present author's residential college.

⁵¹ Tuttle's terms should be interpreted in light of his mentor, who wrote:

"In fact the terms 'long' and 'short' are really terms for certain mental impressions... 'strong' and 'weak' (referring to auditory impressiveness and not to loudness) might be good substitutes. The amount of error that has entered into the teaching of languages and the discussion of verse by supposing that long vowels are anything more than auditorily strong ones is very great." (Scripture 1902: 502)

⁵² Tuttle did not use the word 'phonemic,' which may have not been known in America at that time, but he would later express his opinion in precisely those terms (Tuttle 1934: 217). Already in 1902, Tuttle grasped the importance of establishing minimal pairs distinguished by a single feature, which is more than we can say for Trager in his first paper (Trager 1930). Trager admits it in 1934, writing 'I was completely ignorant of the theory of phonemes, and the discussion was immature for that reason...' (1934: 313-4)

Tuttle's data have strengths and weaknesses that complement those of the *Atlas* data. Unlike the *Atlas*, Tuttle presents (qualitative) judgements of 'same' and 'different' as well as quantitative measurements, avoiding the dangers of impressionistic phonetic transcription (see Labov 1994: 74). On the other hand, Tuttle was not selected by expert dialectologists as someone whose speech would likely be characteristic of New Haven.⁵³

Combining the data from Tuttle's three writings, the third being a phonetic transcription of a passage entitled 'Birds and Bird Voices,' likely transcribed out of his own speech⁵⁴, there emerges a detailed (albeit lacunary) picture of a 'mid-Atlantic'-type short *a* pattern.

The same general tensing environment emerges as from the *Atlas*: monosyllables checked by front nasals, voiceless fricatives, and voiced stops (*man*, *path*, *bad*). Polysyllables derived from such words are also tense: *mannish*, *passes*. Otherwise, short *a* in open syllables is always lax: *banish*, *vanish*, *companions*. The non-front voiceless fricative [f] is included, as is the voiced fricative [v]: *smash*, *halve*.⁵⁵

The back consonants [g] and [ŋ] form an interesting group. Tuttle considers them to condition a 'diphthongized' variant of the short vowel – [æ] followed by schwa – giving *rag*, *rang* as examples. As seen above, *bag* was a word that both *Atlas* informants pronounced other than [æ], indicating tensing; in the case of *bag*, Bostwick had just such a centering offglide (or 'inglide') as Tuttle describes for *rag*. If, in response to this, these two consonants are kept with the tensing group, it makes for a much simpler rule: all the voiced stops and all the nasals condition tensing.⁵⁶ And the 'raising rule' – the postlexical rule that,

totally wrong, incidentally - 1/3 "æ" (æ) or all

⁵³ Tuttle's father was probably born and raised in New Haven (at least, his parents were married there); his mother's birthplace could not be determined.

⁵⁴ Phonetic Transcription (1900): he transcribes himself as fully rhotic, and has the following short *a* alternations:

æ:	æ
blast	as
half	ash
last	fancy
man's	flap
sad	lapse
	black
	crackling
	vanish
	companions
	atmosphere
	avenue
	(woodpaths)
	happy
	capacity
	paradisiacal

⁵⁵ Lax *have* is thus an exception, discussed below. Alternatively, the environment before [v] could be considered lax, with *halve* the lexical exception. The class of words with final [v] is so small (*calve* and *salve* being the others) that it is difficult to make a meaningful decision about it. Phelps and Jerome (see below) each have examples of tense *have*, further complicating the matter.

⁵⁶ Although no example of following *b* has yet been seen, and Tuttle has no examples of following *m*.

in response to social and phonetic factors, variably raises the tense forms – might treat back consonants differently, producing an ingliding allophone before them.⁵⁷

However, the most significant conclusion to be drawn from Tuttle's data do not concern the details of the tensing environment. It is his lax forms, rather, that are noteworthy: forms such as *bade*, *ban*, *had*, *hand* (verb), *sash*. They show conclusively that the status of a short *a* word in Tuttle's dialect cannot be predicted on the basis of its phonetic form alone, for the analogous forms *bad*, *man*, *mad*, *hand* (noun), *mash* are all tense. Then there is what looks like grammatical conditioning, tense nouns corresponding to lax verbs: *band*, *sand* vs. *banned*, *planned*.⁵⁸ But before [ɪ] at least, there is also a degree of arbitrariness indicating lexical diffusion, either halted or in progress, for no grammatical condition distinguishes *mashes* (tense) from *gnashes* (lax), and in *smash* vs. *sash* it is the verb that is tense.

In summary, the evidence provided by Tuttle refines the description of the core tensing environment of nineteenth-century New Haven, but is of more value in providing minimal and near-minimal pairs that point towards lexical irregularity and grammatical conditioning, two strong correlates of a process governed by lexical rule.

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It has sometimes been claimed that short *a* tensing is a recent phenomenon in American English. Adherents of this position might object to the interpretation above, which assumes almost *a priori* that tense and lax forms existed in the mid-nineteenth century. Fortunately, there exist several audio recordings of New Haven speakers born in the same period, and they indeed display recognizably tense and lax forms – and a short *a* pattern quite consistent with the above findings.

The most obvious source of such 'real data' would be the phonograph records made by Miles Hanley of the *Atlas* informants themselves.⁵⁹ Since these proved unavailable for the present study,⁶⁰ the decision was made to make the best use of whatever period recordings were accessible.

⁵⁷ Of course, Bostwick also has the ingliding form in *mad* and *man*. This could be interpreted as further evidence against Tuttle's classification of ingliding forms with the short (lax) vowel.

⁵⁸ This general noun/verb condition avoids having to explain lax *bade* through its irregularity, the lax forms *has*, *had*, *hath* through analogy with *have* or through their being 'weak words' or 'function words.' Yet in this regard, Tuttle makes no mention of a distinction between *can* (noun) and *can* (verb). Though this could have been an oversight, an exception to Tuttle's usual thoroughness, it is more likely that he did not have the contrast; see below.

⁵⁹ None of the original eight to twelve-hour *Atlas* interviews were recorded. Miles Hanley, fieldworker and Assistant Director of the *LANE*, returned to the scene in 1934, revisiting all 416 New England informants. Some 20-40 minutes of conversation, plus a reading passage, were apparently recorded for each informant.

⁶⁰ The story of what happened to the 'Hanley disks' would make for an essay of its own. There were apparently two copies at first – one remained at the *Atlas* headquarters while Hanley took the other to the University of Wisconsin. Eventually Hanley's copy became scratched and a further copy was made. Aside from these three aluminum versions, there supposedly exist several copies on variably decayed, more or less useless reel-to-reel tape. Theoretically, at least some version of some copy of these disks is available through the Library of Congress's American Folklife Center. However, attempts to listen to the New Haven material got mired in bureaucracy and unconscionable delays, and had to be abandoned.

William Lyon (a.k.a. 'Billy') Phelps was a well-known professor of English at Yale in the first decades of this century; he was born in New Haven in 1865.⁶¹ This study analyzed three recordings of his speech made between 1933 and 1943.⁶² Together, these contained tokens of 111 different short *a* words, 164 tokens in all. These were judged as either tense or lax, which was not quite so easy to do as for the living informants.⁶³ A third possibility in Phelps's speech was broad *a*.⁶⁴

Jennie Gilbert Jerome was born in New Haven in 1888. Her father was Yan Phou Lee, a Chinese man who was a Yale classmate of Phelps (Class of 1887); her mother was descended from an old New Haven family.⁶⁵ In 1975 her reminiscences were recorded in connection with an exhibit being prepared about her brother Gilbert, an aviator shot down in World War I. A 30-minute tape, consisting of selections from this interview (which yielded a 48-page transcript), was analyzed for this study; there were 141 short *a* tokens (of 91 different words). As with the living speakers, the data is presented in chart form in the Appendix.

The short *a* patterns of Phelps and Jerome are discussed together because they seem to be almost identical, except for the fact that broad *a* – frequent for Phelps before voiceless fricatives (*vast*, *laughter*) and nasal clusters (*chance*, *can't*) – occurs only once in Jerome's speech (*past*).⁶⁶

For reference, this is the core tensing environment in present-day New York City:

p	t	č	k
b	d	j	g
m	n		ŋ
f	θ	s	ʃ
v	d	z	ʒ
	l	r	

(Labov 1981: 285)

⁶¹ Phelps's father, a minister and editor, was born in New Haven; his mother was born in Stratford, Conn.

⁶² One of these was a brief introduction to poems read by J. Whitcomb Riley, part of which is phonetically transcribed in *American Speech* (16.4 – December 1941). Another is a 'Baccalaureate Address,' roughly 30 minutes in length, broadcast over NBC radio in June 1943. The third is an actual baccalaureate address, recorded live – with some loss of sound quality – at New York University commencement in June 1943.

⁶³ Due to Phelps's phonetically closer forms and to the sometimes shaky quality of the recording.

⁶⁴ Broad *a* is typically associated with Eastern New England. However, both *LANE* and *PEAS* mention its spread into the Connecticut Valley; and it occurs at least once in the speech of Leonard Bostwick. In Phelps's case, however, there is little doubt that his use of broad *a* is in part due to his residence in Providence (age 9-11) and Hartford (11-18); he reports that his peers in Hartford had great social influence on him (Phelps 1939: 45).

⁶⁵ Yan Phou Lee had been sent to America to be educated: he graduated from Hopkins Grammar School (New Haven) before attending Yale. Phelps reports, 'There was only one Oriental in my college class, Yan Phou Lee, who had an amazing command of English...' (Phelps 1939: 86) He and Jennie's mother were divorced in 1890, and she was brought up by her mother and grandmother, both originally of New Haven.

⁶⁶ It is unfortunate that the two speakers analyzed are both upper-middle to upper-class. Much of their speech was already transcribed, which provided a huge practical advantage. In addition, no equally good representative of the 'before pattern' was found. A. M. (b. 1886) did not have English as his first language, while E. B., the 'Fair Haven oysterman,' was born somewhat too late (c. 1900), yet both these men display a similar pattern to Phelps and Jerome, and both are included in Part III.

Phelps and Jerome have tensing in most of the same environments – before [d], [m], [n], [f], [s], [ʃ]. But neither of them produced any token of stressed short *a* before syllable-final [č], [b], [ŋ], [g], [θ], [z], or [ʒ], which makes their data rather unhelpful for probing the boundaries of the New Haven tensing environment. Tokens before [v] are also too fragmentary to confirm the tensing *LANE* and Tuttle indicated for that position. Both Phelps and Jerome have 50% tensing recorded before [ŋ], again not unlike some speakers in New York City (LYS 1972, Cohen 1970).

The two speakers provide some additional evidence regarding lexical irregularity and grammatical conditioning. Phelps may have the same verb/noun condition as Tuttle, with two tokens of lax *stand* (verb) and one possibly lax *planned*, as against the tense nouns *sand*, *land*, *band*, *hand*. Jerome has the classic lexical exception, tense *avenue* (as in NYC). Both speakers agree in pronouncing the ‘weak words’ *am*, *and*, *had* as lax, *have* as variable, and *can* ‘is able’ as defiantly tense.

Phelps and Jerome contribute most to the description of the ‘before pattern’ in New Haven by revealing the syllabic constraints on tensing. Neither *LANE* nor Tuttle included many di- or polysyllabic words; Phelps’s speeches and Jerome’s stories, on the other hand, contain a large number. From these words a striking and surprising conclusion emerges: nasal consonant clusters must be word-final to condition tensing. The following words have stressed short *a* in a syllable checked by a nasal, but they are lax: *Andrew*, *Evangeline*, *gambler*, *standard*, *stanza* (Phelps – exception: *example*); *chancellor*, *handle*, *landed*, *mansion*, *pancake*, *Randolph* (Jerome – exception: *answer*).

Of the three major tensing groups, the front nasals must be word-final (or part of a word-final cluster), but it seems the voiceless fricatives need only be syllable-final, in order to condition tensing (e.g. tense *after*, *masculine*). With the voiced stops, there is not enough data to make a determination on the matter. For all consonants, truly open syllables (as opposed to derivatives like *dashing*) condition the lax vowel: *Spanish*, *Matthew*,⁶⁷ *madam* (Jerome); *panoply*, *agony*, *passion* (Phelps); the common words *family* and *national* are lax for both speakers.

In summary, New Haven in the latter part of the nineteenth century had a short *a* pattern remarkably similar to that found in New York City today. But a more relevant comparison would involve the New York City pattern of *then*, rather than the current one.⁶⁸ Has New York City’s distribution changed? If so, how? The following section will review some contemporary comments on tensing and raising in American English dialects to shed some light on the various short *a* patterns of that time.

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⁶⁷ The environment short *a* + consonant + semivowel + vowel is acts like an open syllable as regards tensing.

⁶⁸ Given that throughout the nineteenth century, from the steamboat age (from 1815) into the railroad age (from 1848), New Haven and New York were linked economically, it seems reasonable to suggest that New Haven got its New York-like pattern under the influence of that city. This is only partially necessary, simply because the lengthening of short *a* is a seventeenth-century development that began in England (Dobson 1957, Lass 1976). In fact, the broad *a* of England (and New England) is just a different phonetic realization of the same tense vowel – only backed rather than raised. In any case, all the seaport towns and cities of British America probably had lengthening before voiceless fricatives and nasal clusters, from the very beginning. The specifically ‘New York’ aspects – not present in Philadelphia, for example – are tensing before voiced stops and *sh*, and for these, a New York influence on New Haven is possible, though not supported, as yet, by any evidence.

The best-known late-nineteenth century commentator on short *a* is Eugene Babbitt.⁶⁹ In his 1896 article, 'The English of the Lower Classes in New York City and Vicinity,' he advances the opinion that 'there is a distinct New York variety of English pronunciation,' and that the great tides of immigrants (NYC was 40% foreign-born in 1890, with another 40% the children of immigrants) acquire the variety without influencing it – except for the Irish, who have some (unspecified) influence (Babbitt 1896: 459). He estimates that 75% of the population speaks the variety in the city and its immediate vicinity. Given the discussion above, the following statement is of great interest:

[The pronunciation] shades off very rapidly as the 'commutation district' is passed, but to the eastward some of the peculiarities are heard beyond the district; the New Haven pronunciation, for instance, has almost all the peculiarities of the VNY [New York Variety]. (Babbitt 1896: 460)

Of course, there is no way of knowing if Babbitt had short *a* in mind here; elsewhere (463), he is correct in reporting the (NYC stereotype) variant [æ] in *first, word*, for the New Haven area⁷⁰ – Jerome and others were observed to employ it. Babbitt describes the VNY pronunciation of short *a* as follows:

æ is very high, pretty close to e of the normal scale ['as in *pet, hen*'], and never mixed, being thereby clearly distinguished from the New York e (>ə). Among the older New Yorkers this very high vowel is used in all the set of words pronounced in New England with the broad vowel (*ask, half, pass*, etc.), and is really higher in these words than in *man, cab*, etc. But this special distinction is now lost and the general vowel has quite overtaken the special one (*hend* hand, *keb* cab, *dens* dance, *hef pest* (half past). In can the weak form is *kin*, which is often kept even under accent... (Babbitt 1896: 461).

Although Babbitt does not explicitly state that there are two vowel forms – he does not say, 'In some words, æ is very high...' – his examples are all of environments which would be tensed today. Babbitt describes a change in short *a* pattern: the 'older New Yorkers' have tensing and raising only in the broad *a* class – that is, before front voiceless fricatives (*ask, half, pass, past*) and certain nasal clusters⁷¹ (*dance*). The younger generation extended this pattern by tensing before voiced stops (*cab*), simple nasals (*man*), and the rest of the nasal clusters (*hand*).⁷²

LYS, in 1972, dismissed the above statement of change by stating that they detected no evidence for it even among the oldest speakers they interviewed. However, their oldest informants were born in 1890, when Babbitt was already carrying out his observations. In other words, LYS's oldest informants were closest to Babbitt's *younger* group, not his 'older New Yorkers.' By that term Babbitt probably meant people born in the 1840's or earlier; perhaps an older *Atlas* informant might be able to settle this score. Labov now believes, following Ferguson, that New York – unlike Philadelphia – extended its tensing

⁶⁹ This is because he is quoted by Labov 1966 and LYS 1972. Babbitt's concise and entertaining article is somewhat marred by prejudice – such statements as, 'As in all such trade-centers, the Jew is very much in evidence...' (Babbitt 1896: 458) – but can still be warmly recommended.

⁷⁰ 'To the east and northeast, however, it extends farther [than to the north and west], over the whole of Long Island, and through all the Sound cities of Connecticut, and up the valley as far as Hartford.' (463)

⁷¹ Only nasal clusters derived from ME *au* ended up, in England at least, in the broad *a* class (Dobson 1957: 789-94).

⁷² It would be very interesting to know if Babbitt's younger NYC informants tensed in words like *handle* as well; that is, if the New Haven word-final constraint was in operation instead of today's syllable-final constraint.

environment to include voiced stops at some point in the past. There really seems no reason to doubt any part of Babbitt's statement.

Babbitt also observes tense short *a* in an environment where NYC presently has the lax vowel: '[The centralized *er* in *very*, *terrible* is distinct from] *æ*r in words like *barrel*, in which the vowel is pronounced very high (*e*) as usual' (1896: 463). If this statement is accurate, it represents a significant difference between NYC and New Haven, where *married*, *Barrie*, etc., have always been lax (until, perhaps, very recently).

An earlier paper of Babbitt's reveals that he was born in the region of New Milford, 'near the New York line, half-way up the state of Connecticut,' in an area settled in 'about equal proportions' from 1) Southwestern Connecticut (e.g. 'Old' Milford), 2) the Connecticut Valley, 3) Eastern Massachusetts (Babbitt 1894: 338). In other words, the area has a settlement history extremely typical of Western New England. Babbitt describes the phonology of the dialect as 'interesting, but so close to that of the Ithaca dialect that it can be most conveniently treated as an appendix to Prof. Emerson's study.'⁷³ In that case, it is worthwhile to look briefly at Oliver Emerson's famous study, for establishing the short *a* pattern there would be, following Babbitt, to establish it for the interior of Western Connecticut as well.

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'The Ithaca Dialect: A Study of Present English,' written by Oliver Emerson in 1891, was the first extensive survey of an American dialect (Baugh 1993: 390n) and was long considered the best phonological treatment of any English dialect (Louise Pound 1952 – though not her own words). Emerson concludes from historical sources that the Ithaca area was settled principally from Connecticut.⁷⁴ In his exhaustive treatment of each Ithaca vowel sound, Emerson describes the incidence of 'short *æ*' and 'long *æ*.' The latter is found in closed syllables, before [f], [θ], [s], [l], [ŋ], and [n] or [m] + consonant (Emerson 1891: 122).

'The separation of *æ*, *æ̃* is made more difficult because of half-long *æ* before voiced consonants. It is possible, also, that *æ̃* occurs sometimes in open syllables before the fricatives.'⁷⁵ (Emerson 1891: 123)

So in the Ithaca dialect of the mid-nineteenth century (Emerson's informants were born between 1819 and 1840), tensing occurs in the broad *a* class,⁷⁶ as well as before [l] and [ŋ]. Before voiced stops a kind of intermediate form is found.⁷⁷ But before the 'simple nasals' *n*, *m*, the vowel is lax.

⁷³ Babbitt also promised to 'devote a chapter in my book on American pronunciation' to the dialect; unfortunately, he never published the book.

⁷⁴ And these Connecticut emigrants came mainly from the Western part of the state.

(Carver 1987, Block 1935)

⁷⁵ Note that this last-mentioned phenomenon, whereby the voiceless fricatives condition tensing in more syllabic positions than the nasals, was also observed in the 'before' New Haven pattern. It seems that the voiceless fricatives, being the oldest and most 'secure' tensing environment, extended their tensing power to more syllabic environments.

⁷⁶ Actually, it is the broad *a* class *plus* all other syllable-closing nasal clusters – an extension of Babbitt's.

⁷⁷ There remains the question of whether we distrust Emerson's purely qualitative opposition.

The Ithaca pattern is very like what Babbitt described as the older NYC pattern. But in some ways, the Ithaca pattern was different from both NYC and New Haven. For one thing, there is no trace of lexical or grammatical exceptions in Emerson's data. In addition, there is full-blown tensing before [ŋ] and even [l]; it seems this dialect was already well on its way to becoming a Northern Cities dialect, with tensing everywhere.⁷⁸

For reference, the pattern of the Ithaca dialect, as indicated by Emerson's word lists (1890: 120-123), is given in the same format as the other charts, in the Appendix.

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The only nineteenth century scholar who made direct statements about different short *a* patterns in different dialects was Charles Grandgent (of Boston and Harvard University). Unfortunately, these are not always very coherent geographically. For example, in an article about the regional distribution of broad *a*, he makes the following remark about short *a*:

It should be mentioned, furthermore, that the quality of *æ* is not everywhere the same. In Pennsylvania, Maryland, the Valley of Virginia, western Tennessee, and doubtless in many other parts of the North, South, and West,⁷⁹ *æ* before the spirants *f*, *s*, and *þ* is drawled and formed very high, so that it becomes almost or quite a long *e*: 'half,' 'grass,' 'path' = *heef*, *grees*, *peep*. 'Past,' as I have heard it pronounced in Philadelphia, has often sounded to me nearly like 'paste.' Before *m* and *n*, in this same region, *æ* is very nasal. (Grandgent 1892: 271)

Elsewhere Grandgent cites *fast*, *dance*, *man* as tense in Pennsylvania and the South ('_a high and very nasal *ε* is generally substituted for *æ*...' Grandgent 1894: 445). Later he uses the symbol *æ̃* for 'Western *a* in *fast*' (Grandgent 1899: 207), presumably referring to the type of lengthened sound described by Emerson.

It seems clear from his observations – and has been proven elsewhere (Labov 1989) – that by the time Grandgent observed it, the Philadelphia dialect had arrived at its present short *a* pattern. Reflecting off that, the Boston dialect must not have had raised forms of short *a*, even before nasals, that equaled those of Philadelphia – for that reason, the Philadelphia pronunciation sounded 'nasal' to Grandgent.

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⁷⁸ Ithaca, as mentioned above, was settled chiefly by Connecticut people. The same was true of the Western Reserve in Ohio – the area in which Cleveland is found. Other parts of the Inland North were settled from other places: Emerson mentions that New York's Genesee Valley was settled in large part from Massachusetts. A logical assumption would be that when these various groups intermingled, principally in cities, the Northern Cities pattern began to emerge; in this regard it is interesting to see the extension of tensing that was going on even in such a small and homogeneous place as Ithaca.

⁷⁹ The implication is, not in the East – and perhaps Grandgent notices the tense forms because they contrast strongly with his own pronunciation. In support of this is Tuttle (1902: 115), who writes that 'In Eastern New England [long *æ̃*] seems to be rather uncommon, short *æ* or long *a* [broad *a*] being used instead,' and Grandgent himself (1894:464): 'The sound *æ* is generally light in eastern New England, but, I think, regularly heavy in the rest of the country.' [The series of 'heavy vowels' were free vowels, 'light vowels' were the checked vowels.]

From the New Haven data, and the writings of Babbitt, Emerson; and Grandgent, it can be seen that the short *a* patterns of the Northeastern states were much more similar in the nineteenth century than they are today.⁸⁰ It could be conjectured that in the late eighteenth century the patterns of these regions were even more similar – they probably all had a lengthened (tense) form in closed syllables before voiceless fricatives and some nasal clusters. Boston and other parts of Eastern New England, probably under English influence, backed the sound into the broad *a* [a] in these words, while other regions fronted and raised it.

During the nineteenth century, this core tensing environment was extended across the entire region to include simple nasals and, in some places, voiced stops. Babbitt suggests that both these groups tensed simultaneously in NYC, but in Emerson's Ithaca dialect voiced stops had already begun to tense while final nasals were still lax. Any effort to date these different dialectal developments must await further historical research in the various places concerned, and would depend entirely on whether early recordings of local speech happen to be available.

PART III: DURING

In New Haven, it seems that tensing before voiced stops and final nasals arrived⁸¹ during the first half of the nineteenth century. This change did not affect the underlying grammatical process; tensing was governed by lexical rule both before and after: lexico-grammatical conditioning affected the later group (*man* vs. *ban*) just as it had the earlier (*path* vs. *hath*).

There was nothing fundamentally unstable about the resulting short *a* pattern (a similar one has endured in New York City, for example), but it did not last long in New Haven. A change began to take place among speakers born in the 1890's. This change took quite a while to complete, but by the time it had run its course the short *a* pattern was substantially different. Consonantal environments which had conditioned tensing no longer did so – short *a* before all non-nasal consonants became lax. Syllabic environments which had not conditioned tensing began to do so – beforehand, short *a* had to be in a closed (or at least morpheme-final) syllable to undergo tensing; afterwards, it could happen in any syllable.

One task of this section is to obtain a sharper focus on these sub-changes making up the overall change. For example, did they happen simultaneously, or in a particular order? The other task is to focus on the implementation of the change in New Haven: can it be shown that particular groups, whether ethnic or economic, led the change, or even caused the change?

The source of data for this section is potentially rather full – most of the oral history tapes are at least an hour in length – but the fraction of available data analyzed was rather small. This was due to constraints

⁸⁰ Today, to reiterate, four patterns exist: in Ithaca, for example, tensing everywhere; in Boston, broad *a*, plus tensing before voiced stops and perhaps other consonants; in New Haven, tensing only before nasals; in New York, tensing *in closed syllables* before nasals, voiceless fricatives, and voiced stops, plus lexical and grammatical idiosyncracies.

⁸¹ The verb implies a geographic spread, with the implicit question, 'From where?' This model is not necessarily right, however.

on time and the desire to listen to as many different ages and ethnicities as possible. A clearer picture would surely emerge from listening to more of each tape, or to the collection of tapes preserved at the University of Connecticut.⁸² The results for all informants who were born in New Haven, or who moved there before the age of five, are summarized in the table below:

Informant	Born	'Hood	Ethnicity	Sex	rhotic?	Ave.	bdg	fths	medial nas.	open nas	⁸³
<i>for reference, the 'before pattern' (1865, 1888)</i>					No	Tense	Tense	Tense	Lax	Lax	F-
SJB	1885	Fair	Irish	M	Yes	Tense		Tense	Lax?	Lax	
AM	1886	Dixwell	Italian	M	Variable	Tense	Tense	Tense	Tense	Lax	
DM	1888	Fair	Irish	M	Yes	Variable		Tense	Tense	Lax	F+
AM	1895	Fair	Irish	F	Yes			Tense	Tense	Tense	
SM	1896	Fair	Irish	M	Yes	Tense	Tense		Tense	Lax	F+
JHC	1899	Hill		F	Variable	Tense	Tense	Lax	Tense	Lax	
EB	1898	Fair	English	M	No	Tense	Tense	Tense	Tense	Tense	
GH	1899	Fair	Polish	M	No	Tense		Tense	Tense	Lax	F-
GB	~1900	Fair	FC/Ynk	M	Yes	Tense			Variable	Lax	F-
MMB	~1900	Fair	Scot	F	Yes		Lax			Tense	
LC ⁸⁴	1900	Dwight	'I-talian'	M	No		Lax	Lax	Lax	Lax	
WN	1903	Hill	English	M	Variable	Tense		Tense	Tense		?F-
EM	~1905		Polish	M	Yes			Tense	Tense	Tense	
CMcQ	1909	New T	Irish	M	Yes			Tense	Tense	Tense	
MTC	~1910		Polish	F	Yes	Tense	Tense?	Tense	Tense		F+
HMcN ⁸⁵	1911	Fair	Irish	M	Yes	Tense	Tense	Tense		Tense	
RdC	1912	Fair	Italian	M		Tense		Tense			?F-
JS 'Sr.' ⁸⁶	1920	New T	Italian	F	Yes			Lax	Tense		F+
MS ⁸⁶	~1925	Fair	Italian	M	Yes			Lax	Tense		F+, F-
MC	1931	State	Irish	F	Yes	Lax		Lax	Tense	Tense	
EG	~1933	Dixwell	Black	M	Yes	Lax			Tense	Tense	
<i>for reference, the 'after pattern' (1938-1998)</i>					Yes	Lax	Lax	Lax	Tense	Tense	

Neighborhood key: 'Fair' = Fair Haven⁸⁷ 'New T' = New Township, 'State' = Upper State.

⁸² The Center for Oral History (part of the Dodd Research Center) has hundreds of tapes from all over Connecticut, including a specifically ethnic "Peoples of Connecticut" project carried out from 1973-76. These tapes are all professionally transcribed (unlike much of the New Haven Colony Historical Society's material) and include interviews with several members of the same family. It would be quite informative to study these recordings to determine if (and when) the change that overtook New Haven was occurring in Bridgeport, for example, or even possibly in Hartford.

⁸³ The word *family* patterns with the open syllables in most dialects, but its often exceptional behavior in the speech of these informants led to its being shown separately, as F+ and F-. If other open syllable nasal words were tense, *family* was always tense. Cohen (1970: 67) also observed *family* – whether because of its shortened pronunciation or due to its frequency and early learning – 'leading the way' towards open-syllable tensing in younger New York City speakers.

⁸⁴ LC produced only one tense token, *grand*, and was clearly showing some kind of hypercorrect behavior. He had grown up in an all-Yankee neighborhood. 'Now we weren't very welcome because we were not Italians, but we were I-talians ... maligned, and called names.'

⁸⁵ HM has tensing in many unusual (for New Haven) environments; see below.

⁸⁶ These two tapes were loaned by Anthony Sagnella.

This table shows whether short *a* was tense, lax, or variable in several significant contexts: in the word *avenue*, an example of a lexical exception; before voiced stops (*bdg*); before voiceless fricatives (*fths*); before a syllable-final, but not word-final, nasal cluster; before a nasal in an open syllable. As an example of another feature of the New Haven dialect that changed during this period, the degree of rhoticity – pronouncing the non-prevocalic *r* in words like *born*, *car*, *father*—was also noted.⁸⁸

It is difficult to make generalizations from a table with so many variables and what appear to be such messy results. One finding is that the New Haven Irish may have always been rhotic; if true, this is certainly due to the influence of Irish English. Other than that, there is not enough data to even suggest trends favoring one ethnic group over another, let alone to confirm them.

The word-final condition for tensing before nasals, which appeared so clearly in the speech of Phelps and Jerome, plays no role for any of the informants recorded here, with the possible exception of one (SJB, the oldest informant). Apparently the word-final condition, if it ever existed, was in Jennie Jerome's time already yielding to the syllable-final condition commonly described for mid-Atlantic short *a* patterns.

Rhoticity became established early in this time period; only one informant born after 1900 (EM) drops the *r* at all, and none do it regularly.⁸⁹ The change toward permitting syllable-final *r* must have something to do with syllabic structure, but it cannot be shown to correlate with the change in the syllabic environment for tensing. Tensing in open syllables seems to have begun in speakers born after 1890 (AM). After 1900, no speaker showed a clearly lax token before a nasal in an open syllable.⁹⁰

If the change in the nasal environments was roughly complete by 1900, the same is not true of the change in non-nasal environments. Tensing before voiceless fricatives and the exceptional word *avenue* is still well attested in the early 1910's, tensing before voiced stops slightly less so. The gap in informants born in the late teens is unfortunate, for by 1920, the modern New Haven pattern has been established.⁹¹

Between these two periods of change (c. 1900-1912), there was a lull, during which open syllable nasals were tense at the same time as voiceless fricatives and voiced stops. However, it is essential to note that the syllabic environment was extended only before nasals – open syllables before fricatives (and presumably stops, where data is scarce) remained lax throughout. So in the speech of the interim

⁸⁷ Fair Haven is geographically a rather distinct part of New Haven that lies across the Mill River. It was, and continues to be today, an immigrant mecca. In 1930, nearly two-thirds of the Fair Haven population was foreign-born, more than twice the proportion of the city as a whole.

⁸⁸ Unfortunately, there was not enough data for these speakers to trace developments in the environment before the back nasal *ng*.

⁸⁹ Non-rhoticity was also heard from a man (Mr. Perrelli, b. 1910, of Italian descent) who owns a downtown stationery store. He did not wish to participate in the study, but credit can be given to him for first convincing the author of the great changes that have taken place in New Haven speechways.

⁹⁰ MTC (b. 1910) has two lax tokens, but neither is stressed (*animosity*, *manufacture*). Two of the three post-1900 tokens of lax *family* were marked as questionable.

⁹¹ There must be plenty of people born between 1910 and 1920 surviving in New Haven; it would probably be quite profitable to focus closely on them, trying to trace the geographic and social progress of laxing before non-nasal consonants.

individuals (such as WN, CMcQ, MTC), the common word *Catholic* appears as lax, while *family* has become tense.⁹²

The implications of this are considerable. It seems that during the 1890's some kind of pressure regarding nasals led to their tensing in all syllable types. The resulting lexical rule must have been more complex than ever – it had to refer to 'nasals in any position' (a very natural class) at the same time as voiceless fricatives and voiced stops in closed syllables only' (a very unnatural class). After putting up with the new pattern for a decade or so, speakers resolved the imbalance, simplifying their pattern in one of two ways. Most of them simply dropped the hard-to-specify class of non-nasal consonants from their lexical rule, leading to today's New Haven short *a* pattern. An alternative possibility is seen in the speech of HMcN (b. 1911): this is to drop the syllabic constraints entirely, leading to tensing of *Catholics*.⁹³

An unresolved question is whether 'dropping the syllabic constraints'⁹⁴ is equivalent in some sense to replacing a lexical rule with a post-lexical one. Within the theory of Lexical Phonology, postlexical rules are allowed to refer to internal syllabic (as opposed to morphological) structure, as can lexical rules. It is thus a mystery why the change in rule type went along with the relaxation of the syllabic constraint. It would require a detailed study of the interim speakers, focusing on whether they preserve grammatical and lexical irregularities, to make final pronouncements about lexical versus post-lexical rules.

The above account of the larger change is a half external, half internal explanation; it states that New Haven 'invented' the nasal pattern in response to pressure put on the system by a smaller sub-change. The most obvious alternative explanation – that New Haven borrowed the nasal short *a* pattern, intact, from another dialect – does not jibe well with the two-stage process of the change; another significant objection would be the total lack of evidence that any such dialect existed at the time. But if the extension of tensing before nasals to open syllables was the trigger⁹⁵ that set off the New Haven change, it is reasonable to ask where *this* came from. Single features must have a legitimate source just as much as entire patterns.⁹⁶

An elegant answer can be devised that ties the change in short *a* to the change in rhoticity. It is generally noted that when a non-rhotic dialect (re-)acquires the postvocalic *r*, it wreaks havoc on the system of vowels preceding *r*. This effect occurs through a change in syllabification. An intervocalic *r* in a non-rhotic

⁹² Even though these words are almost always pronounced as disyllabic, they still have an open syllable in the underlying representation; short *a* data from Philadelphia supports this.

⁹³ HMcN also has tensing in a number of other unexpected places: *banks* (twice), *imagine* (twice), *gravitated*, *have*, as well as *Catholics*. Actually, tensing before the back nasal (in *banks*) has been mentioned before, and occurs sporadically among the oral history informants—but nowhere has it been as clear as in HMcN's speech (aside from A.S.'s imitation of his father).

Imagine and *gravitated* could be tense in New York today (their environment is a variable class), but not *have*. In fact, HMcN only shows four lax forms: three before [k], one before [č]. This almost Northern-Cities-esque pattern could be seen as a rather natural reaction to, or compensation for, the extension of tensing before nasals. It is just that as a whole, the New Haven speech community reacted differently.

And HMcN is not alone in this; one of the youngest LANE informants, a stenographer from Bridgeport (also b. 1911), often shows a raised, lengthened, nasalized, and ingliding short *a*, not just in *ram* and *France* but also in *cabbages* and *Massachusetts*.

⁹⁴ Or 'dropping the last remaining consonant class with syllabic constraints'.

⁹⁵ Though in this case, it behaved somewhat more like a lit fuse than a trigger.

⁹⁶ Or just as little, if a totally spontaneous (internal) theory of origin were being advanced.

dialect must form a syllable with the second vowel, since syllable-final *r* is not allowed by definition. *Mary*, *story* are thus /meh.riy/ and /stoh.riy/, with the first syllables pronounced *May*, *Stowe*. This is exactly the pronunciation used by W. L. Phelps (b. 1865) in these words. But in a rhotic dialect, an intervocalic *r* seems to not know which syllable to be part of. Some sources even speak of a 'two-*r*' pronunciation (Hartman 1985: lviii). But whether the *r* still initiates the second syllable or not, it is clearly part of the first syllable, and therefore has a centralizing effect on the preceding vowel.

To restate the above with a slight twist, suppose that the above difference in syllabification is not the *consequence* of a non-rhotic dialect turning rhotic, but rather what underlies that very change. Something about the shape of English syllables changes on an abstract level, and one consequence is the appearance of postvocalic *r*. If this account is correct, the same change in syllable structure could have consequences for other groups of consonants as well, such as the nasals.⁹⁷

Take the word *animal*. Instead of arguing syllogistically, 'Tensing extends to open syllables before nasals, the initial vowel in *animal* is an open syllable before a nasal, therefore, the initial vowel in *animal* is tense,' one could say that the tensing rule doesn't change at all, but that the initial syllable of *animal* becomes 'less open,'⁹⁸ causing it to fall subject to tensing.

This could be captured in a theory of 'ambisyllabicity,' whereby a consonant is simultaneously the coda of one syllable and the onset of the next (Abigail Kaun, p.c.). Ambisyllabicity in English is an area of current debate within phonology (see Rubach 1996 for an argument in favor, and Harris 1994: 198-203 for an argument against). If the origin of 'open-syllable' tensing is indeed correlated with the origin of ambisyllabicity (with 'Coda Capturing'), it could be tested by tracing the origin, in American English, of other syllable-linked phenomena, such as the flapping of intervocalic *t*, *d*.⁹⁹

The biggest problem with this appealing explanation is that the data do not appear to bear it out. Informant EB is completely non-rhotic, yet he shows tensing in the 'open syllable' words *annex*, *Samuel*. There are also several rhotic speakers (SJB, DM, SM) who have lax open syllables. These three are Irish; it is not clear how an account tied to rhoticity would apply to speakers who, historically, have always pronounced post-vocalic *r*.

Looking back from New Haven at the broader picture would truly put this hypothesis to the test. For example, it now seems possible, even likely, that nearby Bridgeport once had tensing before fricative and stops. It no longer does, and yet the explanation of the putative change cannot have much to do with rhoticity, since Bridgeport has never been a non-rhotic dialect.¹⁰⁰ If, on the other hand, it was discovered

⁹⁷ Nasals and rhotics are both *sonorants*. Although laterals (such as *l* in English) are also sonorants, and they do not seem to have changed their short-*a* behavior, they could have changed their syllable structure exactly like the other sonorants; if *l* is simply not a tensing environment, the ambisyllabicity in a word like *ballot* would be irrelevant.

⁹⁸ Or even flat-out 'closed.' As a native speaker with tense *animal*, the author would attest that the syllable division *an-i-mal* seems most natural, illogical as it may be.

⁹⁹ On this note, another change reported by A. S. for New Haven over the course of this century is from a medial glottal stop to a flap in words like *bottle* and *total*.

¹⁰⁰ See Bloch (1935) for a closely-reasoned analysis of rhoticity in every part of New England. The great similarity between the short *a* patterns of New York City and Philadelphia, though the former is thought to have lost rhoticity 200 years ago, while the latter never lost it, is another obstacle in the way of connecting the two phenomena.

that Bridgeport had extended tensing to open syllable nasals much earlier than New Haven did, it would again suggest rhoticity as the key to an explanation.

But if a change in rhoticity cannot be shown to have caused the extension before nasals, there may still be a connection, in that the two features may have the same source. The consensus in the literature is that the reintroduction of postvocalic *r* into Eastern American dialects reflects the influence of 'General American,' or contact with the great majority of Americans who do pronounce the *r*. Boston and New York began to restore *r* in the twentieth century, so for those cities radio and television – as well as general cultural realignment away from Europe, post-war isolationism, etc. – can be suggested as contributing factors. Indeed, Labov describes the process as 'the postwar American standard of constricted *r*' – and he means World War II.

As has been shown, New Haven re-rhotacized quite a bit earlier, around 1900. But the influence of rhotic dialects is just as well attested in these earlier times. In describing the origin of innovations into southern Connecticut, Kurath identifies spreading along the Sound (from the New York metropolitan area), to be sure, but another major influence is that of 'the Hudson Valley and the vast and populous areas beyond' (Kurath 1939: 1). Of course, it is not strictly necessary to look so far afield; the New Haven area was in fact surrounded by dialects where rhoticity was the norm (Bloch 1935). And the industrialization that drew so many foreign immigrants also brought an influx of 'New England farm boys and girls' during the second half of the nineteenth century¹⁰¹ – many of these probably came from inland Connecticut speaking rhotic dialects. Conceivably, they also brought with them an extension in the tensing environment before nasal consonants.¹⁰²

Another line of reasoning would not try to find the origins of these features in other geographic regions.¹⁰³ Rather, the very confusion and diversity of late-19th century New Haven demographics can be seen as the likely cause of change. This kind of explanation will be discussed in the concluding section.

PART IV: CONCLUSIONS

Ruth Herold (1997: 186-7) suggests that 'high contact settings' naturally favor certain types of linguistic change. In her work in eastern Pennsylvania, she demonstrates that large numbers of Slavic-speaking immigrants caused a phonemic merger in the mining towns they moved into.¹⁰⁴ Not all mergers are favored by high contact; in Herold's terminology, 'merger-by-expansion' is the result of native speakers of

¹⁰¹ Source is in Shumway/Hegel, "A Social History of New Haven."

¹⁰² There is as yet no evidence to support such a supposition. One could equally well mention that large numbers of African-Americans began to come to New Haven after 1850; coming from the South, they certainly would not have favored rhoticity (unless whites became rhotic in reaction against the Southern dialect!), but perhaps they had an influence on short *a*.

And the Irish further complicate matters. They were fully rhotic – and so a potential source for rhoticity – but seem not to have tensed short *a* at all.

¹⁰³ Even if successful, the search often leads right back to the question, "How did it come about *there*?" And more generally, as Bailey & Ross (1995: 529) write, "The evolution of a vernacular cannot be understood simply by identifying the sources of its features in other languages and dialects... even when features have analogs elsewhere, they often undergo remarkable changes that make them something different from what they were in their source."

¹⁰⁴ The merger was of the low back vowels in *cot* and *caught*.

a foreign language or dialect imposing a feature of their native system onto to language being acquired.¹⁰⁵ In Pennsylvania, the Slavic immigrants lacked the phonemic distinction, and that lack was transferred to the English dialect. But in the case of New Haven, it is harder to see what influence the non-native dialects and foreign languages could have on short *a*. Italian has no phoneme at all in the vicinity of /æ/; neither does Polish or Yiddish. Neither did the New Haven Irish (who came mainly from County Clare and Leitrim) seem to impose a pattern of tensing and raising of short *a*. In the speech of these immigrants, as recorded on the tapes at NHCHS, short *a* sounds lax always.¹⁰⁶

It should not be forgotten that the Italians and other immigrant groups probably had at least as much contact with immigrant and first-generation Irish English as with the Yankee pronunciation. At the very least, the presence of two models of English would have made the task of learning short *a* more difficult for these later immigrants, and could have triggered simplification in the pattern. Such a model combines non-natives' imposition with the dynamics of dialect borrowing – which leads in Herold's view to so-called 'merger-by-transfer.' It is not easy to say which type of merger¹⁰⁷ the New Haven short *a* change most approximates, especially without having performed acoustic analysis on the different stages of the change. But since 'lexically conditioned rules are like phonemic redistributions' (Labov 1994: 335), it seems logical that the *disappearance* of such rules is directly analogous to a phonemic merger.

Herold connects her three merger types to the three 'Sociolinguistic Types of Language Change' identified by Gregory Guy (1990), whose distinction between *spontaneous change*, *borrowing*, and *imposition* is relevant for what occurred in New Haven. Guy gives short *a* tensing as an example of spontaneous change, a characteristic of which is 'generality':

[Scholars suggest] that the natural tendency of spontaneous changes is to generalize, becoming less constrained, applying to a broader range of forms and contexts. Thus the tensing and raising of /æ/ that occurs in many English dialects evidently begins in a fairly narrow range of phonetic environments (before front nasals); in some dialects it spreads to additional phonetic environments (e.g. before voiceless fricatives, voiced stops), and in the extreme case of the Northern dialect of American English, it becomes an unconditioned sound change, applying in all environments. (Labov 1981b). By contrast, borrowings have no clear generalizing tendency. They are sporadic events... (Guy 1990: 59)

Though it must be admitted that both sub-parts of the New Haven change can be subsumed under the rubric of 'generalization,' it is not at all obvious that Guy's theoretical description holds. It is first of all unclear why he thinks tensing began before front nasals (Labov 1981, his source, says no such thing).¹⁰⁸ The second idea involved in Guy's description, that of tensing inexorably proceeding from consonant class to consonant class, is more widespread in the literature. Babbitt (1896), Ferguson (1975), and

¹⁰⁵ This is usually not a possibility unless the immigrant groups are really predominant numerically.

¹⁰⁶ Phonetically, the vowel is lower and backer than American lax [æ], being closer to [a]. Of course, a backer allophone could be the reflex of a *tense* vowel in Irish English, just as British broad [a:] is sometimes described as *tense*.

¹⁰⁷ There is a third: 'merger-by-approximation,' or spontaneous merger, according to which the change to the nasal pattern might have occurred without any immigration at all.

¹⁰⁸ Jespersen (1909) had already identified the core environment as voiceless fricatives and nasal clusters – in describing British broad *a*. But the connection between British backing and American tensing was not recognized until Ferguson (1972).

Labov (1981) have all observed that tensing often extends its environment; this study shows the same. But Paul Kiparsky gives the following fact great theoretical significance:

Also, there are no cases of lax a being extended into words which have regular tense a.
(quoted in Labov 1994: 525)

And since change is unidirectional, Kiparsky goes on to argue, it must be governed by lexical rule.¹⁰⁹ One conclusion of this paper is that the above statement is false;¹¹⁰ sometimes dialects lax in environments that were previously tense. Boberg & Strassel (1995, 1996) have recently shown the same for Cincinnati.

Though Kiparsky's accommodation of short a tensing within Lexical Phonology was brilliant and has now won general acceptance, his sweeping statements, as above, sometimes prove to be too broad. In another instance, Kiparsky had claimed that laxing in words like *can*, *am*, and *had* followed theoretically from the existence of a lexical tensing rule.¹¹¹ It would therefore be impossible for a dialect with a lexical rule to exhibit the tense auxiliary *can* 'is able.' A second major finding of this study is that the New Haven 'before' dialect violates this law: tensing shows the hallmarks of being lexically determined (irregularity and grammatical conditioning), but *can* is clearly tense.

• • •

Theoretical generalizations will always be made from too little data, and some of them will subsequently have to be corrected. This study of the development of New Haven English might seem to illustrate the general principle, 'Dialects can do anything they want.' And that generalization will itself surely be disproved at some time in the future. Another general conclusion is that it is difficult to tie changes in speech to changes in the demographics of the speech community; the further factor of historical changes in economic and social relations between cities (and therefore dialects) is also difficult to incorporate.

Today, on the cusp of 2000, the 'New Haven dialect' has largely been displaced from the city itself, as many speakers of Spanish and African-American Vernacular English have moved in. Greater New Haven is now a region more than an urban center. It would therefore not be surprising if its language were *currently* changing to reflect this. One might expect to see New Haven change from having a characteristically East Coast urban dialect – such as is found in New York and Philadelphia – to having a dialect more in common with the surrounding region. Ironically, this very change did occur, but a century ago, at precisely the time during which New Haven was becoming most urban.

One profitable line of future research would try to find where this change, or a similar one – from a 'New York' to a 'New England' short a pattern – is currently taking place. Cincinnati seems to fit the bill, as

¹⁰⁹ Kiparsky was arguing against Labov's position that a phonemic split had occurred. If there were truly an underlying phonemic split, what explained the fact that lexical diffusion always went one-way?

The case for a lexical rule is strong enough to stand without this particular argument.

¹¹⁰ Unless Kiparsky only had in mind cases of *lexical diffusion*. This paper has not demonstrated that the voiceless fricative or voiced stop class became lax through lexical diffusion (as opposed to all at once?).

¹¹¹ There even seem to be *two* good theoretical reasons for this. Kiparsky (1988: 402) says they don't meet the structural description of tensing because they 'get no word stress,' while Harris (1989: 48) simplifies by saying that since they're not lexical categories, a lexical rule can't apply to them *a priori*.

Boberg and Strassel have shown, but there other influences – such as the nearby Southern dialect – in effect that city. Within the Northeastern region, there might not be a qualifying urban center in the traditional sense, but a place like Yonkers or New Rochelle would certainly have enough people to apply the methods of urban sociolinguistics.¹¹² The forces in effect now might be different, and so fail to correspond in detail to what happened in New Haven, but it is likely that some similarities will emerge. But the larger question to be addressed, which can probably only be addressed with synchronic study, is that of the ‘American Standard English’ of which the nasal pattern is characteristic. Of course, such a ‘variety’ may not really exist, beyond a few features such as short *a* and rhoticity. But the general issue is the balance between external (‘social’) and internal (‘natural’) factors in the spread of the nasal pattern (the loss of the open syllable constraint, the conversion from lexical to postlexical rule, and so on).

Another valuable contribution would be to perform the same type of historical study as this essay attempts, in other locales in the area. Only then can the suggestions presented here – that a ‘Mid-Atlantic’ pattern was ubiquitous along the American coast in the early nineteenth century – find confirmation. Bridgeport, Hartford, Norwalk, New London, and Stamford, being the other large cities of Connecticut, would be logical choices. The history and patterns of immigration will differ in each case; whether this makes any difference to the evolution of short *a* would be a crucial piece of knowledge.

And to maximize the theoretical value of this dialect research, it would be wise to focus on two specific features. First, there are the ‘weak words’ such as *can*, *am*, and *and*. The finding from New Haven is that a lexical rule can indeed make *can* ‘be able’ tense. Two conclusions could potentially be drawn from this fact. Either *can* is not – in this dialect – a member of the class of function words, thus salvaging the contention of Lexical Phonology, or some part of the theoretical framework must be recast. Obtaining a cross-dialectal vantage on the tensing of *can*, and also possibly *am*, *and* (which were lax in Phelps’s speech), within lexical-rule-governed patterns, would help greatly in choosing between the two.

The other ‘feature’ to keep in focus is syllabification. The older New Haven rule, like that in New York and Philadelphia today, had a strong syllabic component – tensing only in ‘closed-syllable’ morphemes.¹¹³ In the literature, much more emphasis has been placed on changes in consonantal environment than on the syllabic factor. Why did the loss of the syllabic constraint accompany the changeover to a postlexical rule? One suggestion is that, in some dialects, a major change occurred in the syllabic structure of words. This could be described in terms of ambisyllabicity or resyllabification. What may have happened is that the structural description of the older rule stopped being met, even in the same words that had previously satisfied it. Syllables were no longer closed, or open, in the same way – and this opened the doors for change. Since rhoticity, in current phonological theory (Harris 1994), is linked to the details of syllable structure, there is likely to be a connection to that dialectal landmark. What it is, and exactly what happened to syllable structure, can, again, best be discovered against a more complete background of facts about the chronology of the sub-changes in the short *a* patterns of other Northeastern cities. Whether the results are compatible with such a neat, binary division as lexical vs. postlexical, remains to be seen.

¹¹² Another place to study would be the fringes of Philadelphia, assuming the nasal pattern is encroaching there. Judging from the road map, Camden, New Jersey, presents an obvious target. The area would not have to show the quintessential, complicated city pattern, as long as it had some non-nasal tensing left.

¹¹³ In fact, there is some evidence that New Haven had a stronger constraint if non-final-short-*a* words like *Randolph*, *example* were universally lax.

DEMOGRAPHIC CHART OF NEW HAVEN

DATE	(% foreign)	NEW HAVEN POPULATION	NOTES	SUBURBAN POPULATION	NOTES
1800	3	4,700	1815 first steamboat to New York		
1820		8,327	1818 New Connecticut Constitution ends Congregational oligarchy, tolerates Catholics		
1830		10,678	1824 first groups of Irish arrive, work on Farmington Canal (completed 1828)		
1840			1843 Jews legally tolerated in Conn.	1848 Railroad opens to New York	
1850		20,345	1845-1855 substantial Irish immigration	1840-1850 substantial German immigration	
1860		40,000	1860 ~3,000 foreign born	1850-60 many Blacks immigrated	
1870 (28%?)		50,840	28% foreign born' -- 15,000 -- not possible	1873 New Haven loses co-capitalship	
1880		62,882	500 Italians by 1880	1881 Large numbers of Russian Jews begin to arrive	
1890		86,045	2000+ Italians by 1889	16,030	
1900	28%	108,000	1900-1910 RR hires 10,000 direct from Italy	25,689	1890-1930 First major period of
1910	33%	133,605	1910 Italians exceed Irish (among foreign-born)	11,525	<--(?????) suburban growth
1920		162,537	1895-1914 many Poles immigrate	42,834	
1930	↗ 66%	162,655	1930's Puerto Rican immigration	71,001	1935 ~60,000 Italians (Greater NH)
1940 (Fair Haven)		160,605		85,831	1940 Merritt Turnpike opens
1950		164,443	incl. 8519	108,602	1945-1960 Major 'white flight' to
1960		152,048	at Yale	190,248	1958 Conn. Turnpike suburbs, jobs as well
1970		137,707		217,837	1976 ~10% Jewish (Greater NH)
1980		126,101	1/2 # Italians > # Irish > # Germans	212,413	Total Pop:
1990	8.1%	130,474	36.1% Black, 13.2% Hispanic	-256,125	5.7% Black (11-Towns)
				240,655	6.0% Black (60-Towns)
					Sources: Karr, Leonard, Schiff, Shumway & Hegel.
					386,599

A. S.		Following Consonant															
Short a before:		NASALS			(BACK)	VOICELESS FRICATIVES			("BACK")	VOICED STOPS							
	Short a int.	m	n (+ consonant)	n (+ boundary)	ng	s	f	th	sh	d	bjg	tpck	vthz	zh	l	r	
Closed Syllables	Word-Final Syllable		and	can 'be able'		class				bad		black	has				
			ant	Joanne								that	halve				
			aunt	man									have				
			Grand														
			land (n.)														
			understand														
	Morpheme-Final Syllable		grandfather										background				
			Grandjean										taxes				
			grandmother														
			transcribed														
	Morpheme-Internal Syllable			Anthony	language	Master	affluent						accent				
				Branford	Yankee								factory				
				Francis													
				standard													
	Open Syllables	Morpheme-Final Syllable							Kathy		added						
											latter						
Morpheme-Internal Syllable		Amity		annex					catholic		Madison	graduated	Chapel	avenue	analogy	carriage	
		families		Hispanic											Italian	marry	
		family													Italians	parents	
																parishes	
															Sharon		

Key: Tense Tense? Lax? Lax Broad

Name: A. S. Sex: M
Date of birth: March 11, 1977 Age when recorded: 20
Birthplace: New Haven
Lives in: Fair Haven Heights (across Quinnipiac River)
Education: parochial school (Morris Cove)
Hopkins Grammar School (private)
Yale College, class of 1999
Occupation: college student

Ethnicity: Italian (father's family to New Haven, 1892)
Father: grew up in Hill neighborhood; city payroll director
Mother: grew up in Fair Haven neighborhood; high school education
Notes on informant: linguistics major, very aware of features of own dialect
"I would never be able to detect anything like my type of speech in him. He just sounds so refined..." (K. B.)
"[K. B. and I] were very isolated in the kind of people we hung around with. They would've sounded just like us."
Notes on speech: despite self-awareness, no tendency to 'correct'; tense ~[e]
Source: 30 min. conversation with author (part of 1 hr. interview)

K. B.		Following Consonant														
Short a before:		NASALS			(BACK)	VOICELESS FRICATIVES			("BACK")	VOICED STOPS						
	Short a in:	m	n (+ consonant)	n (+ boundary)	ng	s	f	th	sh	d	bjg	tpck	vthz	zh	l	r
Closed Syllables	Word-Final Syllable	am	<u>aunt</u>	man	hangs	asked	laugh			bad	tab	act	has		Al	
		camped	can't	ran		Bass				dad		acts	have			
		clam	stand			class				dad's		at	spaz			
			understand			fast				had		back				
						gas				mad		black				
						half						crack				
						last						crap				
												Matt				
												Max				
												pack				
												subtract				
	Morpheme-Final Syllable		grandmother			asking		bathroom		madly		acted				
			grandmother's			asshole						attracted				
			standing			faster						background				
						fast-food						exactly				
	Morpheme-Internal Syllable	ambiguous		Amanda	language		after	Kathleen			Sagnella	accent			Caldor	
		example		Andrea								actually				
		Hamden		answer												
				anthropology												
				Branford												
Open Syllables	Morpheme-Final Syllable					classic	half-hour	Kathy		daddy		cracking			personality	
							laughing									
	Morpheme-Internal Syllable	Camel		manager				"Kathaleen"				automatic	rather		alley	Camaro
		family										automatically			Italian	Harrelson
												happened			Malinowski	married
												happens			valid	parents
												happy				Sarah
												Latin				
												Pataki				
												patterns				

Key: Tense Tense? Lax? Lax Broad

Name: K. B.
Date of birth: May 26, 1977
Birthplace: East Haven, CT
Lives on: Dodge Avenue (East Haven)
Education: public schools (East Haven)
East Haven High School
Yale College, class of 1999
Occupation: college student

Sex: F
Age when recorded: 20

Ethnicity: Jewish / Italian
Father: grew up in Hartford, CT; groundskeeper at Yale
Mother: grew up in East Haven, CT
Notes on informant: identifies as from 'working-class background'; quite self-assured
"[K. B.] sounds more typical of New Haven or East Haven...she's lost her accent less..." (A. S.)
"Every time words come out of my mouth, they're like, not how other people talk, basically." (K. B.)
Notes on speech: very 'natural'; tense vowel nucleus ~[e^] or higher
Source: 2 hrs. conversation between K. B. and her roommates (from NJ, CT)

E. H.		Following Consonant															
Short a before:		NASALS			(BACK)	VOICELESS FRICATIVES			("BACK")	VOICED STOPS							
	Short a int.	m	n (+ consonant)	n (+ boundary)	ng	s	f	th	sh	d	bjg	tpck	vthz	zh	l	r	
Closed Syllables	Word-Final Syllable	program				class				dad		back	has				
										had		that	have				
	Morpheme-Final Syllable	grandparents				class-wise						background					
		transferred															
	Morpheme-Internal Syllable	Stamford		Anthony								accent					
				Atlanta								practice					
	Open Syllables	Morpheme-Final Syllable							Kathy								
Morpheme-Internal Syllable		family										patterns	avenue	Italian	parents		
		grammar															

Key: Tense Tense? Lax? Lax Broad

Name: E. H. Sex: F
Date of birth: June 26, 1977 Age when recorded: 20
Birthplace: New Haven
Lives on: Whitney Avenue (near Hamden line)
Education: St. Thomas's Day School
Wilbur Cross High School
Yale College, class of 1999
Occupation: college student

Ethnicity: Irish
Father: grew up in Queens, NY, Stamford, CT; high school teacher
Mother: grew up in Philadelphia, PA
Notes on informant:
"No. I don't think she sounds like me." (A. S.) "I think that she has some of it..." (K. B.)
"I have a very distinctive New Haven accent; I say [ml?ln] and [b^?ln]...[K. B.] has an Italian accent.
Notes on speech: extremely un-talkative; tense nucleus ~[e^]
Source: 30 min. conversation with author (part of 45 minute interview)

M. P.		Following Consonant															
Short a before:		NASALS			(BACK)	VOICELESS FRICATIVES			("BACK")	VOICED STOPS							
	Short a int.	m	n (+ consonant)	n (+ boundary)	ng	s	f	th	sh	d	bjg	tpck	vthz	zh	l	r	
Closed Syllables	Word-Final Syllable	Framingham	and	man	bank	ask	half	math	stash	bad	drag	back	have		Pascale		
			can't		bank	harass				had		that					
			chance		hang	last				sad		track					
			land			past											
	Morpheme-Final Syllable																
	Morpheme-Internal Syllable	Hamden		answer	dangle		afterwards					fragments	accents				
				Anthony									actually				
				Branford													
				candy													
	Open Syllables	Morpheme-Final Syllable					classes	laughing					backup				
		Morpheme-Internal Syllable	family		January		facets	traffic			Madison	graduated	happens	avenue			apparently
					management		Massachusetts						Natalie	plaza			Gary
				manager								Saturday				Karen	
																parallel	
																parents	
																parents	

Key: Tense Tense? Lax? Lax Broad

Name: M. P.

Sex: F

Ethnicity: Italian

Date of birth: 1959

Age when recorded: 39

Father: grew up in New Haven (Fair Haven neighborhood)

Birthplace: Hamden

Mother: grew up in Boston, MA ("she still has her little accent...after 42 years in CT")

Lived in: Mount Carmel (section of Hamden)

Notes on informant: outgoing, very willing to give time for interview

Education: Hamden public schools

"No, I don't think I could turn this [accent] off. For me, this is it. I don't think that I could speak any differently."

Hamden High School

University of Connecticut (Storrs, CT)

Notes on speech: somewhat atypical of New Haven (e.g. *Mary*, *merry* distinct); tense nucleus ~[e]

Occupation: nutritionist, dining hall manager

Source: 30 min. conversation with author (part of 45 minute interview)

J. C.		Following Consonant													
Short a before:		NASALS			(BACK)	VOICELESS FRICATIVES ("BACK")			VOICED STOPS						
	Short a in:	m	n (+ consonant)	n (+ boundary)	ng	s	f	th	sh	d	bjg	tpck	vth z	zh l	r
Closed Syllables	Word-Final Syllable	damn	<u>aunt</u>	can (n.)	bank	gas			cash	add	crab	back	has		
			can't	man	bank	last				dad	tag	black	have		
			stand	ran	banks					had		Pratt			
				San	hang							that			
	Morpheme-Final Syllable		outstanding									exactly			
												flatfish			
	Morpheme-Internal Syllable	gambling		Andrew		basketballs						actually			
		Hamden		answers								factory			
		Hampshire		Anthony's											
				Atlantic											
Open Syllables	Morpheme-Final Syllable				hangout	eyeglasses					crabbing	snapper	having	personality	
	Morpheme-Internal Syllable	family		manager						Madeleine		statue	Savin	Alex	married
														Italian	marry

Key: **Tense** **Tense?** Lax? Lax Broad

Name: J. C.
Date of birth: 1947
Birthplace: New Haven
Lived on: Third Street (City Point/Hill neighborhood)
Education: New Haven public schools
Hillhouse High School

Occupation: former waitress, dining hall worker

Sex: F
Age when recorded: 50

Ethnicity: Italian
Father: grew up in New Haven; worked in gun factory
Mother: grew up in New Haven

Notes on informant: somewhat nervous, not previously known to author (recommended by A. S.)
"O, I talk terrible." (J. C.) "She's a wonderful person. She just talks bad." (J. C.'s manager--not M. P.)

"I don't know. It's the way I always say it...whether it's the right pronunciation or not -- that's it" (J. C.)

Notes on speech: tense nucleus as high as ~[i]

Source: 30 min. conversation with author (part of 45 minute interview)

H. W.		Following Consonant															
Short a before:		NASALS			(BACK)	VOICELESS FRICATIVES ("BACK")			VOICED STOPS								
	Short a in:	m	n (+ consonant)	n (+ boundary)	ng	s	f	th	sh	d	bjg	tpck	vthz	zh	l	r	
Closed Syllables	Word-Final Syllable		and			past				bad		at	has				
			can't							had		back	have				
			understand									fact					
												that					
	Morpheme-Final Syllable												attractive				
													theatrical				
	Morpheme-Internal Syllable	Stamford		Andover	language					advertising		accent					
		example		Manchester								actually					
Open Syllables	Morpheme-Final Syllable					flatter (adj.)											
	Morpheme-Internal Syllable	family		Indiana		Manhattan			national		imagine		avenue	valley	parent		
				manufacturers		Massachusetts							rather				
				organic		Staten											

Key:

Tense**Tense?**

Lax?

Lax

Broad

Name: H. W.

Sex: M

Ethnicity: ???

Date of birth: 1935

Age when recorded: 62

Father: grew up in S. Manchester, CT

Birthplace: New Haven

Mother: grew up in New Haven (her family to New Haven, 1840's)

Lived on: Winthrop Avenue (west of downtown on Elm St.)

Notes on informant: speech careful, deliberate; complete stranger to the author

Education: New Haven public schools

"I don't think that there's a New Haven accent, except when I went to college I tried out for the radio station, as an announcer, and they turned me down on the grounds that I had New Haven regionalism." (A 'townie' goes to Harvard)

Hillhouse High School

Notes on speech: unexpected laxing in open syll. (influence of wife, born NYC?); tense nucleus ~[e^]

Harvard College (Cambridge, MA)

Occupation: consultant

Source: 20 min. conversation with author (part of 30 minute interview)

TUTTLE		Following Consonant														
Short a before:		NASALS			(BACK)	VOICELESS FRICATIVES			("BACK")	OICED STOPS						
	Short a in:	m	n (+ consonant)	n (+ boundary)	ng	s	f	th	sh	d	bjg	tpck	vth z	zh	l	r
Closed Syllables	Word-Final Syllable		band	man	rang	blast (n.)	half	path	black-ash	bad	rag	black	as			
			banned	ban		hast		hath	sash	bade		flap	halve			
			dreamland			last			smash	had		lapse	have			
			hand (n.)			past				sad			wood-paths			
			hand (v.)													
			man's													
			sand													
			planned													
	Morpheme-Final Syllable											crackling				
	Morpheme-Internal Syllable			fancy								atmosphere				
				mansion												
Open Syllables	Morpheme-Final Syllable			mannish		passes			mashes							
						passage			gnashes							
	Morpheme-Internal Syllable			banish		capacity					happy	avenue				
				companions												
			vanish													

Key: **Tense** **Tense?** Lax? Lax Broad

Name: Edwin Hotchkiss Tuttle Sex: M Ethnicity: English (William Tuttle to New Haven, 1638)

Date of birth: September 23, 1879 Age when described: 21-24 Father: born 1840, probably in New Haven; Yale Law, 1863; 'agent of Swan & Finch, New York'

Birthplace: New Haven Mother: birthplace unknown

Lived on: Mansfield Street (by 1901) Notes on informant: voted 'most studious' by Yale classmates (36 votes out of 103)

Education: Hillhouse High School "Young Tut" experienced his only need for a "crib" in the years immediately following September 23, 1879...

Yale College, B.A. 1901 Notes on speech: rhotic, according to own transcription ("Buds and Bird Voices," 1901)

Occupation: 'Student Farmer' (Class of '01 Vicennial Record) rag and rang, identified as 'short' (i.e. lax), are quite likely tense (see p. 14, above)

contributor to linguistic journals, etymologies editorSources: "Phonetic Notation" (1902), "Vowel Length in American English" (1903)

'merry'; ¹ / = [ʔ] 'holy wholly'; ² / = [h] 'holds'; ³ syllabic / 'handles'; ⁴ 'finger'; ⁵ k = [k] 'choir quire'; ⁶ ʔ 'singer'; syllabic ʔ 'lookingglass'; ⁷ / 'you ewe'; ⁸ 'Hugh hue hew' *hjuu*; ⁹ h 'hold.'

The surd occlusives, *p, t, k*, when not followed by an occlusive are usually aspirated, though very weakly before an unstressed vowel. The importance of this aspiration is shown by the fact that English-speakers are liable to mishear unaspirated *p t k* as *h d g*.¹ The consonants *k g ʔ* vary somewhat according to the neighboring sound; they do not however reach the full prepalatal position, as sometimes happens with French *gu*, qu: [ʒɛl] 'quel,' [ci] 'qui,' etc. The sonant occlusives and fricatives are usually whispered before a surd; the sonant occlusives become surd after a surd, but are kept distinct from *p t k* by the absence of aspiration; *k* tends towards sonancy after a sonant. The glottal occlusive *ʔ* seems to be often substituted for *p, t* or *k* between orinassals, as in 'bluntness.'

² 'SEE SEA, KEY-RING'; [iɪ]; with some speakers nearly [iʔ].

³ 'SPEARING, PERIOD'; [iʔ]; some replace this by a diphthong, *iə*; similarly with long *e, o, u*.

⁴ 'SPEARS, PIERS PEERS'; [iə].

⁵ 'spirit, busy, give'; [i_h], nearer to [ɪ] than to pure [ɪ].

⁶ 'studded studied, accept except, palace, lettuce'; unstressed and therefore rather variable, [ɪ], [ɛ]; only preconsonantal.

⁷ 'bustest, sixtieth, cereal serial'; unstressed; approximately [e], varying towards [ɛ] or [ɪ]; chiefly prevocalic.

⁸ 'SAY, weight wait'; approximately [ɪʔ], but the second portion seems to vary towards [e]; before *r* or *ə* sometimes replaced by long [ɛ].

⁹ 'SAYS, men, meant'; [ɛ]; before *g* and *ʔ* this may become slightly diphthongal, *eə*, the second part being [e]: 'beg, length.'

¹ Public speakers and singers often use a *r* = [ʔ], with one or more flaps.

Some Americans, like many Londoners, insert *r* as a hiatus-filler after *ə* and long *ə*, *ɑ*: 'idea () of, draw()ing, Shah () of,' etc. This *r* is probably not due, as has been supposed (LLOYD, *Phonetische Studien*, 1892 V 89), to apicality of the vowels, since it is used chiefly by persons who cannot (or at least do not) employ apical vowels in 'hard, further'; it is merely the result of analogy, like so many other speech changes (for example 'nothing—nothin' from a similar variation in present participles; 'we was—he' was' from the lack of inflection in all other preterits; 'different than' from 'other than'). Most words ending in *ə*, and many in long *ə*, *ɑ*, are written with an *r* that is regularly pronounced before a vowel; this prevailing duality of pronunciation has simply been extended to all words with these endings.

² In artificial or emphatic pronunciation sometimes *hou/da*, perfectly distinct from 'holes.'

³ Sometimes inserted where not written, as 'leng()th, streng()th.'

⁴ *Cust, Report on Korean*, Transactions of the Philological Society, 1877-8-9, p. 615.

*e*¹ 'caring, fairy, beaver'; [e¹].

eə 'cares, fairs, bears'; [eə]; sometimes replaced by *ɛ*¹ [ɛ¹].

*æ*¹ 'bad, path, past, halve, smash, sand, man'; nearly the same in quality as short *æ*, with perhaps a slight tendency toward [ɛ¹].¹

*æ*¹ 'bade, hath, hast, have, sash, planned, ban'; sometimes diphthongized to *æə* before *g* and *ʔ*, as in 'rag, rang.'

*a*¹ 'theoretical vowel of 'half, path, past,' etc., [a¹]; used chiefly by those who naturally employ long *æ* or *ɑ*.

*a*¹ 'ALMS, CALMER, father'; usually on the [ɔ] -side of [ɛ]; in eastern New-England perhaps more commonly on the [a] -side.

*ɑ*¹ 'yacht, knot, comma, bother'; identical in quality with the long vowel in most parts of the United States.

*ɛ*¹ 'ARMS, HEART, farther'; [a¹] or [a¹]; the corresponding short vowel may be distinguished in weak syllables, as 'partake.'

*ai*¹ 'aisle isle, ave eye, high, height'; [ai], the final element as in *ei*; in the South sometimes nearly *a*¹ (*ae?* *ae?*).

*au*¹ 'how, out, loud'; [au], with second element varying toward [o]; in the South the first element is reduced *æ* or even *e*.

*ɛ*¹ 'hall, daughter, sought, taught, walk.'

*ɛ*¹ 'halt, water, thought, caught, wash, watch, squander,' identical in quality with the long sound; not distinguished by some speakers, who use *ɑ* or *ɛ*¹ instead.

*oi*¹ 'boy, hoist'; first portion [ɔ], [ɔ] or [o], second as in *ei*.

*o*¹ 'soaring, pouring, story'; [ɔ¹] or [o¹]; by some speakers replaced by *ɛ*¹.

*ə*² 'WORN, warn, soars, pours, forward, form, force'; [ɔ²] or [o²]; by some not distinguished from long *ɛ*.

*au*¹ 'SEW so, soul, coat'; [əu], second portion as in *au*.

*ɔ*² used by a few speakers in 'whole, wholly, stone, coat, only,' etc.; [ɔ]; obsolescent.

*u*¹ the unstressed sound corresponding to stressed *uu*, as in 'annual, gradual'; one form of unstressed 'long o,' as in 'following'; chiefly prevocalic; [u] or [o].

*u*¹ 'good, foot, book, bush, cushion, full'; slightly reduced [u].

*ɪ*¹ one form of unstressed 'long o' before a consonant or pause, as in 'follows, disobey'; sometimes distinguishable, though never distinctive, in trisyllabic 'usually, gradually, actually'; variable between [ɪ] and [ɔ].

¹ In eastern New England this vowel seems to be rather uncommon, short *æ* or long *ɑ* being used instead, as in southern England.

Vowel Length in American English.

At the end of a review of the *Studies from the Yale Psychological Laboratory* (vol. x, 1902), in the April number of *Le Maître Phonétique*, Dr. E. A. Meyer expresses surprise that American English should distinguish long and short *æ* and *ɛ* ("short o" being regularly pronounced *ə*), and asks for experimental proof of the matter. This I am enabled to furnish through the kindness of Drs. E. W. Scripture and C. N. McAllister, who have put at my disposal the apparatus of the Yale Psychological Laboratory.

The following figures give the duration, in hundredths of a second, of my long and short stressed vowels, the incipient diphthongs of say (*æi*), see (*æi*), so (*əu*), too (*tuu*) being included with the longs. Each measurement is the average of three or more breath records made on a kymograph, by means of a conical mouthpiece connected by rubber tubing to a small tambour. The phonetic notation is that used in the above-mentioned volume of the *Studies* to transcribe the American English sound-system; the length-sign is however omitted, and *ɛ* ("short e") is distinguished from *ɛ* ("long a" affected by *r*).

	LONGS		SHORTS	
seater	ii	11	sitter	i
easy	ii	19	dizzy	i
fearing	i	22	sirup	i
aided	ei	16	eddie	e
sätyr	ei	14	setter	e
caring	e	24	ferry	e
fairy	e	25	carry	e
passes	æ	22	passage	æ
mannish	æ	21	banish	æ
mashes	æ	21	gnashes	æ
the man is	æ	19	the ban is	æ
bad part	æ	19	bade part	æ
barring	a	22	sorry	a
calmer	a	21	comma	a
ardor	ə	22	odder	a
cartage	ə	19	cottage	a
daughter	ə	23	water	d
taught it	d	23	caught it	d
taught so	d	20	thought so	d
cougher	d	21	coffer	d
soaring	o	23	coffee	d
surest	u	23	coffin	d
code's tool	uu	18	toadstool	d
hooting	uu	14	footing	u
hurdle	p	17	huddle	u

Records made by K., of Missouri, give a fairly constant ratio of about 3 : 2.

	LONGS		SHORTS	
seater	ii	12	sitter	i
sätyr	ei	13	setter	e
passes	æ	21	passage	æ
bad part	æ	19	had part	æ
father	a	21	bother	a
cartage	d	16	cottage	a
cougher	d	19	coffee	d
coughing	d	18	coffin	d

Similar relations for *æ* and for *d* appear in the pronunciation of *T.*, of New Haven.

	LONGS		SHORTS	
taught so	d	18	thought so	d
cougher	d	20	coffee	d
passes	æ	18	passage	æ
bad part	æ	21	had part	æ

From these figures alone it might be unsafe to draw conclusions as to general American usage. I have, however, during the last five years, heard long and short *d* used by a large number of persons; and have heard long and short *æ* from natives of nearly all the states east of the Mississippi, as well as of several western ones. I think it is therefore permissible to assume—at least so long as good evidence to the contrary is not forthcoming—that in most parts of the United States distinct quantitative differences are made in the case of the vowels *æ* and *d*. In the pronunciation that is most familiar to me, these differences are not only perfectly distinct, but are sometimes distinctive, as in bad—bade, halve—have, hand (noun)—hand (verb), band—banned; cougher—coffer, coughin'—coffin, [n]aught (pronoun)—[n]aught (number), all so—also.

E. H. TUTTLE.

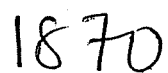
Yale University, June, 1903.

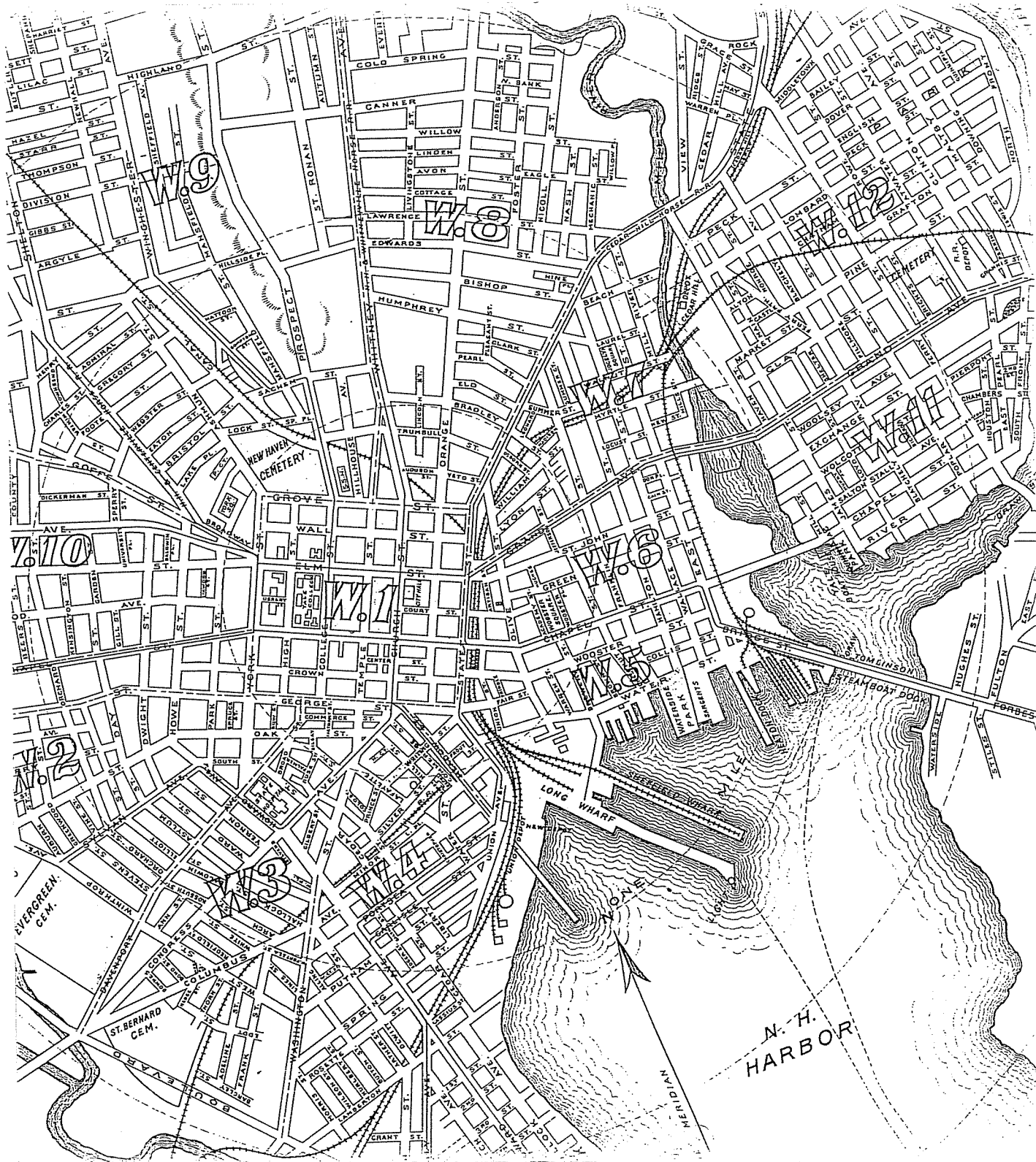
ITHACA		Following Consonant													
Short a before:	Short a in:	Word-Final Syllable													
		Closed Syllables													
		Open Syllables													
		Morpheme-Final Syllable													
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based on Emerson 1890



Bernard Romans, 1777





Price + lee , 1893

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