Investigating the Northern Cities Shift in the Lebanese Community of Dearborn, Michigan

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This paper contributes to that discussion by examining a community of Lebanese immigrants in Dearborn, Michigan. Factors such as cultural identity, age, and time within Michigan are considered in whether the Dearborn Lebanese are holding to their own dialect or acquiring that of the surrounding area, that being the Northern Cities Shift (NCS). Analysis of the acoustics of subjects' speech, their understanding of NCS sounds, and demographic data of the community will paint a picture of their current dialect and the effects of NCS upon it.

Estudio de cambio en las ciudades norteñas de la comunidad libanesa de Dearborn, Michigan. Este artículo aporta un análisis de la comunidad de inmigrantes libaneses de Dearborn, Michigan. Se tienen en cuenta factores como la identidad cultural, la edad o el tiempo en Michigan para comprobar si los libaneses de Dearborn mantienen su propio dialecto o si adquieren el de su entorno, que incluye el proceso de "cambio de las ciudades norteñas". Mediante el análisis acústico del habla de los informantes, de su comprensión de los sonidos implicados en el "cambio de las ciudades norteñas" y de los datos demográficos de la comunidad libanesa, se proporcionará una imagen de su dialecto actual y de los efectos que el cambio está produciendo sobre él.

Keywords: Sociolinguistics, Northern Cities Shift, Dialectology, Acoustic Phonology, Lebanese Immigration.

1. Introduction

This project was part of a larger study whose intent was to determine how immigrant populations in Michigan have been acquiring the state's dominant accent, the Northern Cities Chain Shift (NCS). This paper will address the English-speaking Lebanese Arab community of Dearborn, Michigan and its reaction to NCS. Although studies such as Payne (1980) and Ito (1999) have examined dialect changes when moving from one region of the United States to another, less work has been done on changes made to dialect as one moves into an entirely different country. While we have an understanding of how cultural assimilation occurs, with full homogeny typical after the third generation (called 'straight-line assimilation' in Warner and Srole (1945), the process of linguistic change as one that is immersed in an L2 is not well understood. The aim of our group therefore was to study multiple speech communities of immigrants within the state of Michigan and to see how they were reacting to the native dialects around them, NCS in particular.

Interviewers were sent to Benton Harbor, Lansing, Hamtramck, the Upper Peninsula, and Dearborn to speak with subjects of Mexican, Polish, Finnish, and Lebanese descent. All of these groups have been in the state long enough to have established communities, to have raised children in the United States, and to have been surrounded by NCS English for many years. These researchers have examined whether Gender, Age, Socio-Economic Status (SES), or Generation have had an effect on the adaption or rejection of Michigan's accents. All groups were studied with the same methods and tools, which will be discussed later in greater detail. Interviewers worked to collect samples of recorded speech in different scenarios, from casual conversation to precise wordlist readings. The recorded sounds were than analyzed acoustically so as to plot the speaker's vowel system and compare it with major dominant systems such as those of Peterson and Barney (1952)'s 'General American English', the Northern Cities Shift, or the speaker's native L1.

2. Studying Dialect Change and the Northern Cities Shift

One of the most important early studies of dialect change and acquisition is Labov's study Martha's Vineyard (Labov 1963), where we were shown an island community with two competing linguistic forces; the native islanders and tourists from the mainland. Being that the island was not large, it was experiencing a plight of many small towns, in which the younger residents were leaving to make their fortunes elsewhere. Labov found that those who expressed plans to leave the island were generally more eager to adapt speech norms from the mainland, whereas the die-

hard fishermen who intended to stay were holding firm to their native accents.

The dialect change in question for this work is the NCS, an accent that has taken hold in many areas of the Inland North, concentrating most strongly in major cities such as Detroit, Buffalo, Cleveland, and Chicago. (Labov, Ash, and Boberg 2006). While urban centers show the greatest influence by the accent (Labov 1994: 178), it is prolific through most of the region and even infiltrating into more rural areas. The accent itself is a rearrangement of the region's vowel system that is spurred by the raising and tensing of the 'trap' vowel /ae/, catalyzing a 'chain' of change that prompts sounds to move in to fill empty space, creating a new void and further movement.
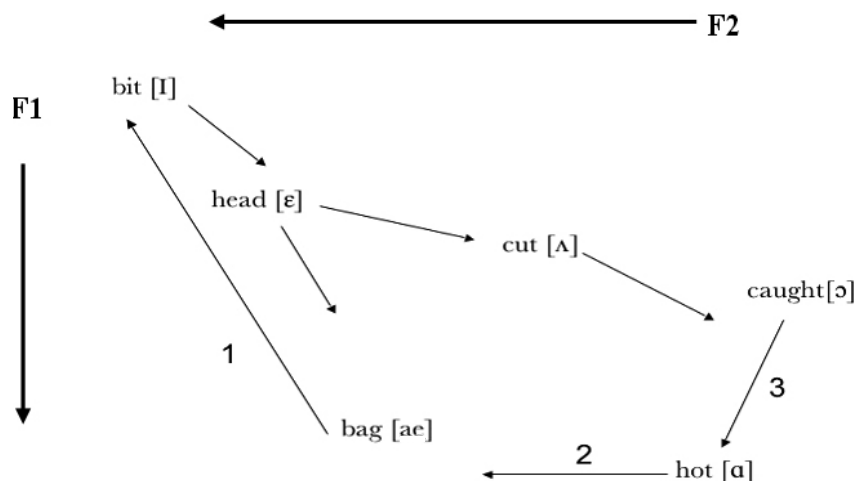
NCS Progression

Figure 1. *Ordered progress of NCS*

In the figure above, we can see that the NCS does not happen at once, but rather follows an order of operations. The Initial step in the process is the raising of /ae/, which prompts the retreat of /ɛ/, /I/, and /ʌ/. The vacancy left by /ae/'s movement begins the second step, a drawing forward of /ɑ/. This again creates a vacancy in the low back position. Since /ɔ/ has become crowded by the backing of /ʌ/, it begins lowering into the open space below, the final observed link in the Chain Shift. Note that the highest vowels are left untouched by the rearrangement, and /o/ is unaffected.

With the steps in the process being quite linear, it is thus possible to describe how far 'advanced' a subject is in the accent. Speakers just beginning to pick it up would show raising of /ae/, turning words like /kaet/ into something closer to /kɛt/. The beginnings of /ɑ/ fronting are another common early indicator. More entrenched NCS speakers will start showing the lowering /ɛ/, pronouncing /bɛd/ more similarly to /bʌd/. Those far along in the shift would have moved /ɔ/ downward, turning /kɔt/ into a rhyme with /kɑt/. Of course, at this point, the /ɑ/ in NCS /kɑt/ will be so far fronted that a speaker would have no confusion.

Therefore, when looking at the Dearborn Lebanese vowel system, we can use the above criteria to determine how far the population has advanced into the shift. Further, by looking at the progression of accent change in other groups (Labov 1963, Ito 1999) we can guess at who the first adapters of change would be. NCS is most commonly adapted by women first, with young women being the demographic that leads the charge (Labov 1994: 156). Men tend to be roughly a generation behind in shifting, and so we'd expect a progression from least to most shifted of:

Older Men -> Younger Men -> Older Women -> Younger women

In Labov's Martha's Vineyard paper and others, he proposes the reason for this order to be related to one's state in life and the frequency of contact speakers have with each other. In many communities, men work with a small group of other men, while women are conducting a family's business, going to schools, doctors, and shops, speaking with a large number of people and being part of a well-connected network. As both sexes age after retirement, they become more isolated and have less need or interest in adapting a modern affect. Dearborn's gender roles are complicated; while strict interpretations of Islam might bar women from professional positions, most Arab enterprises where I performed interviews had multiple women in roles such as Program Directors, Curators, and other high status occupations. There does not appear to be reason to assume that men and women would serve in different professional capacities within the city.

Although Detroit is directly adjacent to Dearborn and has a large black population, Dearborn itself has a miniscule black population; the efforts of Hubbard far outlived him. AAVE would have very little foothold in Dearborn, especially as the Muslim Lebanese of Dearborn interact minimally with Detroit's Maronite Lebanese. At least, this is as was reported by my subjects and my own field experience. When asked demographics questions about their friends, workplace, and neighborhood networks, virtually all subjects reported Arabs and Whites as their primary contacts. As such, I will not be factoring in any discussion of AAVE in the pages to follow; the speech community has essentially walled it out.

With these demographic thoughts in mind, we can begin to look to the Dearborn Lebanese. If they are like other cultures (*not* a given), we know who will show the first signs of shifting. Based on the previous behavior of NCS, we know which vowels should be targeted first, and how the infiltrating shift would progress. We could see exactly where the accent was making gains and estimate its trajectory. The problem in all this, of course, is that the NCS is a shift from a specific vowel system, that of Peterson and Barney. The Dearborn Lebanese brought with them an entirely different vowel system, from an entirely different language; a language we must study now in order to continue.

NCS is the dominant accent among urban and suburban Michiganders of European-American descent and has been present and studied in the Inland North since at least the seventies in work such as Callary (1975). It was a factor in Penelope Eckert's study of 'Jocks and 'Burnouts' Eckert (1988), as well as in more recent work such as Ito (1999), Evans (2001) and Gordon (2001). One theory of its dispersion suggests a gravity model (Chambers and Trudgill 1980, Trudgill 1983), in which the largest cities serve as distribution centers for the shift into the surrounding countryside. Thus, the Northern Cities such as Detroit, Buffalo, Cleveland, and so forth would be the first to absorb the accent, and then 'pull in' other nearby cities, the largest of them first. The accent would spread based on which cities were largest and closest; small towns might be skipped, even if they were nearby.

The studies done in Michigan have by and large shown the NCS spreading through the state in a manner consistent with the gravity model. Michigan's major southeastern cities such as Detroit, Ann Arbor, and Flint are included as NCS in the *Phonological Atlas of North America* (Labov, Ash, and Boberg 2006), as well as more distant population centers such as Kalamazoo and Midland. Studies have shown that the NCS has dispersed throughout farther reaches the state, being most advanced in larger cities like Grand Rapids - Knack (1991), or Ypsilanti - Evans (2001), while being present only in infant stages in rural areas (Preston and Ito 1998, Ito 1999).

Although these works show us gravity model's effects taking place in Michigan, other work such as Gordon (1997) suggests that such progress is not absolute. Gordon spoke with subjects in Chelsea, a small town near southeastern Ann Arbor, and Paw Paw, a small town near Kalamazoo, on the west side of the state.

City	Population
Ann Arbor	114,024
Chelsea	4398
Kalamazoo	77145
Paw Paw	3363

Table 1. *Populations of cities in Gordon (1997)*

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Being that Chelsea is much closer to Detroit and to the population-dense Southeastern portion of Michigan, Gordon predicted that NCS would be stronger in Chelsea. Instead, he found the opposite, with stronger NCS traces in Paw Paw. He attributed this to 'local loyalty', an active desire on the part of Chelsea residents to hold on to their identities and accent, a phenomenon similar to Labov's fishermen. Preston and Ito (1998) had similar findings in rural Michigan; the stronger the affinity for one's small town and the more distaste for city life, the fewer signs of NCS were evident.

Because NCS is considered a 'Change from Below' (Labov 1994: 98-99), it is almost never a conscious affectation, or even recognized by its speakers. As such, objection to it would not be direct like "not wanting to sound 'Southern'", but would instead be a rejection of the people associated with it (city folk). Speakers would thus be making efforts to keep their speech the same as it's always been, and as long as they were doing so (consciously or not), any NCS inroads would be slow and minimal. However, if there were not antagonism toward NCS speakers in a community, it could infiltrate significantly without any awareness on the part of new speakers. Studies like Evans et al (2001) have found exactly that, with Southern immigrants to Lansing, Michigan rapidly assimilating to the dominant speech paradigm due to agreeable opinions of the natives. (p 63)

Although most of these studies have been primarily concerned with European-American natives of Michigan (or European-American Southerners in Evans), some work has looked at the acclimation of regional dialects by English L2 speakers. It might be worth questioning if L2 speakers are even capable of recognizing and adapting regional dialects. In a study modeled from Payne (1980)'s study of E-A arrivals' acquisition of Philadelphia's short-a, Lee (2000) found that L2 speakers did not produce the local pattern.

However, Friesner and Dinkin (2006) examined the speech of Russian immigrants and found that they were indeed acquiring the short-a constructions, but not in all cases. They suggest that Lee's conclusion was too abrupt, arguing that the short-a is a very complex dialect feature; so much so that not all native Philadelphians produce is perfectly. Friesner and Dinkin's findings were similar to those of Payne (1980); the younger the subject was when immigrating to Philadelphia, the better they produced short-a and the more 'local' they were judged to be by Philadelphian listeners. (p 11) Of key interest in their work is the finding that the Russian subjects were able to produce Philadelphia's features while keeping many L1 features intact, enough to still sound 'Russian'. (p 13)

2.1. What Can We Expect? – NCS Infiltration

Based on the above discussion, Dearborn should be a prime candidate for early arrival of NCS via the gravity wave model. Being adjacent to Detroit, an NCS epicenter, combined with its population of 97,000 as of 2000, Dearborn is should be prime territory for NCS arrival. Being 87% white and surrounded by largely white suburbs such as Taylor, Allen Park, and Lincoln Park, Dearborn should be filled with advanced NCS speakers, meaning that immigrants to the city would receive the accent in immediate and heavy doses.

If the Dearborn Lebanese were taking on the shift, we would expect to see the signs in the following manner, taken from Labov:

1. *Most advanced changes are found among younger speakers: adolescents, young adults.*
2. *Most advanced speakers belong to the 'interior groups', centrally located in class/status hierarchy. (LMC, UWC; skilled workers, clerks, teachers, merchants, local activists).*
3. *They are speakers with highest local prestige: upwardly-mobile individuals, e.g. from ethnic groups who entered the community recently (3-4 generations ago).*
4. *Women are generally more advanced than men in new and vigorous changes.*
   Labov (1994 p 78, 300)

We would expect such adaptation to follow in the manner described by Labov, Preston, Ito, and others; initial pieces of the chain being integrated into speech at the start, with advanced stages falling into place later. The community's advancement through the chain shift would serve as a benchmark of how fast the change has swept through, and for what the next changes will be. Further, Friesner and Dinkin suggest we might see a hybrid structure of a system based on Arabic and Northern Cities. As we'll see in the discussion of vowel systems, this would be easy to do; Arabic vowels and those affected by NCS overlap only minimally.

All the elements appear to be in place for NCS, with the only question being the strength of local loyalty. Because the Arab community in Dearborn is large and has been established for some time, immigrants are not necessarily surrounded by native Michiganders. As mentioned, we would not expect the Dearborn Lebanese to be aware of NCS, but they may reject it in a bid to maintain the speech patterns of their community. This could retard advancement of NCS, and it would be particularly telling if we saw the younger more recent generations of Dearborn Lebanese not adopting the shift.

3. Speech Community and History of Dearborn

"I just don't believe in integration. When that happens, along comes socializing with the whites, intermarriage and then mongrelization."

-Orville Hubbard, Mayor of Dearborn from 1942-1978 (from Good (1989))

It is with these words in mind that one must consider the beginnings of the Arab community in Dearborn, Michigan. The sprouting of this community came during the 1960's, in the -middle of Mayor Hubbard's tenure and his 'Keep Dearborn Clean' campaign, which many understood to mean "Keep Dearborn White". (Good 1989). At the time, the automotive industry was booming, and with Ford Motor Company headquartered in the city, Dearborn was a magnet for workers. The Ford River Rouge plant employed 120,000 workers in its prime, and served as the attractor for what would become the densest Arab community in the world outside of the Middle East.

Figure 2. *Map of Michigan – Dearborn Marked With Arrow*

On paper, Modern-day Dearborn remains in keeping with Hubbard's vision: The racial makeup of the city as of the 2000 census was 86.86% White, 1.28% African American, 0.26% Native American, 1.47% Asian, 0.01% Pacific Islander, 0.73% from other races, and 9.38% from two or

more races. Hispanic or Latino of any race contributed the remaining 3.00% of the population. However, it must be noted that most Arabs in the city were counted as White. Given that the Arab population is roughly 30,000 of the city's total 97,775 (again as of the 2000 Census), we can assume that Hubbard would be astonished at the city's current composition.

The city is divided geographically by race. Caucasians favor the western side of town and more upscale Dearborn Heights. Telegraph Road bisects the city, and the further east of it one goes, the more Arab businesses and signs she will see. Major fixtures such as the Islamic Center of America (the largest mosque in the United States) and the Arab American History Museum are on the northerneastern side of the city between Ford Road and Michigan Avenue. The Arab community is working strongly to make itself at home, with a great deal of new construction and upgrades taking place in recent years. The more affluent northern areas are predominantly Lebanese, with poorer Yemeni and Iraqi residents living south of Michigan Avenue. One subject commented that the original Lebanese immigrants of the 1960's were kept to southern Dearborn, later moving northward and making room for the next wave to arrive.

Of key interest is that the Arab population has been logged as White for the census; the definition of being 'Arab' is thus very active question within the community today. The newly-opened Arab American History Museum has a large map of the 'Arab World' hanging from the ceiling, with notable absences of Israel and Iran; Dearborn residents make it quite clear that Iranis are Persians, not Arabs. Arabness is a complicated question both in terms of race and heritage; many Lebanese in particular share closer physical features to the Mediterranean than the Middle East, including lighter skin and curly hair. Some subjects I spoke with noted that they could hide being Arab if they chose and 'pass' as White; one man said he had two accents, one for sounding White, one for sounding Arab. Competency in Arabic may seem a good provision for being part of the community, but not all those of the younger generation speak it. Further, because of the substantial Lebanese, Iraqi, and Yemeni communities, there is certainly no one version of the language to use as a benchmark for membership.

Because of these considerations, it was more prudent to select a speech community by blood instead of social membership. The Arab community in Dearborn has not existed long enough to be homogenous, and for the reasons mentioned above, claiming membership within it can be a murky question. However, the Lebanese contingent are by far the largest and most established sector of Dearborn's Arab world, and have certainly taken the strongest efforts in building the Arab community's public identity. The Arab Community Center for Economic & Social Services (ACCESS) is a major participant in social services for Arabs,

as well as the creator of the Arab American History Museum, and the directors of both institutions are predominantly Lebanese. The Islamic Center of America, the largest mosque in the United States, is also largely Lebanese. Thus, for this study I drew from subjects of Lebanese descent, either from Lebanon themselves or of direct ancestry. There was no requirement for speaking Arabic, only that they spoke fluent English, were literate, and had lived in Michigan for several years. While residents of ten years or longer were originally sought, difficulty in finding willing and/or eligible subjects prompted more flexibility on this criterion.

Because we know that the Northern Cities Shift has been gestating in Michigan for some time and due to Hubbard's influence, we can safely presume that the original Arab immigrants from the 60's have been exposed to the NCS for the entirety of their tenure in Dearborn. At the time of their arrival, Dearborn was an affluent Northern City, right next door to thriving Detroit and a short train ride from Chicago, Cleveland, and Toledo, all dens of NCS (Labov, Ash, and Boberg 2006). Long-term residents describe Dearborn as a desirable place to live at the time; many factory workers lived in neighboring Taylor and Allen Park, with the white collar executives living in Dearborn to have close access to Henry Ford himself. Any emerging NCS in Dearborn would be the speech of the wealthy and successful. Although NCS is generally hard to perceive by its own speakers, we can assume at this time period that it would never be looked down upon.

Although there were Arabs in Dearborn as early as the 60's, the community was not yet a cohesive and distinct entity. A walk down Michigan Avenue today passes by shop after shop with signs in Arabic, with Halal meats, with Shawarma and Tabuleh on restaurant menus, but these are more recent developments predicated by two concurrent events that allowed for a full-fledged Arab community to exist: Detroit's race riots of the 1960's and 70's, and Lebanon's Civil War from 1975 to 1989.

Detroit's racial tensions exploded on July 23, 1967 into the 12th Street Riot, a five-day storm of torched buildings and police brutality that served to rapidly accelerate the already existing 'White Flight' from Detroit. Whites had already been trickling out of the city, but this served as a final straw to make the trickle a torrent, and Whites quickly fled to the outlying suburbs. Dearborn, being directly next door, also suffered from being too close to the fires, making it also appear unsafe. As people poured out, the city was ripe for a new population to take their place.

The civil war occurring in Lebanon served as the catalyst to create that new population. The war began in 1975 and quickly became a threat to the civilian population with events such as Black Saturday and the Karantina Massacre leading to the deaths of hundreds of innocents. As the war continued and Beirut was reduced to ruins, many Lebanese began fleeing the country. Some fled to Algeria or Venezuela, but many others headed to Michigan. The lone family member who was in Dearborn

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before the war became the way out for many people. A number of the subjects I spoke with had come to the United States during this time, and had picked Michigan because of existing family. The Lebanese Civil War served as the final element to make Dearborn into a full-fledged Arab community; the void left by departing Dearborn Whites was large enough to accommodate a major influx, and the space was quickly filled, making a very literal Northern Cities Shift.

Further controls besides Lebanese heritage were needed, however; subjects assured me that though a small country, Lebanon is host to a swarm of dialects and regionalisms, giving a speaker from the mountains a markedly different manner of speech than someone from Beirut. Further, villages often have isolated contact with the cities, ensuring that their dialects will be entrenched with little mixing. Lebanon is split religiously and politically between majority groups Maronite Christians and Shi'a Muslims. The Maronite church is a branch of Catholicism largely unique to Lebanon, and has a great deal of influence within the country. In recent years, Maronites have been emigrating from Lebanon, allowing the Shi'a to gain in strength. The divide remains in place in Michigan; Muslims live in Dearborn, Maronites largely in Detroit. Although there is some cross-over and intermingling (Zoe, a Dearborn resident, is Catholic and works at a Catholic church), the two communities generally have little to do with each other, which at least makes this aspect of culture fairly homogenous. All but two of my subjects lived or worked in Dearborn and were affiliated with the Islamic Center, and so were participating members of the Shi'a Muslim speech community there.

It could be argued that Dearborn, being next to Detroit, would have strong tendency to adapt AAVE, but this is unlikely, predominantly due to Hubbard. During his time as mayor, Blacks were aggressively kept out (at one point only 20 African-Americans lived in the whole city (Good 1989)), and before White Flight, there was not a Black community in Detroit like today. Being that NCS has been established for some time, it's had much longer to insinuate itself into the population. Furthermore, since the Dearborn and Detroit Lebanese don't interrelate much, even if the Detroiters are picking up AAVE, it would not be able to make significant inroads in Dearborn. And finally, from speaking to residents of Dearborn and others, the Arab community is quite tight-knit, with many people remaining in Dearborn their whole lives. Social networks within the community are deeply entangled, but subjects often had few friends in the United States that did not live in Dearborn. Unlike the Mexicans of (Roeder 2006), Dearborn Arabs are not nomadic or engaging with other communities. The effects of AAVE or indeed any other accent they did not have direct contact with would be muted.

4. Methodology

For this project 28 people were interviewed with the requirements that they be of Lebanese descent, speak fluent English, and had lived in Michigan for several years. Two subjects were excluded –one due to not being Lebanese, and one due to not being able to perform all of the tasks. All but one subject either lived and worked in Dearborn– the remaining subject was a priest in Detroit, and his position meant that he was interacting with the Lebanese of Dearborn as well as Detroit. Most subjects were recruited from visits to the Arab Community Center for Economic & Social Services (ACCESS), the Arab American History Museum, and the Islamic Center, and many of them were employees at these institutions. Others were recruited via flyers posted at colleges and universities in town, or by visiting local businesses. The interviews were conducted between the Spring of 2005 and Fall of 2006, either in the subject's work or home setting, or else at a public library.

All interviews were conducted entirely in English and recorded in analog on a Marantz PMD 222 with an AT831b Audio-technica uni-directional clip-on microphone. The recordings were then digitized to 16-bit, 10,000 Hz digital format using the acoustic software Praat. First and second formant measurements of steady state vowels were taken through Praat, using the sociophonetic software program Akustyk. Only one measurement was taken for diphthongs, just after the perceptual end of the transition from the preceding consonant. The data used the calculate the overall averages for groups of individuals were normalized using a Nearey normalization algorithm (without F3).

The interview was generally lasted a half-hour, although engaged conversations sometimes made it last as long as two hours. The interview began with conversational question-and-answer before concluding with their reading aloud a 109-word wordlist, a short reading passage, and finally a test of aural comprehension of sound clips exhibiting the NCS. The discussion here will be centered on the wordlists. Although there might appear to be reason for concern for not using conversational tokens, studies such as Ash (1999) and Ito (1999) tell us that due to NCS' 'change from below' nature and low level of perception by its speakers, NCS would be present in any manner of speech a subject produced.

Subjects' socio-economic status was rated by a score based on the Warner Index of Social Characteristics (Warner 1960), considering occupation, housing, neighborhood, and level of education. A lower score indicates higher status, and for this study, a score of 20-50 was judged as Upper Middle Class (SES Group 1), and 50-70 as Lower Middle Class (SES Group 2). Those in the former group consisted mostly of directors and high level administrators, the latter group were more often clerks, secretaries, or temporary workers.

Subjects were also given a network score based on their responses to questions about their social life, based on Milroy (1980). Respondents were asked if they lived in Arab neighborhoods, worked with Arabs, or had immediate family that lived nearby in a separate household. Positive answers raised one's score, with a high score indicating a strong connection to the Arab community both in one's social and professional life.

5. Arabic

It is difficult to locate acoustic studies of any Arabic, let alone the many Lebanese varieties. Despite its small size, Lebanon is filled with isolated pockets of speakers, which will naturally create plenty of variation. Researchers like Haddad (1984) have found that even a closely bound Arab community will have a multitude of dialects, making it even more improbable to find uniform subjects. A few respondents told me that Dearborn Lebanese generally come from southern Lebanon, closer to Beirut, which creates a small amount of homogeny. Further adding to the difficulty of classifying the dialect immigrants bring into Dearborn, most Lebanese have had exposure to English and French while in school, as well as Hebrew courtesy of neighboring Israel. When questioned about which varieties of Arabic were easiest to understand, subjects predictably rated countries close to Lebanon as easier (Syria, Iraq, Egypt), while more distant varieties (Yemeni, most African) were deemed difficult. It could be supposed that if one could not find acoustics on Lebanese Arabic, that the dialects deemed comprehensible to Lebanese might serve as better proxies for their own speech.

Fortunately, there have been a few studies that will serve well enough to give a picture of the vowel system of Lebanese Arabic, enough at least to describe its tendencies and desired contrasts.

5.1. Qu'ran Arabic – Newman (2002)

Newman (2002) performed an acoustic study of readers of the Qu'ran. While Qu'ranic or Classical Arabic is very formal and ritualized, he measured the acoustics of different readers, including Lebanese subjects. His results cover six of Lebanese Arabic's described eight phonemes, and serve to paint us an initial portrait of a vowel system whose shape will become more and more familiar as this paper continues.
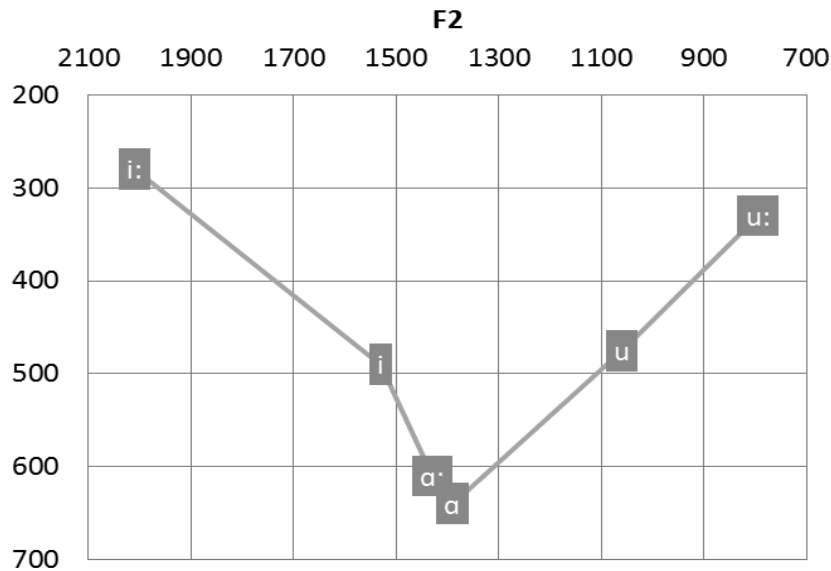
Figure 3. *Acoustics of Qu'ran Arabic from Newman (2002)*

This plot of Classical Arabic shows a five vowel system, although other work we'll see suggests a front and back version of /ɑ/, rather than the merger seen here. In either case, we can see that the system aims for maximal contrast. There are three long vowels and three short, and their locations on the plot are to be remembered as we look at later plots. If we were to interpret the long/short distinction as an isomorph of the tense/lax distinction (reasonable, given Holes (1990) which asserts that short vowels in Arabic are often realized as lax), we would note a strong difference with English systems like Peterson and Barney. Arabic sees this contrast as a marked one, making sure that the short/lax vowels are significantly lower and more toward center. Both Peterson and Barney and NCS have fewer qualms about neighboring tense/lax pairs, and are quite content with phonemes like /u/ and /ʊ/ being in close company.

5.2. Spoken Arabic - Al-Ani (1970) and Mitchell (1993)

Although the Arabic of the Qu'ran is a helpful way to see a liturgical language that may vary little by region, it is not illustrative of speech anywhere outside a mosque. We can turn to other sources, however, to learn more. Salman Al-Ani's *Arabic Phonology* is one of few works on the subject of Arabic acoustics. His subjects were predominantly Iraqi, whose speech should be similar enough to the Lebanese to be worthy of discussion. Al-Ani described the same six vowels as Newman and

arrived at the same general shape for the system, but with a different distribution of sounds. Figures 4 and 5 show us his results:

Vowel	Duration	F_1	F_2	F_3
i	300	290	2200	2700
ii	600	285	2200	2700
u	300	290	800	2150
uu	600	285	775	2050
a	300	600	1500	2100
aa	600	675	1200	2150

Figure 4 . *Acoustic values of isolated vowels from Iraqi speakers*
(Al-Ani 1970, p 23)
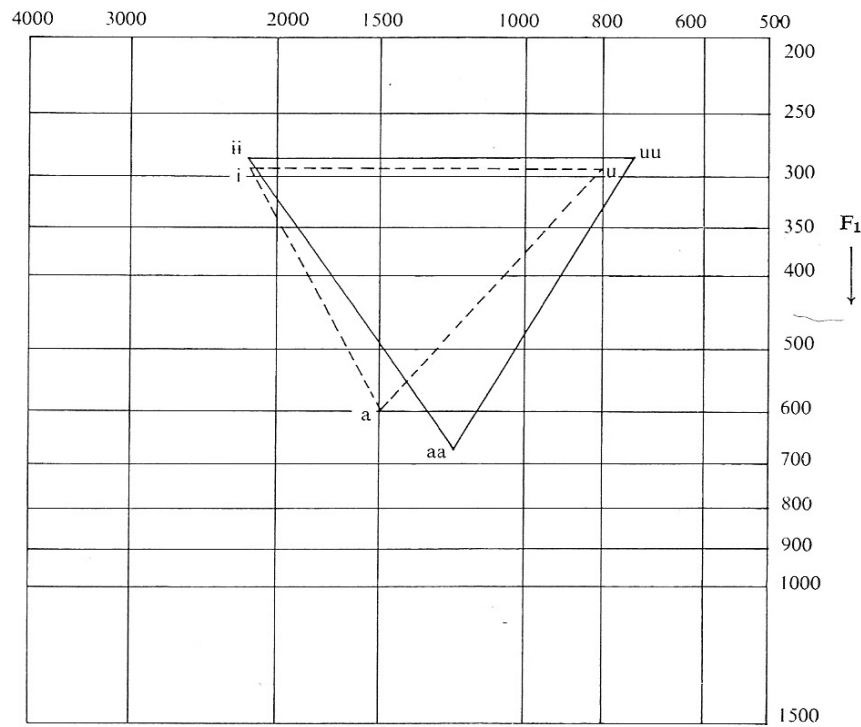
DIAGRAM I

Short and Long Vowels in Isolation
$\longleftarrow$ F_2

Figure 5. *Combined Long and Short Vowels in Isolation Chart*
(Al-Ani 1970, p 25)

Al-Ani's chart shows little difference between the high long and short vowels, contrasting with Newman. The low vowels, however, show greater contrast, suggesting a contrast of fronting between /a/ and /aa/. Al-Ani considers the long-short difference as phonemic, with each of the six sounds having allophones that occur in limited environments. Notice that all short (and likely lax) sounds are in positions closer to those of their lax counterparts in English. All of the vowels in Al-Ani were elicited in isolation, hence the much longer durations than would be used in words. (Obrecht (1968) recorded vowels inside words to be at least half this duration) Al-Ani noted that subjects generally inserted a glottal stop before the vowel, likely due to Arabic's dislike of initial vowels.
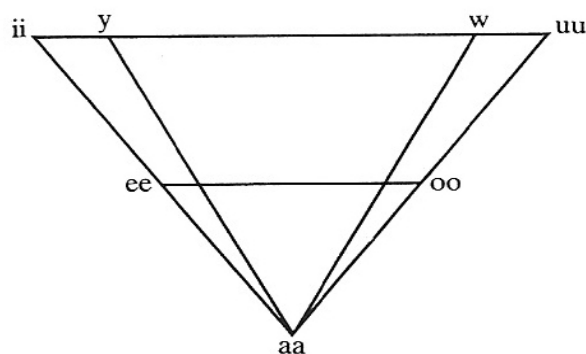

Figure 6. *Vowel Chart from Mitchell (1993, p 139)*

Mitchell (1993) talks briefly about the organization of the Egyptian Arabic vowel system, although he offers no acoustic data. Figure 5 depicts his representation of the long vowels in the system, of which he sees five. Although Mitchell speaks on short vowels in Arabic, he presents no explanation of where they might be on a vowel chart. His arrangement is very similar to Newman's, with the mid-vowels much lower than those in high position. As we'll see, this arrangement for the system is evocative of the Dearborn Lebanese. Mitchell labels the mid-back vowel as long /o/, whereas Al-Ani and Newman treat it as lax /u/. As we will see, the Dearborn Lebanese conflate these two sounds in English, making it unsurprising that the Arabic mid-back vowel could receive either label.

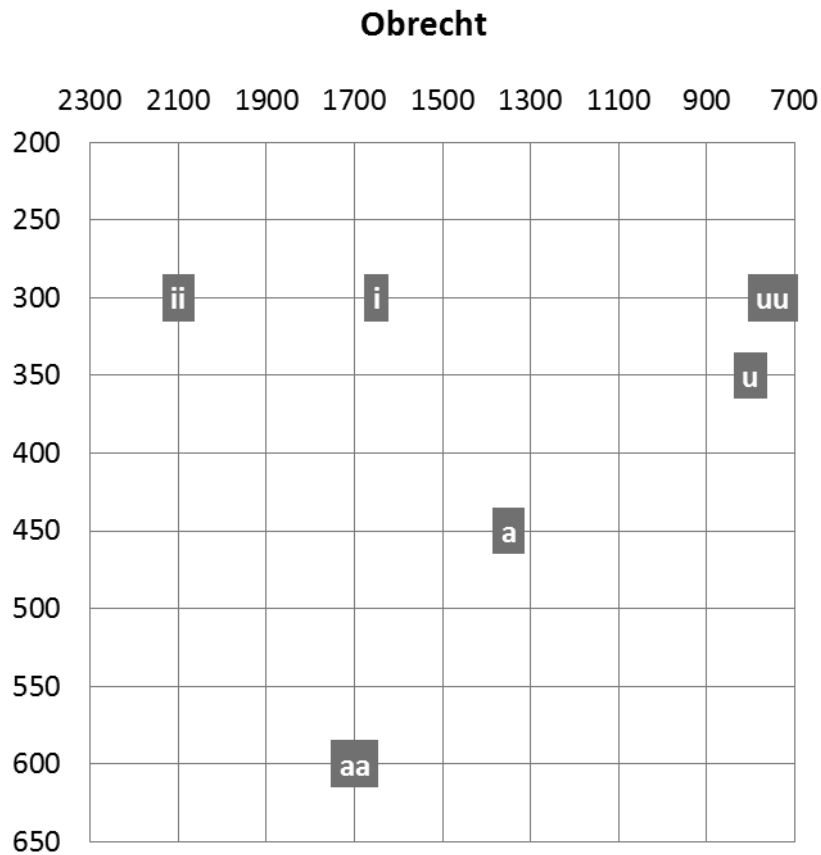## 5.3. Lebanese Arabic – Obrecht (1968)

Figure 7. *Vowel Chart based on values from Obrecht (1968, p 28)*

Obrecht (1968) is one of the few discussions of the acoustics of Lebanese Arabic. In this case there is only a single subject involved, a man named Youssif Barakat from the village of Kfarsghab, near Tripoli in the north (p 28). While most of the Dearborn Lebanese are from southern Lebanon, Obrecht at least offers one of the few examples of a subject from the same nation. His chart is a little unusual, with /ii/ and /i/ having the same F1 value, and /aa/ and /a/ being quite far from each other. The long vowels maintain the maximally contrastive triangle pattern that we've seen in the previous pages, and the short vowels may be a miniature version of this. Although Obrecht's data is not to be weighed heavily due to its single subject, it does at least show another example of a six-vowel system for Arabic.

Finally, *Spoken Lebanese* (Feghali 1998) alleges an eight vowel system for Lebanese Arabic that includes the above-mentioned six as well as:

e   *short vowel as in: neck, cell, bed.*
ee   *prolonged vowel as in: man, bear.*

Feghali (1998), p ix

Feghali offers no acoustic values, and it may be that these sounds are allophones of the core six. Note that the /ee/ here was also present in Mitchell (1993).

Based on the above studies, we can be reasonably confident than anyone arriving into Michigan from Lebanon would have at least a six vowel system containing tense and lax versions of /i/, /u/, and /ɑ/. The level of contrast between long and short is not clear, ranging from the stark differences of Newman to the minimal separation in Al-Ani. Regardless of whether Lebanese is considered to have five, six, or even eight distinct vowel phonemes, there are still far more sounds in an English system than in Arabic, and any Lebanese immigrant immersed into Michigan will need to reconcile these additions. Following the SLM hypotheses, we might predict an immigrant's system to use the Arabic triangle as a skeleton for further additions. For a preliminary look at how this might happen, let us look at Munro 1993:
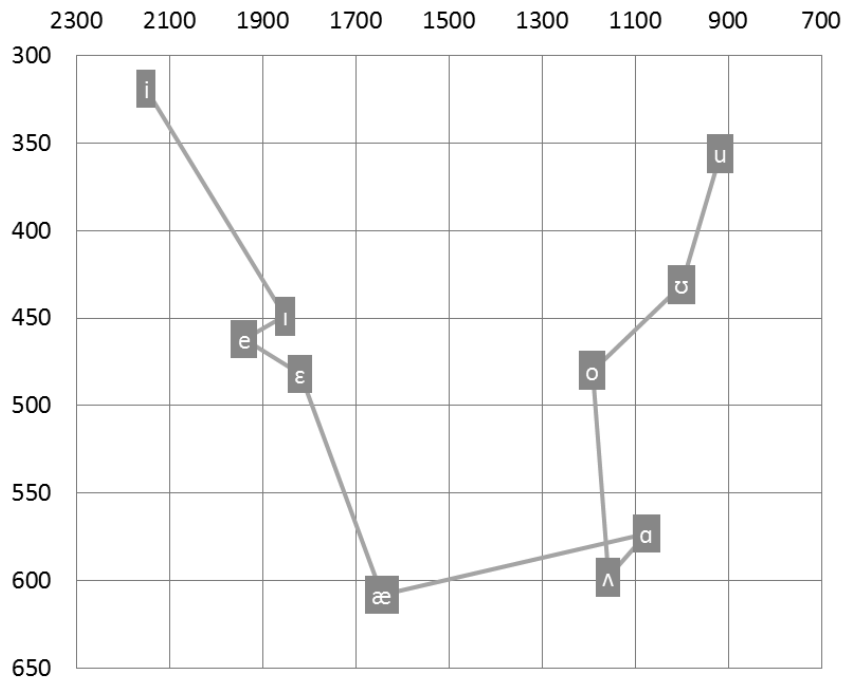
5.4. Recent Immigrants - Munro (1993)

Figure 8. *Vowel chart of subjects from Munro (1993)*

Munro interviewed English-speaking Arabs primarily attending the University of Birmingham Alabama, having them pronounce /bvt/ and /bvd/ clusters of English vowels, comparing their results with Native English spakers. The graph above shows the results of his Arab subjects, who were primarily Jordanian and Kuwaiti (given that these countries are near to Lebanon and that the 'Gulf Arabic' they are a part of is described as having the same eight vowels of Lebanese dialects, these figures are close enough to compare).

Munro's plot shows us a system with six vowel clusters, in a very similar arrangement to Newman. Newly introduced /ʌ/ has been merged with /ɑ/ and above, /o/ and /ʊ/ keep their distance from both /u/ and /ɑ/ Munro had no data for /ɔ/). /ae/ is in an identical position to Obrecht's /aa/ in Figure 7.

Note that these data show little resemblance to the NCS and a much stronger similarity to Peterson and Barney; /æ/ is low, /ɑ/ is low and back, /ɛ/ is not being forced down into the central area. We would not expect NCS in Alabama, and these speakers do not exhibit a pattern that would be confused with it. From the studies presented in this chapter, it would not appear that a Lebanese speaker would be entering Dearborn with a style of Arabic that already mirrored NCS. Arabic offers no raised /ae/ equivalent, nor a centralized /ɛ/, and its fronted /ɑ/ is nowhere near as low as NCS. Arabic almost certainly lacks /ɔ/, making one more stop on the NCS chain that would not be already in place.

We now know how to recognize if the Dearborn Lebanese vowel system is patterned off of Arabic; we would expect six main areas for vowels to gather, and the system to be shaped either as a triangle or as a bowl with a narrow bottom. Munro shows us which vowels would be likely to be clustered together, and all of the data in this section show that any signs of NCS would not be accidental; there are no false positives for it within Arabic.

6.1. Dearborn Lebanese - Complete

The Dearborn Lebanese system holds some strong similarities to Munro, although it has had more time to be established. Whereas Munro's subjects were L1 Arabic speakers, this study's subjects were mixed; some were born and raised in Lebanon, others had spent their entire lives in Dearborn. All but one spoke Arabic fluently and most were literate in it as well. As mentioned earlier, the system has had time to evolve and stabilize, and as we'll see when examining sub-sets of the demographic groups, the Dearborn Lebanese accent shows extremely little variation, whether among age, gender, or SES.
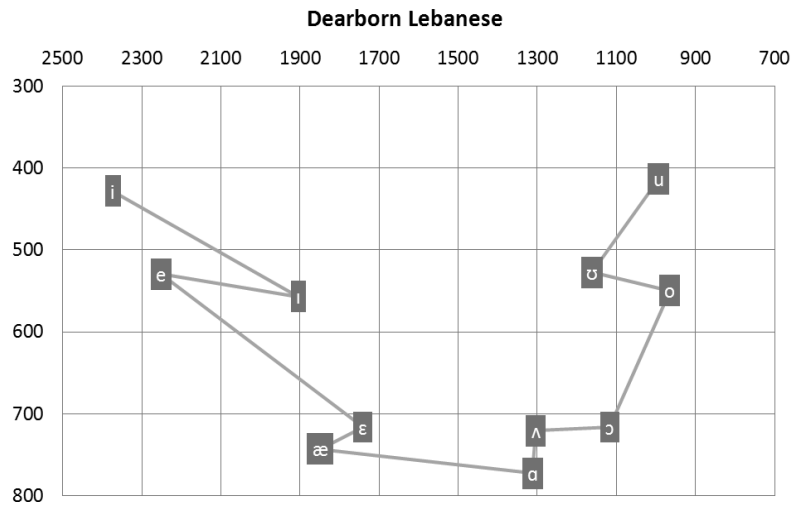
Dearborn Lebanese

Figure 9. *Dearborn Lebanese Vowel Chart (n = 26)*

6.2. Age

All by Age
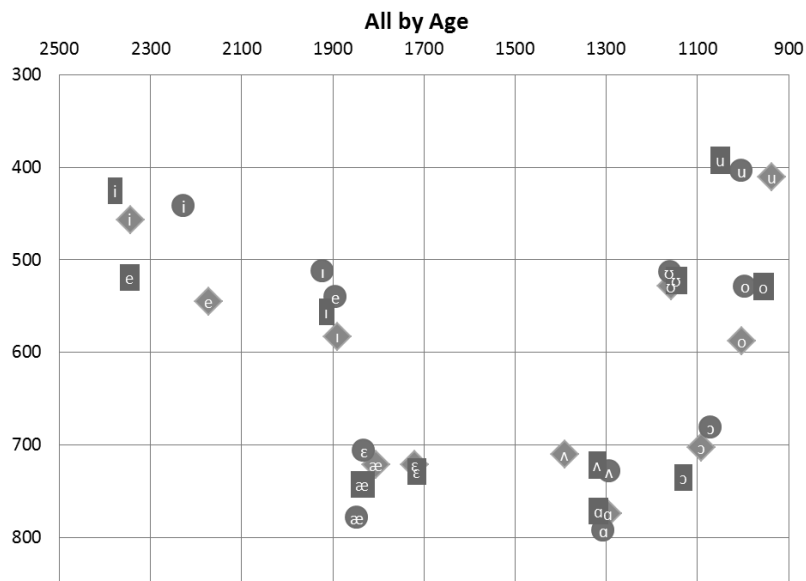

Figure 10. *Dearborn Lebanese by Age*
Square = < 30 (9 Subjects)   Diamond = 30-50 (12) Circle = > 50 (5)

In this graph, we can see that the vowels are fairly uniform when distributed by age. As mentioned before, most of the sounds brought in from Arabic show very little movement, particularly in cases of /ʊ/ and /ɑ/. The progression to younger generations shows a consolidation of the vowel system, particularly in the back low cluster, with the three vowels there being reined more tightly together. Notice in a few cases that the 30-50 group took strides away from the 50+ generation, only to have those under 30 backtrack. (/o/, /I/, and /ae/ are good examples of this) Note also that the one consistent change over time is fronting of /e/; plots of individuals are very consistent in this as well. This represents the final step in freeing up the over-crowded cluster of vowels left by NCS. Those under 30 have a vowel system that fits very well with the Arabic desire to keep tense and lax vowels apart. /e/ has moved far enough forward (and begun raising) so that it is the neighbor of tense /i/, while lax /I/ is left alone in the traditional Arab position. /ae/ and /ɛ/ reside comfortably lax in low front cluster, and the back clusters become more uniform.

No age group as a whole shows a leaning toward NCS; no one is raising /ae/, /ɑ/ doesn't front (or even move in the slightest), and /ɛ/ is never made central. (It is forced low so early in assimilating English that there would never be a reason for it to be in the mid-central NCS position) The NCS tendency to conflate /u/ and /ʊ/ is never toyed with; /ʊ/ never moves, and /u/ is not moving in its direction.
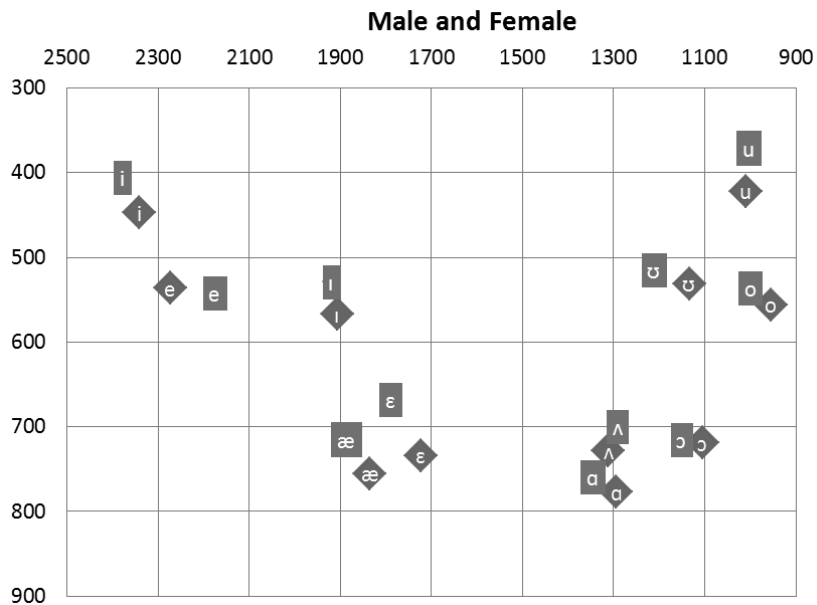
6.3. Sex

Figure 11. *Dearborn Lebanese by Gender*
Men = Square (6) Women = Diamond (20)

Again we see little difference between the two groups. In the rear, men's vowels are slightly fronted, in the front, they're slightly more back, with the exception of /ae/ and /ɛ/. Women are more advanced in fronting /e/. If they are the bearers of accent change for Dearborn, it would appear their efforts are to make the system more like Arabic than any other. All of the men's sounds are raised slightly, except for /e/. Then men seem more content with the vowel clusters being close together, while women push for maximal contrast. Men could be argued to be showing slight tendency toward NCS with their placement of /ae/ and /ɛ/, but they're certainly not rushing toward it.

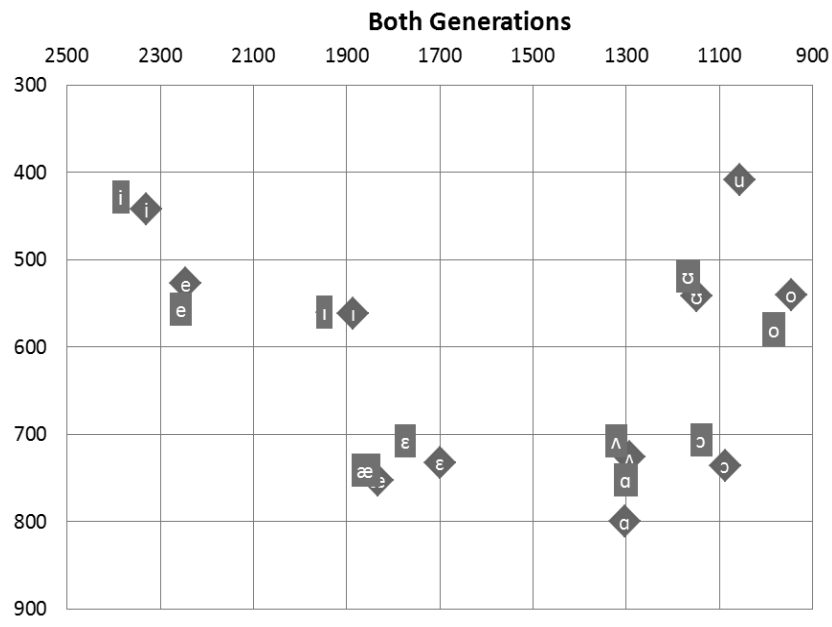## 6.4. Generation of Arrival Into the US

Figure 12. *Dearborn Lebanese by generation*
Square = Born outside USA (15)   Diamond = Born within USA (11)

Simply looking at whether the subject is an immigrant or the child of immigrants shows very little. At virtually every turn, the systems are a tight match for each other. All Generation 2 sounds are slightly backed, but the configuration and arrangement along Arabic lines are identical. No NCS trademarks are present, and one's immigration status appears to have no effect on fronting of /e/.

6.5. Socio-Economic Status
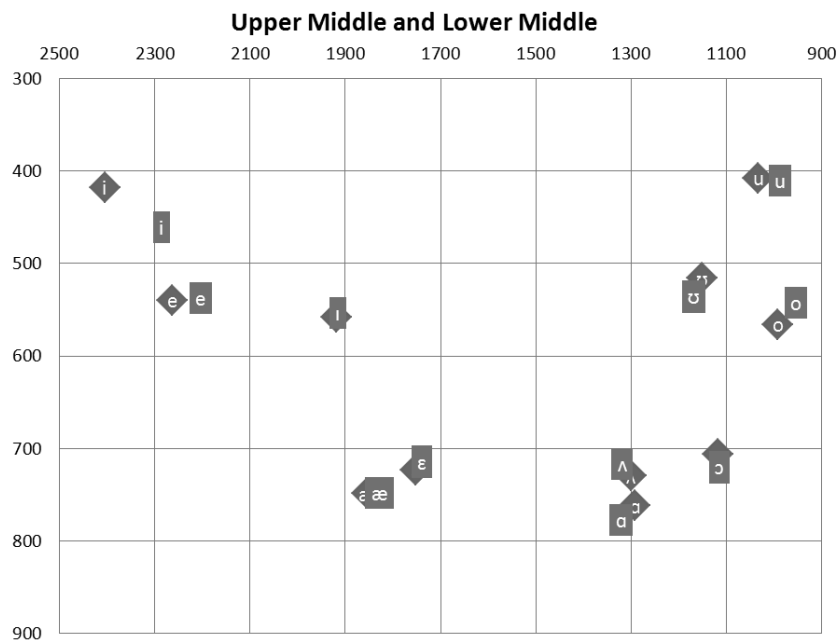
Upper Middle and Lower Middle

Figure 13. *Dearborn Lebanese by SES*
Square = Upper Middle Class (15)   Diamond = Lower Middle (11)

As mentioned earlier, the subjects were divided into two socio-economic groups: Upper Middle and Lower Middle Class. The former were mostly directors or counselors for the community center, mosque, or Arab History Museum. The latter were usually secretaries, clerks, or other staff at such institutions. Upper Middle class subjects were more likely to not live in Dearborn, often dwelling in cities like Livonia or in West Dearborn, both predominantly White areas. Upper Middle class subjects also reported fewer Arab friends and their neighborhoods had virtually no Arabs. Nonetheless, they still spent ample time in Dearborn daily and in workplaces that were almost entirely Arab. Regardless of network and neighborhood differences, the vowel system of the two groups again shows little variation.

6.6. Discussion

When comparing Munro and the Dearborn Lebanese, we can see that the systems have a very similar shape, with a few key differences in vowel placement. Both systems keep the six primary vowel clusters, although Munro's shows us a younger picture, perhaps what the Dearborn system

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looked like in its infancy. We will see that Munro resembles the speech of some of Dearborn's older Arabs, whereas younger generations have made revisions to the system that deal with some discrepancies. Munro's Arabs have two problems that the Dearborn Arabs have reconciled; placement of tense /e/ among lax /I/ and /ɛ/, and a less exact back mid cluster of /o/ and /ʊ/. For the Dearborn Arabs, /e/ has been brought forward and raised toward /i/, bringing tense and tense together. When looking at the data for age in Dearborn, we see /e/ making a push forward, fronting further with each generation. We will see a consolidation of vowel clusters in the mid and low back that show the Dearborn accent settling in. Much like its speakers, we shall see that it is solidly rooted in Arabic norms, with little influence from Michigan, even in the more recent generations.

If we deem Newman and Munro to be representative of the system the Dearborn Lebanese brought with them, the Northern Cities Shift represents the system they arrived into. Early immigrants to Dearborn would have been immersed in NCS, and until the Lebanese Civil War the Arab population was small. One subject, a former police officer, described working during the 1970's in a 1,500 member force that contained less than a dozen Arabs. Thus, older Arabs in Dearborn may have spent twenty years without major Arab contact, with virtually everyone in their neighborhoods and workplaces speaking NCS.

Despite the great prevalence of NCS, it exhibits little influence on the Dearborn Lebanese, and the hallmark features of NCS are absent. /ae/ has not been raised, /ɑ/ has not been fronted (or lowered), /ɛ/ has not been made central. There is not a single demographic that does any of these things, even young women, often considered the bellwethers of NCS's arrival. While it was mentioned that no NCS speaker would conflate /ɑ/ and /ɔ/, Dearborn Lebanese can and do.

Where NCS has had the most influence is in the initial placement of the new English vowels into the speakers' existing Arabic. In creating their English vowel system, the arriving Lebanese quite likely have had no exposure to Peterson and Barney, and so likely took the Arabic six-vowel-cluster arrangement as their base, with the NCS vowels to place into the most agreeable six slots.

The primary problem for arriving Arabs would be crowding in the mid-front cluster for the NCS vowels. There are simply too many vowels there, and speakers with little exposure to English may not be able to hear a difference between them. There is also difficulty because tense and lax vowels are mixing in this position, made even more unusual by NCS /ae/ being a blurry hybrid of tense and lax. The situation is intolerable, and so even recent arrivals like Munro's subjects make some hasty re-workings. First, in a similar fashion to NCS evicting /ɛ/ as /ae/ raises, the Arabs must force out sounds from the mid front. The lower front cluster of Arabic is left bare in NCS, making a perfect location for stragglers to

be sent. Although in NCS, /ɑ/ is fronting and aiming for that slot, Arabs have /ɑ/ in their own language, and know exactly where it belongs; in the back. They simply ignore the NCS fronting influence and drag it back to its home, leaving the low front cluster free of interlopers.

With that area empty, the unwanted vowels can be sent to it, and these prove to be /ae/ and /ɛ/. The centralized /ɛ/ in NCS is disagreeable to Arabs (but very near that front low cluster, and so it /ɛ/ is brought into familiar territory. (Bear in mind that at this point /e/ has not yet moved, which means if /ɛ/ were raised, it would be a lax sound moving into tense territory. The fact that /e/ fronts in later generations shows a sense of solving the worst problems before moving onto clean-up; the first order of business is to get clashing sounds away from /e/ and then later to move it to a better place). The Arabs are savvy and see that /ae/ can be both tense and lax, meaning that keeping it raised is a failure either way; if /e/ and /I/ remain together, /ae/ effectively clashes with both of them, meaning moving either one of those two would still leave trouble. Instead, /ae/ is declared lax and shoved downward into the vacant low front area. /ɛ/ can't remain central because Arabic has no central vowels, can't raise because of /e/'s influence, and it can't back because the other clusters are full, so it lowers to dwell with /ae/. The two lax sounds agree with each other and for most speakers essentially merge.

Note that in all of these proceedings, sounds that exist in Arabic do not move. In the crowded mid-front cluster, moving /I/ would be a feasible solution; if /ae/ were treated as tense, it would thus be in an agreeable location with /e/. However, the Arabic positions of the vowels are observed absolutely; if the sound exists somewhere else it's brought to the Arabic location, and if another sound is in that location, it will be forced out to make room. A similar situation happens with /u/ and /ʊ/; whereas NCS merges the two in the high position (and many languages like Spanish would do the same), Arabic refuses, dropping /ʊ/ into the mid position with /o/ and treating them both as lax. /u/'s high back position is sacrosanct among all subjects. Any shuffling or rearrangement is made to set English sounds in accordance with Arabic norms, and never the opposite.

7. Conclusion and Closing Remarks

From these data, it appears that the standard of complete assimilation of dialect and culture by the second or third generation of immigrants is not automatic, likely due to the same sort of local loyalty exhibited by subjects in Gordon (1997). The acoustic plots show us a vowel system that is at once stable and *not* reflective of adapting NCS. Furthermore, the few signs of change within the system also do not portray an adaptation of native Michigan vowels; instead the system is restructuring to be more compatible with Arabic norms.

The circumstances of the community's creation have contributed largely to this state of affairs; due to a large influx of Arabs over a short period, the Dearborn Lebanese were not isolated arrivals into a sea of Michiganders. Instead, they came to Dearborn as entire families, surrounded by other faces they had seen in their home country. The community was able to stay tightly meshed and self-sufficient, creating the isolation that would preserve their customs and dialect. The solidarity of this group has allowed them to make adaptations on their own terms; new things are assimilated into an Arab way of life and not the reverse.

It's impossible to say if this group has shrugged off a merger with the Michigan culture and accent, or if this is simply a delay of the inevitable. Sociolinguists forty years from now may find that the Arab community has fragmented and begun to sound like the NCS circa 2048, or the Dearborn Lebanese may be as united as they are today, still speaking with an accent based in Arabic. The outcome will ultimately boil down to the choices of the city's young people. In Labov (1963), younger residents of Martha's Vineyard were generally looking for a way to get off the island, and were eager to sound more like someone from the mainland. Although Michigan's flagging economy has prompted many to leave the state for rosier prospects, the young people interviewed for this research expressed no such wishes. Only the older residents were vocalizing a desire to live outside the city (for nicer homes and 'less drama'), and most of their children were grown, meaning they weren't siphoning kids away from having early years in Dearborn. As long as the Arab youth continue to remain within the city, and as long as the Arab community continues to be active and self-sustaining, it is likely that the NCS will not make substantial inroads.

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