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THE ENGLISH VOWEL SYSTEM OF THE OJIBWE FIRST NATION COMMUNITY IN GARDEN RIVER

By

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ABSTRACT

THE ENGLISH VOWEL SYSTEM OF THE OJIBWE FIRST NATION COMMUNITY IN GARDEN RIVER

By

Keiko Matsuno

Labov identifies three major dialects of modern spoken English in North America: the Northern Cities Vowel Shift, the Southern Vowel Shift, and the |ɑ| - |ɔ| merger (Canadian Shift). This thesis will examine the English vowel system of an Ojibwe family, both from a minority community near Sault Ste. Marie and in the town of Sault Ste. Marie, Canada to determine the presence of an influence from the Northern Cities Vowel Shift or the Canadian Shift. The possibility that the subjects possess a unique vowel system due to the influence of their native Ojibwe language will also be investigated. Eight participants were requested to read aloud a word list which was recorded and analyzed to find a mean frequency for each vowel. The results of the analysis reveal that the urban younger generation Ojibwe possess an English vowel system most closely resembling the Northern Cities Vowel Shift while that of the older generation Ojibwe resemble the Canadian Shift.

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Many thanks also to Tom Biron and Michelle Boursaw who brought me into the Ojibwe family, culture, and way of life. I hope that some day we can have a discussion circle with Ojibwe people from Canada and Ainu people from Japan!

Finally, I would like to thank my family in Canada and Japan who supported me and empathized with me from the very beginning. Thanks also to my husband for his endless support.

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1. INTRODUCTION

The English Language is spoken all over the world in many varieties. Even in North America, spoken English varies from region to region. The study of English speakers in North America by Labov (1991) found the existence of three major dialects (Clarke et al. 1995, 209). According to Labov's North American distributions, the first dialect exists in the northern area of the United States and stretches from western New England to beyond Wisconsin in the west. This dialect is called the Northern Cities Vowel Shift and is characterized by the raising of the tense vowel, the lowering of the lax vowels |ɛ| and |ɪ|, the fronting of |ɑ| and |ɔ|, and the backing of |ʌ|. The movement of the vowels into the positions vacated by the adjacent vowels is known as a vowel chain shift. (Clarke et al. 1995, 209-210)

The second dialect exists in the area from the Southern Middle Atlantic States to Texas and is called the Southern Vowel Shift. This dialect undergoes a type of vowel shifting process that is different than the Northern Cities Vowel Shift and will not be described in this thesis.

The third dialect is present in much of the remainder of North America, which includes Canada, and is thought to be characterized by the lack of a vowel chain shift pattern. This third dialect, known as the |ɑ| - |ɔ| merger or Canadian Shift, has some characteristics that are similar to the Northern Cities Vowel Shift, but the backing of the vowel |æ| and the merger of the low back vowels |ɑ| and |ɔ| are distinguishing features that make this shift unique (Labov 1991, 30).

These detailed vowel system descriptions were made possible through the extensive study of monolingual English speakers. In North America, people who speak English as their first language belong to the large majority and receive many social benefits from the education, business, and government systems that use and promote the majority language. This thesis,

however, will focus on the English vowel system of a minority group in North America, specifically the members of the First Nation Ojibwe people.

The native people of the Ojibwe tribe represent a rich opportunity for linguistic study because the Ojibwe language existed in North America before English and before the establishment of Canada and the United States as countries. In addition, the Ojibwe people who now live near the border city of Sault Ste. Marie are subject to both American English and Canadian English influences because of their proximity to the U.S.-Canada border and the mobility afforded them because of their First Nation status. This status grants a special privilege to the native inhabitants of North America by allowing them to hold dual citizenship in both the United States and Canada. With dual citizenship, it is possible to work and live in either the United States or Canada without the necessity of first obtaining a work visa or living permit.

This thesis will attempt to discover what effect, if any, the Ojibwe language has had on the development of the English vowel system of the Ojibwe people living in the Garden River Reservation near Sault Ste. Marie, Ontario, Canada. This thesis will seek to determine if the American influence - in the form of the Northern Cities Vowel Shift - or the Canadian influence - in the form of the Canadian Vowel Shift - is present in the English vowel system of these Ojibwe people. On the other hand, there is a possibility that the subjects may possess a unique vowel system, separate from those described by Labov, due to the influence of their native Ojibwe language. These are the questions that this thesis will attempt to answer.

The organization of this thesis will begin with background information about the subjects and their community, as well as a more concrete description of the English vowel systems in North America. Next, the procedure for interviewing the subjects as well as the word list used will be described. Third, the results of the data will be listed by subject and analyzed by both social factors (age, gender, living condition) and linguistic factors (vowel shift, pattern). Lastly, the overall interpretation of the analysis will be presented in the conclusion along with the answers to the questions asked in the introduction.

2. BACKGROUND

2.1 Garden River Reservation and Participant Family

For this thesis, the English vowel systems of eight Ojibwe Native Canadians (five women, three men) were studied from a family in the Garden River Reservation which is 15 km from the city of Sault Ste. Marie, located on the border between upper Michigan and Northern Ontario. The First Nation people in this area usually have dual citizenship from both the United States of America and Canada (reflecting the history of their ancestors who lived in this area before the two countries existed), and they cross the border often to visit relatives or for schooling or work.

The town of Sault Ste. Marie, Ontario, Canada was gradually formed after 1830, and two prominent villages on the Garden River were led by Chief *Shingwauk* (Little Pine), who had risen to prominence fighting alongside Isaac Brock and Chief Tecumseh during the war of 1812 to 1814. Chief Shingwauk is also known to have developed a new native rights and self-determination strategy which envisioned "Teaching Wigwams" throughout the Great Lakes region in order to provide European style education to the Ojibwe people during the period from 1827 to 1854.

In 1833 the first school house, called "Teaching Wigwams," was built in Sault Ste. Marie with the assistance of Chief Shingwauk and his band. By 1854, the development of a modern community at *Ketegaunseebee* (Garden River) was completed with the inclusion of a mission and a school. After Chief Shingwauk's death, his project and development plans were continued by his sons: Augustin (1800-1890), Buhkwujjeneue (1811-1900), John Askin (1836-1919), and George Menissino (1839-1923).

By the end of World War II, the Shingwauk school and other Native Canadian schools encountered difficulties maintaining their programs due to economic and ideological problems. In the 1950's, the First Nations assembled to try to restore pride in their culture. Also, at this time the Canadian Government decided to integrate Native Canadians into the provincial school systems. When the Shingwauk school was closed in 1970, the Keewatinung Institute was founded; it became a center for culture, education, and research of the First Nations operated by Native Canadians. The Anishnabek First Nations (Ojibwe, Cree, Dotowatomi, and Odawa) from the Great Lakes to the north of James Bay became a part of this institute in order to maintain their culture for the future. The transition became complete with the amalgamation of Keewatinung Institute and Algoma University College in Sault Ste. Marie which today provides Ojibwe language courses in order to prevent the loss of this ancestral language.

Garden River Reservation is located approximately fifteen kilometers from downtown Sault Ste. Marie and has about 300 families consisting of 1600 people. It is reported that only 0.6% of the population in Garden River is fluent in Ojibwe. This 0.6%, in reality, refers to the elders of the reservation who maintain their language skills through the traditions involved in governing a First Nation tribe. As for the younger Ojibwe, there is no urgent necessity for them to learn their ancestral language. In fact, the opposite is true. The young people often reject their heritage in an attempt to assimilate into the culture of the English majority that exists outside the confines of the reservation. Being associated as a member of the First Nations is a disadvantage when trying to find work in Sault Ste. Marie because stereotypes and prejudices still exist that portray the First Nation people as alcoholics or as lazy, unreliable workers. For this reason, many young Ojibwe embrace the English culture around them and try to disassociate themselves from their ancestral heritage.

On the other hand, the elders of the reservation feel that the Ojibwe language is a heritage that is a valuable asset and an essential part of the identity of the modern Ojibwe person. The elders are very concerned about the low fluency rate for Ojibwe and are afraid that the language may become extinct if measures are not taken to preserve it. Currently, no Ojibwe

language course is taught in the Garden River Reservation although the elders are trying to establish a language course for the community.

These two opposing beliefs will be kept in mind when analyzing the speech data of the younger generation Ojibwe versus the older generation to see if there is, in fact, a difference in the English vowel system between the two groups. It is likely that the younger generation will reflect more the influence of the English vowel systems present outside of the reservation because of their active attempt to assimilate into the majority English culture.

When investigating the problem of the lack of fluency of the First Nation people in their ancestral language, it is important to note that the Garden River Reservation is not alone in this problem, although they do appear to be in the extreme. In a study of ancestral language fluency of North American First Nation peoples, Leap (1993) discovered that only 25% of the First Nation adults speak exclusively their ancestral language; 44% spoke only their ancestral language at home when they were raised and then learned English as a second language; and 31% have been speakers of English exclusively throughout their lives. However, of these 31% that speak English exclusively, some still have had difficulty in mastering the language.

Leap classifies North American community settings in three ways: on-reservation, off-reservation rural, and off-reservation urban (1993). The inhabitants' life style varies tremendously depending on which community setting they live in. For instance, people living on a reservation have a large exposure to their native language as well as cultural traditions while off-reservation urban people have the least exposure because they live scattered from one another and lead a busy, urban life. As for off-reservation rural natives, although they are physically separated from the reservation, they may live close to their family and be able to attend cultural activities on the reservation (Leap 1993). The subjects that were interviewed for this thesis are separated using this definition into "on-reservation" and "off-reservation urban" communities.

The family utilized for the research of this thesis is keen to maintain the Ojibwe language and tradition. The family is split, with some members living in the Garden River Reservation and

the remaining members living in the town of Sault Ste. Marie. However, all of the members attended some form of schooling in the town of Sault Ste. Marie. The family members that live on the reservation spend most of their time there and also attend an Anglican church inside the Garden River Reservation where they sing hymns in Ojibwe, although the service is carried out in English. The church is crowded with many native families. The family participating in this study is involved heavily with church activities as well as with Reservation meetings.

People from Garden River represent a unique speaking environment of various influences – the Ojibwe language, Canadian English, as well as American English – because they are located at the international border between Canada and the United States of America. It is the purpose of this thesis to study how these various influences affect the participants' English vowel systems.

2.2 English Vowel System

As this thesis deals with the interpretation and comparison of the Ojibwe participants' English vowel systems, it is important to first summarize the vowel formation in a linguistic manner. Vowels are distinguished from consonants primarily by the lesser degree of constriction imposed by the lips and tongue on the flow of air through the mouth. The vowels are then classified by the precise positioning of the tongue inside the mouth when the vowel is formed.

By examining Table 1, the relative position of the tongue can be seen for the typical vowels in the English language (Kenstowicz 1994, 17). For example, the vowel sound of |ɛ| in

Table 1 - Tongue Position for English Vowel Formation

	FRONT		CENTER	BACK	
	[+ATR]	[–ATR]		[–ATR]	[+ATR]
HIGH	i (beat)	I (bit)		U (foot)	u (food)
MIDDLE	e (bait)	ɛ (bet)	ə (atomic) ʌ (cup)	ɔ (bought)	o (boat)
LOW		æ (bat)		ɑ (Bach)	

Tongue Position for English Vowel System (Source: Kenstowicz 1994, 17 [altered])

"bet" is produced by bringing the vocal chords into the voiced position just before the onset of speech, then raising the velum (soft palate), and finally placing the tongue in the middle-front region of the mouth. The vowel sound of |ɪ|, as in "bit," is articulated by raising the tongue above the neutral position (high-front). Finally, the vowel sound of |æ|, as in "bat," is produced when the tongue is lowered below the neutral position (low-front).

Back vowels, such as |u| in "food," |ʊ| in "foot," |o| in "boat," | ɔ| in "bought," and |ɑ| in "Bach" are all articulated with the raised portion of the tongue present in the back part of the mouth. The vowel |ʊ|, as in "foot," is produced by raising the tongue body above the neutral position of "bet" as it is described on the previous page. The vowel |u|, as in "food," is also produced by raising the tongue body above the neutral position but the vowel sounds of "food" and "boat" are longer than their counterpart vowel as found in "foot" and "bought."

The same observations can be made for the front vowels. The vowel sounds in "beat" and "bait" are longer than their counterpart vowel as found in "bit" and "bet." These vowel sounds are classified as [+ATR] and [–ATR] (advancement of the tongue root) which distinguishes between the tense vowels such as "beat" and the lax vowels such as "bit."

Although Table 1 reveals information regarding the formation of the vowel sounds, the terms "high, middle, low" and "front, back" are too general to be of analytical use. In this thesis, the first two formants of the vowel frequencies - hereafter referred to as F1 and F2 - will be used to provide a concrete means to describe and compare each vowel sound. Simply explained, any sound produced by the vocal chords consists of a combination of sinusoidal waves that resonate at frequencies based on the length of the vocal chords when the sound is produced. For speech science, these resonant harmonics are referred to as formants. The F1 and F2 values for the typical English vowels are displayed in Figure 2.1 (shown on the next page). These values will be used as a baseline when analyzing the position of the Ojibwe participants' vowel systems.

	i	I	ɛ	æ	ɑ	ɔ	o	u	ʌ	ə
F1 Frequency										
MALE	270	390	530	660	730	570	440	300	640	490
FEMALE	310	430	610	860	850	590	470	370	760	500
F2 Frequency										
MALE	2290	1990	1840	1720	1090	840	1020	870	1190	1350
FEMALE	2790	2480	2330	2050	1220	920	1160	950	1400	1640

Frequency in Hz

Figure 2.1 F1 and F2 Frequencies for English Vowels (Source: Peterson and Barney 1952)

2.3 Northern Cities Vowel Shift

The Northern Cities Vowel Shift (NCVS) is one of three major dialects of spoken English in North America as presented by Labov (1991). The NCVS dialect exists in the northern area of the United States and stretches westward from New England to beyond Wisconsin.

Labov states that the NCVS is characterized by a complicated chain shift involving six vowels. These chain shifts are governed by three principles:

Principle I: In chain shifts, tense vowels rise along a peripheral track.
Principle II: In chain shifts, lax vowels fall along a non-peripheral track.
Principle III: In chain shifts, tense vowels move to the front along peripheral paths, and lax vowels move to the back along non-peripheral paths.

(Labov 1994, 176-200)

"Peripheral" and "non-peripheral" are terms used by Labov to refer to positions of vowels within the triangular acoustic diagram as shown in Figure 2.2. When looking at the diagram, vowels on the surface of the "V" (e.g. i, e, æ, ɑ, ɔ, o, u) lie on the periphery and those vowels towards the center (e.g. I, ɛ, ʌ, U) belong to the non-periphery.

The triangular acoustic diagram in Figure 2.2 graphically shows the Northern Cities Vowel Shift and its component steps. The base vowel positions in the triangle are determined by using the F1 and F2 frequencies as were described in Figure 2.1.

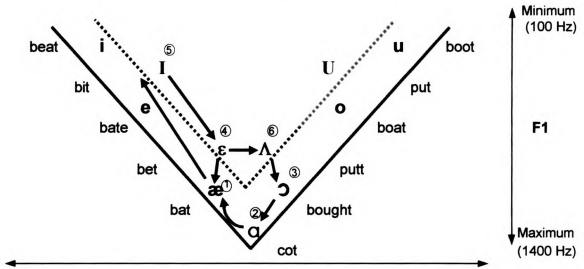

Figure 2.2 The Northern Cities Vowel Shift (Source: Preston 1995)

The Northern Cities Vowel Shift is a dynamic event which is characterized by the changing of position of the vowels with respect to the base frequencies (Figure 2.1). Labov breaks down the changes for the NCVS into a chain pattern that is composed of six links. These links are indicated on Figure 2.2 by the circled numbers and are also summarized below using information that was introduced in Table 1.

1. The first (and oldest) change for the NCVS involves the tense and subsequent rising of |æ| from its position in the low-front to the position of |I| in the high-front. (|æ| ⟶ |I| according to Principle I)

2. The second change involves the fronting of |ɑ| from its position in the low-back to the position of |æ| in the low-front. (|ɑ| ⟶ |æ| according to the first part of Principle III)

3. The third change involves the fronting of |ɔ| from its position in the middle-back to the position of |ɑ| in the low-back. (|ɔ| ⟶ |ɑ| according to Principle III)

4. Beginning with the fourth change, the next three links are more recent and more vigorous changes than the previous three. This change is characterized by two possible lowerings, the first being the lowering of |ɛ| from the middle-front to |æ| in the low-front and the second being the backing of |ɛ| from the middle-front to |ʌ| in the middle-center. (|ɛ| ⟶ |æ| or |ʌ| according to Principle II and III)

5. The fifth change involves the lowering of |I| from its position in the high-front to the position of |ɛ| in the middle-front. (|I| ⟶ |ɛ| according to Principle II)

6. The sixth, and final, change which completes the chain shift involves the backing of |Λ| from its position in the middle-center to the position of |ɔ| in the middle-back. (|Λ|⟶|ɔ| according to Principle III)

(Labov 1994, 195)

Labov first became acquainted with the NCVS in 1968 while studying a group of boys aged sixteen to eighteen years old from Chicago. He discovered, when interviewing them, that the first two elements of the NCVS were well established, even in controlled speech (Labov 1994, 186). During Labov's research he discovered the presence of the Northern Cities Vowel Shift in many major cities stretching westward from Vermont to Rochester, Syracuse, Buffalo, Cleveland, Detroit, and Chicago (Labov 1994, 185). Because the NCVS is present in the major cities in a wide area of the northern United States, it is logical to assume that it may have spread to the communities in the upper part of Michigan - such as Sault Ste. Marie. However, because Sault Ste. Marie is physically separated from other large cities in the area, the NCVS may only be present in its early stages, for example, the rising of the vowel |æ|.

In order to understand the conditions surrounding the shifting of the |æ| vowel, Preston (1995) presents numerous phenomena that help to promote this shift as summarized in the following table:

Table 2 - Vowel Shift Promoting Environment
(higher listed items promote more)

A. Following segment (manner)	V +	nasal ('man') voiceless fricative ('mass') voiced stop ('mad') voiceless stop ('mat')
B. Following segments (place)	V +	palatal ('mash') apical ('mat') labial, velar ('map,' 'Mac')
C. Following segments (number)	V +	C ('pass') CC ('past')
D. Following segments (syllable)	V +	C(C)(C)## ('pass,' 'past,' 'pasts') C(C)(C)[+syl] ('pasture') C(C)(C)[+syl][+syl] ('appetite')
E. Preceding segment	+ palatal	+ V ('jab')
	##, - palatal (- liquid)	('after,' 'calf')
	(C) + liquid	('black,' 'laugh')

F. Lexical restrictions:

(1) 'Function' words ('that,' 'had,' 'am') are more susceptible to the shift than non-Function words

(2) 'and' is more susceptible than all other items

(Preston 1995)

2.4 Canadian Shift

This thesis will also refer to the third dialect which exists in much of Canada. This third dialect will be referred to as the Canadian Shift and is different from the NCVS because it lacks a vowel chain shift pattern. The Canadian Shift has five major vowel changes that are summarized below. These changes are depicted graphically in Figure 2.3 and described using information that was presented in Table 1.

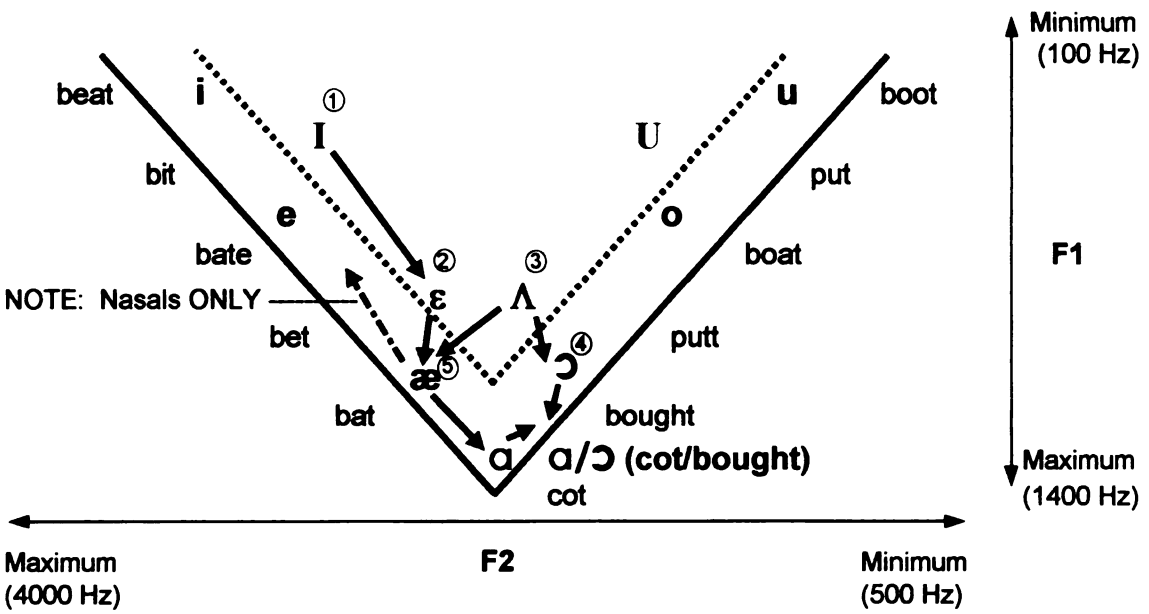

Figure 2.3 The Canadian Shift (Source: Clarke et al. 1995, 212)

1. The first change involves the lowering of |I| from its position in the high-front to the position of |ɛ| in the middle-front. (|I| ⟶ |ɛ|)

2. The second change is a continuation of the first as |ɛ| lowers from its position in the middle-front to the position of |æ| in the low-front. (|ɛ| ⟶ |æ|)

3. The third change involves the vowel |ʌ| as it lowers from the middle-center to either the low-front position of |æ| or the low-back position of |ɑ|. (|ʌ| ⟶ |æ| or |ɑ|)

4. The fourth change involves the merger of the low-back vowel |ɑ| with the middle-back vowel |ɔ|. (|ɑ ⟷ |ɔ|)

5. The last change involves the vowel |æ| which tends to reside in the low area but may move into the low-back position vacated by the merger of |ɑ| and |ɔ|. Note that this is opposite to the NCVS where |æ| instead tenses and rises to the high-front position. However, it has been noted by Clarke that words with the |æ| vowel before a nasal consonant will tend to rise like the NCVS even though the pattern is the Canadian Shift.

(Clarke et al. 1995, 209)

The main contrasting point between the Canadian Shift and the NCVS is the retraction of the vowel |æ| which can be seen in Figure 2.3. This retraction is made possible by the merger of |ɑ| and |ɔ| which creates an opening for the vowels |æ|, |ɛ|, and |ɪ| to lower in a drag effect. (Clarke et al. 1995, 212)

Clarke states that nonlinguistic factors, such as gender and age, play an important role in the degree of presence of the Canadian Shift. Women tend to show a vowel system representative of the Canadian Shift more than men, and younger people show more advancement of this shift than older people (Clarke et al. 1995, 216). Therefore, it would be expected that among the participants, young Ojibwe women should show the greatest influence of the Canadian Shift.

Another well known feature of Canadian English is "Canadian Raising," which was first labelled by Chambers (1973). This feature heightens the onset of diphthongs relative to the low central onset that is heard in neighboring dialects. The raised diphthongs are usually pronounced as [ʌw] in contrast to the neighboring dialects' [ɑw], and [ʌy] contrasts to the neighboring dialects' [ɑy] (Chambers 1973).

This heightening of the onset of diphthongs does not occur in every environment but only in certain linguistic environments as outlined in Table 3.

Table 3 - Canadian Raising

[C - Voice]	ʌy		ʌw	
p	type	[tʌyp]	–	
t	tight	[tʌyt]	tout	[tʌwt]
k	tyke	[tʌyk]	–	
f	rife	[rʌyf]	–	
θ		–	south	[sʌwθ]
s	rice	[rʌys]	mouse	[mʌws]
č		–	couch	[kʌwč]

(Chambers 1973, 115)

Table 3 shows that neither raised variant occurs before [+ voice] and that the raised variant [ʌw] does not occur in words before [– coronal] consonants (p, k, and f). Likewise, the second raised variant, [ʌy], does not occur before [θ] and [č]. Chambers also provides a set of exemplars which display the effect of [± voice] in Canadian English (Table 4).

Table 4 - Canadian English

			Raised		Non-Raised
a.	house	- houses	[hʌws]	-	[hawziz]
b.	mouth	- mouths	[mʌwθ]	-	[mawðz]
c.	spouse	- spouses	[spʌws]	-	[spawziz]
d.	knife	- knives	[nʌyf]	-	[nayvz]
e.	life	- lives	[lʌyf]	-	[layvz]
f.	wife	- wives	[wʌyf]	-	[wayvz]
g.	advice	- advise	[advʌys]	-	[advayz]
h.	device	- devise	[divʌys]	-	[divayz]

(Chambers 1973, 116)

Chambers formulated the Canadian Raising Rule based on the facts shown in Tables 3 and 4 to yield: **Canadian Raising**

a) [V + tense] ⟶ [- low] / ___ GLIDE [C - voice]

That is, tense vowels become [- low] in the environment before the glides [y] and [w] when followed by voiceless consonants. However, Chambers states that this formulation is blocked if the low tense segment has non-primary stress and is followed by a stressed syllable. Thus, Chambers adds a 'Condition' as follows:

> b) CONDITION: "a)" cannot apply if V < [1 stress] AND V ' = [+ stress], where V ' is the following nucleus.
>
> (Chambers 1973, 127)

2.5 Ojibwe Vowels

According to Nichols and Nyholm (1995), there are seven distinctive vowels in the Ojibwe language. Starting in the high-front position there is a short vowel |**I**| which corresponds to the sound that occurs in the English word "pin" and a long vowel |**I:**| that is equivalent to the |**i**|

vowel as in "seen." There are also short and long vowels in Ojibwe at the high-back position. The short Ojibwe vowel |**o**| is used to portray a variety of English sounds ranging from |ɔ| as in "caught" to |**U**| as in "book." The long Ojibwe vowel |**o:**| covers the English range from |**o**| as in "boat" to |**u**| as in "boot."

In the middle-front position, the Ojibwe vowel |**e:**| has only one pronunciation; that of the English |**e**| as in "café." The last vowel set for the Ojibwe language is the short vowel |**ɑ**| which covers the range of English sounds from |ɔ| to |**Λ**| as in "about" and the long Ojibwe vowel |**ɑ:**| which is the same as the English |**ɑ**| as in "father." This Ojibwe vowel system is summarized in Table 5.

Table 5 - Tongue Position for Ojibwe Vowel Formation

	FRONT		**BACK**	
HIGH	**I:** *i (seen)*	**I** *I (pin)*	*U (book)*	*u (boot)*
MIDDLE	**e:** *e (café)*	- *ɛ (bet)*	**o** *ɔ (caught)*	**o:** *o (boat)*
LOW		- ***æ** (bat)*	**ɑ** *Λ (about)*	**ɑ:** *ɑ (father)*

Vowels in **Bold** type belong to Ojibwe System, Vowels in *Italic* type belong to English System

By examining Table 5 it can be seen that there are four major differences between the Ojibwe and English vowel systems. The first two differences are the absence of the English vowel sounds of |**ɛ**| and |**æ**| in the Ojibwe system. The next two differences are the Ojibwe vowels |**o**| and |**o:**| which are expanded to incorporate numerous sounds from the English vowel system. Following is a summary of the Ojibwe vowels along with some Ojibwe example words and their English equivalents.

Table 6 - Ojibwe Vowels with Ojibwe and English Word Examples

	Phonetic	Ojibwe	Examples	English Equivalents
a	[ɔ] ~ [ʌ]	*agin* *namadabi* *bashkizigan*	"count someone!" "sits down" "gun"	about
a:	[ɑ]	*aagim* *maajaa*	"snowshoe" "goes away"	father
e	[e]	*emikwaan* *awenen* *anishinaabe*	"spoon" "who" "person, Indian, Ojibwe"	café
i	[ɪ]	*ininì* *mawi*	"man" "cries"	pin
i:	[i]	*niin* *googii*	"I" "dives"	seen
o	[ɔ] ~ [ʊ]	*ozid* *anokii*	"someone's foot" "works"	obey, book
o:	[o] ~ [u]	*oodena* *anookii* *goon*	"town" "hires" "snow"	boat, boot

Nasal Vowels

	Phonetic	Ojibwe	Examples
aanh	[ã:]	*banajaanh*	"nestling"
enh	[ẽ:] ~ [ɛ:]	*nisayenh*	"my younger sister or brother"
iinh	[ĩ:]	*awesiinh* *agaashiinyi*, *agaashiinhyi*	"wild animal" "(someone) is big"
oonh	[õ:] ~ [ũ:]	*giigoonh*	"fish"

2.6 Hypothesis

The participants for this study have been chosen from an Ojibwe family and include men and women, young and old, and those that live on-reservation and off-reservation. Comparing gender and age, Labov states that "in the course of a change from below, the most advanced vowel systems are found among younger speakers: young adults and youth in late adolescence" (Labov 1994, 156). Labov also points out that these innovators of advanced vowel shift can be found among "interior groups," that is, the upper working class and lower middle class people. Moreover, women are considerably more advanced in vowel shifts than men (Labov 1994).

Thus, the hypothesis is that the young women participants will lead the vowel shift due to the fact that they are more involved socially with American English through their personal contacts, jobs, and education. In addition, their English will be influenced through their involvement with the popular culture and the American content present in radio and television programs broadcast from the United States. Therefore, it is predicted that the young women will reflect the most advanced vowel shift represented by NCVS.

As for men and women adults, since they are more isolated socially and not involved in as many American cultural events, the hypothesis is that they will not participate in NCVS, but rather show the more moderate Canadian Shift through their involvement with the Canadian language in everyday life.

Finally, in regard to on-reservation and off-reservation participants, it is natural to assume that on-reservation participants will be more isolated and not participate in NCVS or even the Canadian Shift. The off-reservation participants should be similar but due to their greater exposure culturally, their vowel shift should be more advanced. However, the reservation participants may show a totally different pattern due to the Ojibwe Language influence.

3. PROCEDURE

3.1 Participants

Eight people from one Ojibwe family participated in this research. The first participant is a 65 year-old grandmother and head of the family. She currently lives in the Garden River Reservation with her two daughters, one son, and three grandchildren. She was born and raised in Garden River. Her mother was a Bohemian and her father was an Ojibwe. She was raised by the grandmother of her father and spoke only Ojibwe up until the age of five years. She went to grade school in Garden River until the 8th grade but was strictly prohibited from speaking Ojibwe at school. She attended junior high school in Sault Ste. Marie. She now attends Sunday service at the Anglican church which is located in Garden River. She is fluent in Ojibwe and will sometimes use Ojibwe words when speaking English. She is a good story teller and delights in telling visitors about the Ojibwe lifestyle. She has a strong desire to maintain the Ojibwe language and heritage.

The second participant is a 20 year-old woman who is the grand-daughter of participant 1. This woman currently lives with her grandmother in Garden River while she attends college in Sault Ste. Marie. She enjoys spending her free time with her friends (the majority of whom are non-aboriginal) or watching television. She escorted the author on a tour of the reservation and indicated the traditional places where the tobacco ceremony, sweat lodge, etc. are conducted. This woman knows some Ojibwe which she learned from her grandmother but, as she is currently busy with her college courses, she does not devote time to studying Ojibwe.

Participant 3 is a 41 year-old woman who is the daughter of participant 1. She was born, raised, and attended school in Sault Ste. Marie. She currently lives with her mother

(participant 1) and also works in Garden River. Her father is from Irish and Dutch background. She speaks only English, which is her mother tongue. She can understand spoken Ojibwe, a skill she learned from her mother. She attends the Anglican church in Garden River and participates actively in church events. She spends her spare time with her family on the reservation. She has a strong desire to maintain the Ojibwe culture.

Participant 4 is a 42 year-old man who is the son of participant 1 and an older brother of participant 3. He was born and raised in Sault Ste. Marie and also attended school there. He currently lives and works in Sault Ste. Marie and attends the Anglican church in Garden River. Although he can not speak Ojibwe, he would like to see the Ojibwe language maintained.

Participant 5 is a 27 year-old man who is a son-in-law of participant 7. Although he is not an immediate member of participant 1's family, he is part Ojibwe (and part Italian). He was born and raised in the town of Sault Ste. Marie. He attended school in Sault Ste. Marie and currently lives and works there. He can not speak Ojibwe and is not interested in preserving the Ojibwe culture.

Participant 6 is a 20 year-old man who is the grand-son of participant 1. He was born and raised in the town of Sault Ste. Marie. His father and mother are of Ojibwe background. He currently lives and studies in the town of Sault Ste. Marie. He enjoys listening to American popular and rock music in his free time. He can not speak Ojibwe and has no desire to maintain the Ojibwe language.

Participant 7 is a 48 year-old woman who is the daughter of participant 1. She was born and raised in the town of Sault Ste. Marie. She currently works in Garden River and lives there with her mother. She can speak some Ojibwe, but English is her first and main language. She would like to maintain the Ojibwe language because it is a part of the Ojibwe culture.

Participant 8 is a 25 year-old woman who is a daughter of participant 7. She was born and raised in the town of Sault Ste. Marie and currently lives and works there. She has two daughters who spend time with the grandmother in Garden River while participant 8 works in

town. She is also taking courses at the college and, therefore, has no time to study the Ojibwe language.

The gender, age, living environment, and interest in the Ojibwe language of the participants are summarized in Table 7.

Table 7 – Participant Information Summary

Participant	Gender	Age	Living Environment	Interest in Ojibwe Language
1	Woman	65	On-reservation	O
2	Woman	20	On-reservation	X
3	Woman	41	On-reservation	Δ
4	Man	42	Off-reservation	Δ
5	Man	27	Off-reservation	X
6	Man	20	Off-reservation	X
7	Woman	48	On-reservation	Δ
8	Woman	25	Off-reservation	X

Interest in Ojibwe Language: O = very interested, Δ = somewhat interested, X = not interested

3.2 Methodology

The oral interview was performed in Garden River with the above mentioned respondents during two visits, the first from the 24th to the 26th of February in 1996 and the second from the 28th to the 30th of January in 1997. The author was introduced to the family through a mutual friend who is also an Ojibwe, but lives in Sault Ste. Marie (on the U.S. side). The author visited the Ojibwe family in Garden River three times and also communicated through letters and by the telephone. Although the author was a stranger from a foreign country, the family welcomed her and openly shared their culture, songs, and stories. The Ojibwe are open to sharing their culture and also want to learn about other cultures. The author was treated as part of the Ojibwe family and is grateful for the family's kindness and participation in this research.

During the oral interview, each person sat in a quiet room and was recorded using a cassette tape recorder with external microphone. A dictation cassette player and a 60 minute

normal position cassette tape were used for recording. First, the purpose of the study was explained to each participant, the oral interview questions were asked (Appendix A), and then each participant read aloud the words from the word list one at a time. Flash cards were used to ensure that each word was read slowly and clearly rather than being read as one passage. The total process took approximately fifteen minutes per person.

The words were selected from various categories that required the speaker to use different places and manners of articulation. The words in the word list, along with the vowel category they represent, are summarized in Table 8.

There may be an objection to adopting word lists for the participants to read rather than having the participants give natural data. However, the vowel shift is an unconscious change stemming from systematic sources that appears first in the vernacular and represents the operation of internal, linguistic factors (Labov 1994). Therefore, if a vowel shift is present in normal speech, it would also appear when reading a word list.

Table 8 - Oral Interview Word List

	Nasal	**Vl Fric**	**Vd Stop**	**Vl Stop**
[ɑ]				
Preceding Apical				tock dock
Preceding Velar			got	cod
[ɔ]				
Following Velar			cough dog	fog
Following Apical			cloth	clawed
[ɪ]				
Apical		miss		bit
Velar				kick

Table 8 - Oral Interview Word List (cont'd)

	Nasal	Vl Fric	Vd Stop	Vl Stop
[ɛ]				
Apical		mess		bet
Velar				neck
[æ]				
Palatal		sash		
Apical	pan tan	mass	mad sad	that bat
Labial	ham Sam	laugh	tab	tap
Velar	hang		bag	back
+CC	land bank			past bags
+syl				pasture average
+syl+syl				appetite
C + liquid				black

(for Canadian raising)

ɑy ⟶ **Ʌy** ('light,' 'hike,' 'tide')

ɑw ⟶ **Ʌw** ('out,' 'ouch,' 'loud')

In Table 8 there are proportionally more words located in the **|æ|** category than in the other categories of the oral interview word list. This was created on purpose in order to utilize the importance of the **|æ|** vowel for understanding vowel shifts. A shift in the position of the **|æ|** vowel is the first step in recognizing the NCVS and the direction of the shift distinguishes between the NCVS and the Canadian Shift. In addition, much study has already been performed to discover the links between the phonetic environment and the **|æ|** vowel shift (see Table 2).

3.3 Analysis

After acquiring a cassette recording of the interview for a participant, each word was entered into a Macintosh using *MacRecorder*. Once each word had been entered, a complex transformation was performed to change the sound signal into 10 000 Mhz frequencies and the results were saved to disk. The words' target segments were then analyzed using a personal computer and the program *Signalyze* to determine the exact frequencies of the vowel formants. The clearest peaks for formants 1 and 2 were obtained using an order number between 13 and 18 and then the values were recorded.

Although it varies for each man and woman, generally speaking, F1 ranges from 300 to 1000 Hz and F2 ranges from 2400 to 900 Hz. See Figure 2.1 for the male and female formant frequencies of the vowels studied here. After *Signalyze* generated the F1 and F2 frequencies, these were entered into a second program - "Plotnik" - along with the respective word and vowel class codes. The program then calculated the mean vowel position for the system and plotted this along with the position of each individual word. These charts provided the data from which each participant's vowel system was analyzed.

The figures of the vowel distributions for all participants, along with their explanations, are listed in the next section.

4. RESULTS & INTERPRETATION

This section contains the results from the personal computer analysis of each participant's oral interview. Three figures are listed: the first figure shows the position of every word in the interview list positioned by its vowel formants, the second figure compares the average vowel formants to the base formants, and the third figure summarizes the vowel system in diagram form. Following the figures are the interpretations for each participant's vowel system and a conclusion as to the similarity, or lack, to a vowel shift pattern.

4.1 Participant 1 (65 year-old woman, on-reservation)

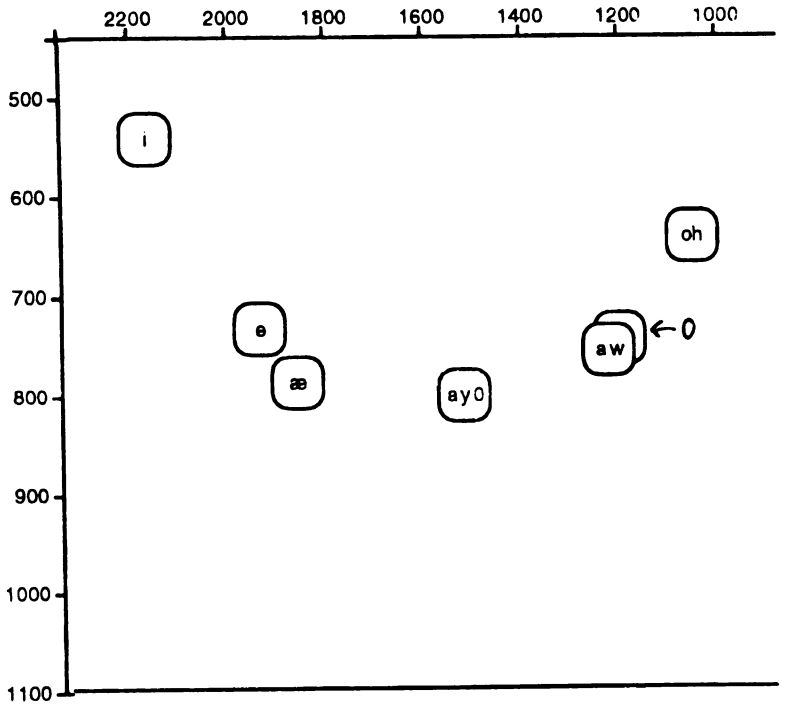

Figure 4.1(a) Interview Word List by Formant for Participant 1, 65, Woman, On-Reservation [Sault Ste. Marie, 1996]

	I (i)	ɛ (e)	æ	ɑ (o)	ɔ (oh)
Basic F1	430	610	860	850	590
Basic F2	2480	2330	2050	1220	920
Data F1	550	750	750-850	700	680
Data F2	2200	1900	2100-1800	1150	1100

(Vowels in brackets refer to analyzer printouts. Number values are in Herz)

Figure 4.1(b) - Participant 1 Vowel Formant Frequency Comparison

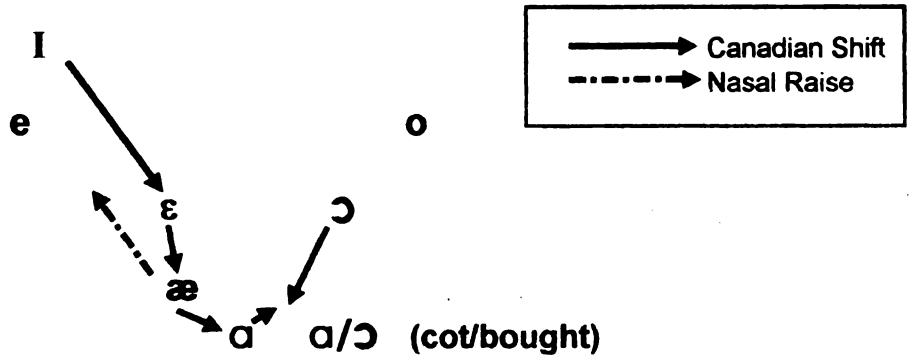

Figure 4.1(c) Participant 1 Vowel System

The interpretations for each participant were all conducted in a similar manner. First, a Vowel Formant Frequency Comparison (see Figure 4.1[b]) was constructed using the data from the personal computer output of the vowel formants from the interview word list (Figure 4.1[a]). The headings that are listed in Figure 4.1(b) are the five vowels that are being used for research in this thesis. The vowels in parentheses are identical but refer to the idiosyncratic notation used by the program Plotnik. For example, "I" is used consistently throughout this thesis but in Plotnik it is labelled as "i". The headings, "Basic F1" and "Basic F2", refer to the F1 and F2 Frequencies for English Vowels as listed in Figure 2.1.

By examining Figure 4.1(b), the shift of the vowel positions versus the base can be determined. For example, the high-front vowel |I| is lower than the base of 430Hz and is more towards the position of the basic middle-front vowel |ɛ|, located at 610 Hz. |ɛ|, in turn, is located at 750 Hz which is more towards the position of basic |æ|. The vowel |æ| is scattered throughout a wider range but it is clear by examining Figure 4.1(a) that the main group is positioned more towards the direction of basic |ɑ|.

These changes are typical of those seen in the Canadian Shift. Some words containing the vowel |æ| are positioned higher towards the basic middle-front |ɛ| which is normally indicative of NCVS, but upon closer inspection of Figure 4.1(a) it can be seen that they have trailing nasal consonants ("hang," "bank," "tan," and "pan,") and this is a phenomenon that is present in the advanced stages of the Canadian shift as stated by Clarke. By examining the remaining vowels, it can be seen that they also follow the Canadian Shift pattern as |ɑ| is higher and in a slightly retracted position, and |ɔ| is lower and in a front position similar to basic |ɑ|.

To summarize, by viewing the abbreviated acoustic triangle in Figure 4.1(c), it can be seen that participant 1 contains an English vowel system that reflects the Canadian Shift pattern.

4.2 Participant 2 (20 year-old woman, on/off reservation)

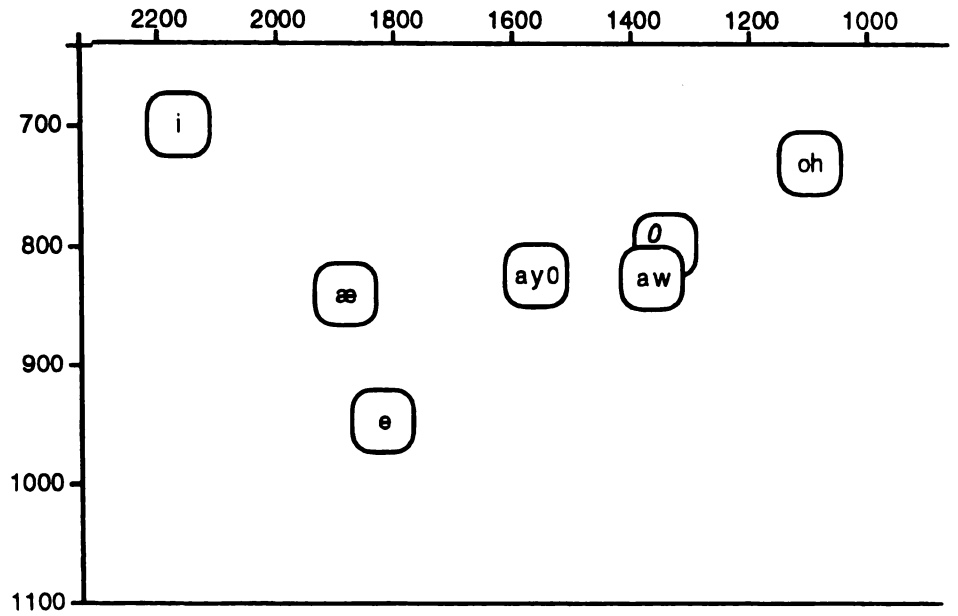

Figure 4.2(a) Interview Word List by Formant for Participant 2, 20, Woman, On/Off Reservation [Sault Ste. Marie, 1996]

	I (i)	ε (e)	æ	ɑ (o)	ɔ (oh)
Basic F1	430	610	860	850	590
Basic F2	2480	2330	2050	1220	920
Data F1	700	900	700-900	800	750
Data F2	2200	1800	2400-1500	1200	1100

(Vowels in brackets refer to analyzer printouts. Number values are in Herz)

Figure 4.2(b) - Participant 2 Vowel Formant Frequency Comparison

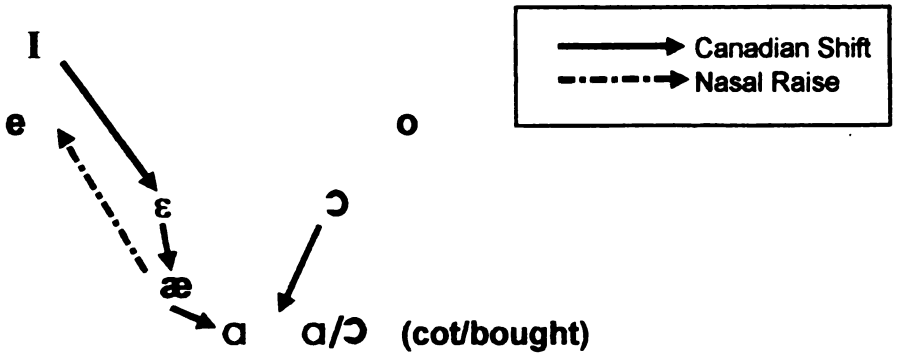

Figure 4.2(c) Participant 2 Vowel System

By examining the data in Figure 4.2(b), it appears that participant 2 exhibits the characteristics of the Canadian Shift because |ɪ| is in the lower position of basic |ɛ| and |ɛ|, in turn, is in the lower position of basic |æ|. The figure also shows that the vowel | ɔ| is lower and is merged with basic |ɑ|. All of these changes are consistent with the Canadian Shift. The vowel |æ| has a number of words that have are severely lower and are in a retracted positions towards basic |ɑ| with, similar to what was observed with participant 1, a small group of words containing nasal consonants that are in the higher position of basic |ɛ|. This small group includes the words "bank," "Sam," "ham," and "hang" which exhibit the nasal raising outlined by Clarke. These changes are summarized in the abbreviated triangular acoustic diagram (Figure 4.2[c]).

When analyzing the data for participant 2, the Canadian Raising phenomenon can also be seen. For Canadian Raising, words with voiceless consonants before the vowels |ɑw| and |ɑy| are most likely to rise. In this case, the vowel for the word "light" (which has a following voiceless consonant) is in a higher position near basic |ʌy| and this is in contrast to the vowel for "tide" (which has a following voiced consonant) and is not in a higher position. Similarly, |ɑw| followed by a voiceless consonant, such as in the word "out," is higher than the word "load"; which has the vowel |ɑw| followed by a voiced consonant.

4.3 Participant 3 (41 year-old woman, on-reservation)

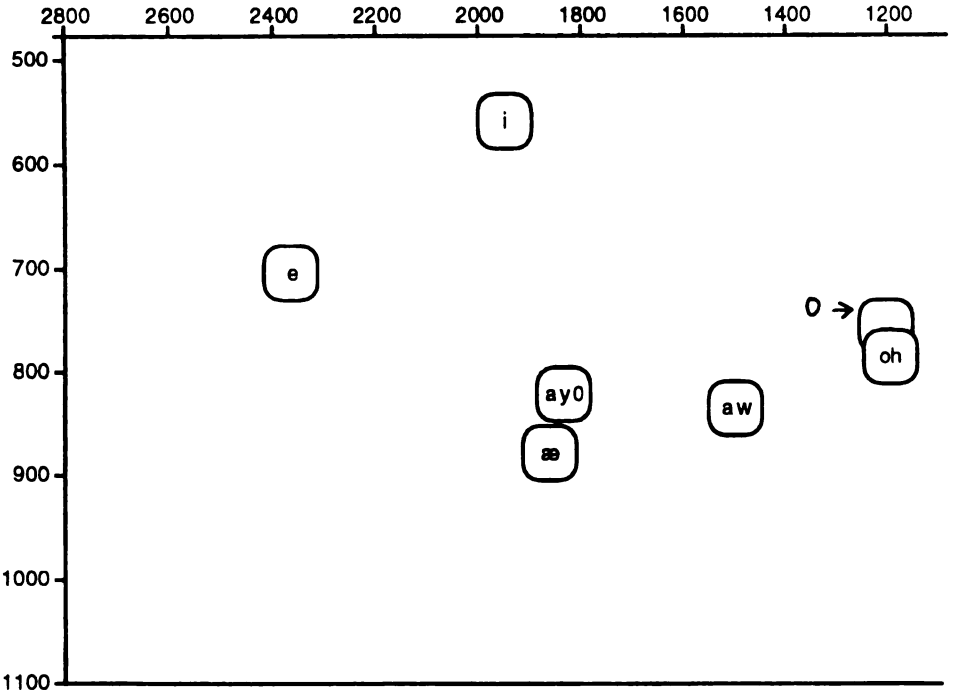

Figure 4.3(a) Interview Word List by Formant for Participant 3, 41, Woman, On-Reservation [Sault Ste. Marie, 1996]

	I (i)	ɛ (e)	æ	ɑ (o)	ɔ (oh)
Basic F1	430	610	860	850	590
Basic F2	2480	2330	2050	1220	920
Data F1	570-670	800	900-1000	750	780
Data F2	2700-2400	2350	2100-1700	1200	1200

(Vowels in brackets refer to analyzer printouts. Number values are in Herz)

Figure 4.3(b) - Participant 3 Vowel Formant Frequency Comparison

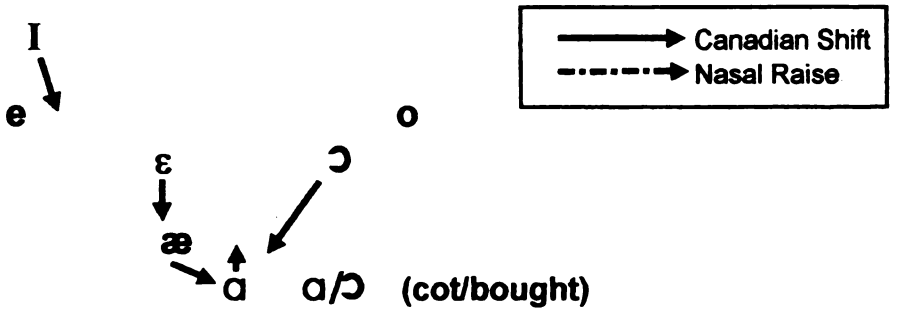

Figure 4.3(c) Participant 3 Vowel System

The data for participant 3 contains many "outliers" (see Figure 4.3[a]) that were eliminated from the analysis, leaving fewer data points which makes it more difficult to draw complete conclusions. The data for the high-front vowel |ɪ| is extremely dispersed making it difficult to predict exactly where her |ɪ| vowel is. It appears to be in a lower position slightly towards basic |ɛ|. The vowel |ɛ| also behaves strangely in that it is in a lower position, but not retracted towards basic |æ|. The vowel |æ| is again split but this time the nasal consonants, instead of being in a high position, stay in the normal position for basic |æ|, and the remainder of the words are lowered towards basic |ɑ| (Figures 4.3[a]and [b]).

The vowel |ɑ| is slightly higher and |ɔ| is in a drastically lower position such that it has merged with basic |ɑ| which is typical for the Canadian Shift. As for |ɑy| and |ɑw|, vowels before glide plus voiceless consonants are in a higher position rather than voiced ones in cases such as "hike" and "ouch."

Although this participant's vowel system shows most of the characteristics of the Canadian Shift, it appears there is an underlying influence that has prevented the normal shift pattern as has been seen in the other participants.

4.4 Participant 4 (42 year-old man, off-reservation)

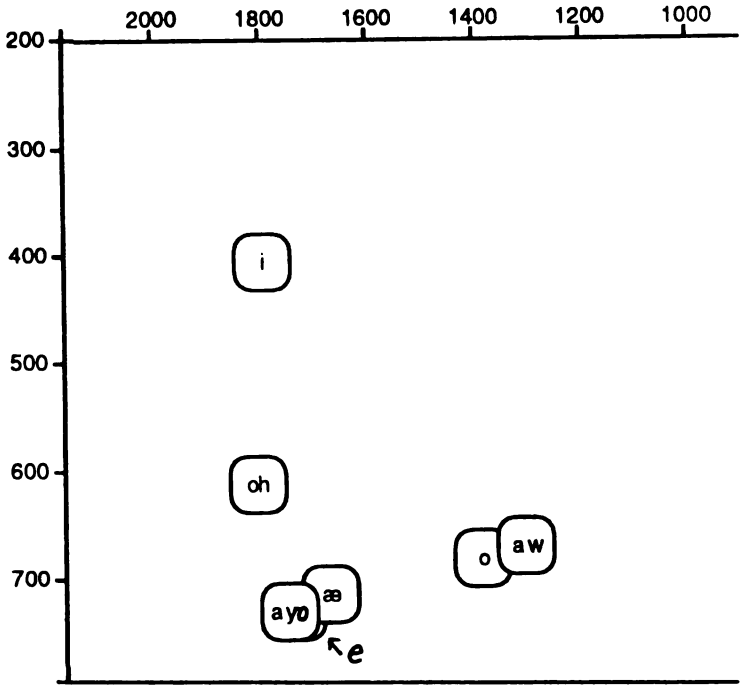

Figure 4.4(a) Interview Word List by Formant for Participant 4, 42, Man, Off-Reservation
[Sault Ste. Marie, 1996]

	I (i)	ɛ (e)	æ	ɑ (o)	ɔ (oh)
Basic F1	390	530	660	730	570
Basic F2	1990	1840	1720	1090	840
Data F1	450	750	650-800	650	600
Data F2	1800	1750	1800-1500	1100	2400-1200

(Vowels in brackets refer to analyzer printouts. Number values are in Herz)

Figure 4.4(b) - Participant 4 Vowel Formant Frequency Comparison

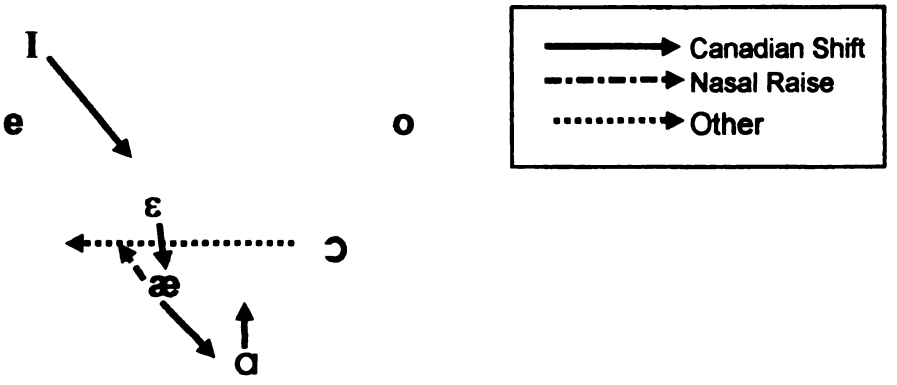

Figure 4.4(c) Participant 4 Vowel System

By examining Figures 4.4(a) and (b), it can be seen that the high-front vowel |ɪ| for participant 4 is in the lower position of basic |ɛ| and |ɛ| is in the lower position of basic |æ|. |æ| has remained fairly compact but there is a small group of the vowels followed by nasal consonants ("bank," "land") that is higher towards basic |ɛ|. The main group of |æ| is retracted slightly towards |ɑ| which is typical of the Canadian Shift. Although the |ɑy| and |ɑw| are not in a higher position, |ɑ| is observed in the middle-back and is in a position to merge with |ɔ| but the results for |ɔ| are extremely puzzling as it has spread widely across at the level of F1 = 600 Hz.

4.5 Participant 5 (27 year-old man, off-reservation)

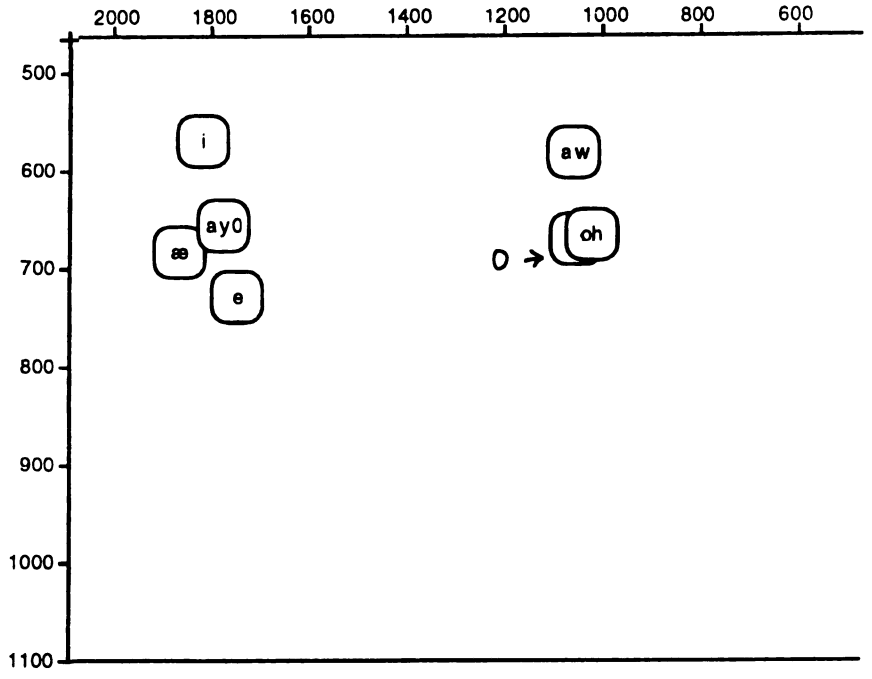

Figure 4.5(a) Interview Word List by Formant for Participant 5, 27, Man, Off-Reservation
[Sault Ste. Marie, 1996]

	I (i)	ɛ (e)	æ	ɑ (o)	ɔ (oh)
Basic F1	390	530	660	730	570
Basic F2	1990	1840	1720	1090	840
Data F1	570	660-780	550-880	660	650
Data F2	1800	1810-1630	1800-1500	1000	1000

(Vowels in brackets refer to analyzer printouts. Number values are in Herz)

Figure 4.5(b) - Participant 5 Vowel Formant Frequency Comparison

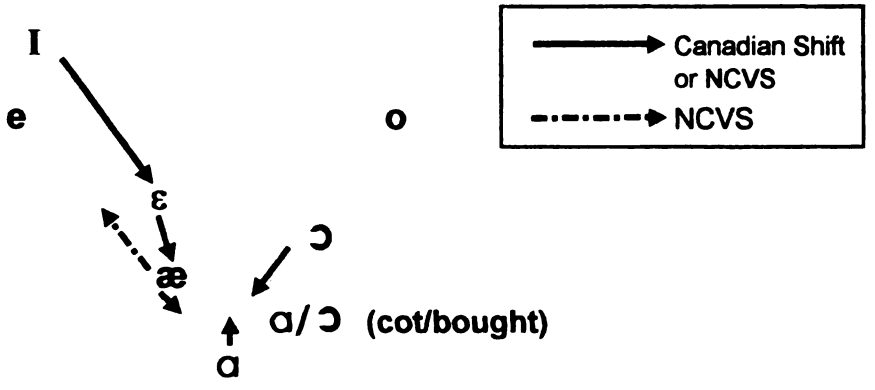

Figure 4.5(c) Participant 5 Vowel System

The high-front vowel |ɪ| is lower in the position of basic |ɛ| while |ɛ| is lower in approximately the position of basic |æ|. The vowel |æ| is shifted with the majority of the words in a higher position towards basic |ɛ| - the nasal consonants being the most advanced. The vowel |ɑ| is observed to be slightly away from the basic position but |ɔ| is in a dramatically lower position and is merged with basic |ɑ| (Figures 4.5[a]and [b]).

Although this participant exhibits many of the characteristics typical of the Canadian Shift, there are two crucial points that indicate he may represent the Northern Cities Vowel Shift. The first is the high and front positions of many |æ| vowel words followed by non-nasal consonants. This is not observed in the other participants and not typical for Canadian Raising. The second point has to deal with |ɑ| which has remained relatively stable instead of being in a lower position towards |ɔ| like many other participants have exhibited.

The |ɑy| and |ɑw| words which have a vowel followed by glide plus voiceless consonant ("light," "hike," "ouch," and "out") are in a very high position compared to those words which have a vowel followed by glide plus voiced consonants ("tide" and "loud"). This high position is consistent with Canadian Raising.

4.6 Participant 6 (20 year-old man, off-reservation)

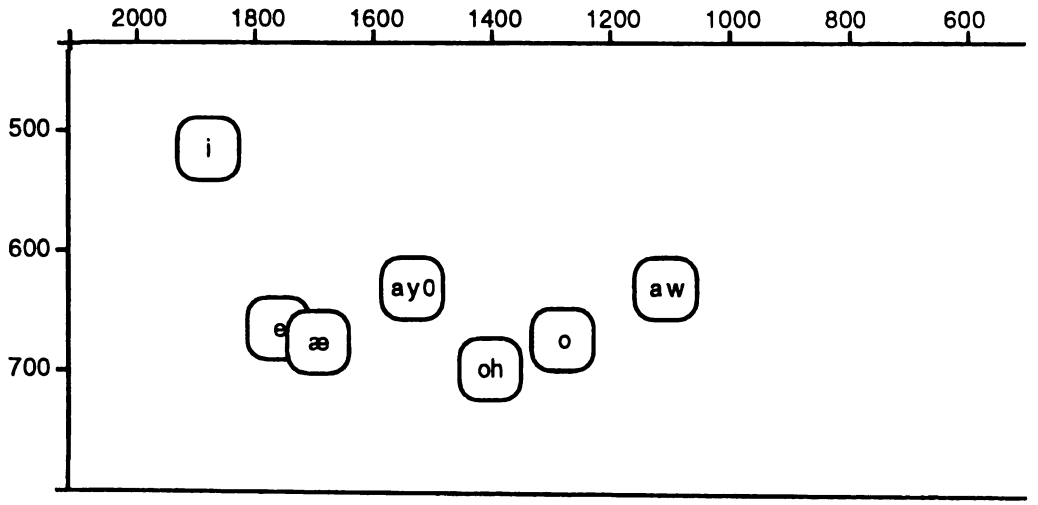

Figure 4.6(a) Interview Word List by Formant for Participant 6, 20, Man, Off-Reservation
[Sault Ste. Marie, 1996]

	I (i)	ɛ (e)	æ	ɑ (o)	ɔ (oh)
Basic F1	390	530	660	730	570
Basic F2	1990	1840	1720	1090	840
Data F1	500	650	500-850	67Ω	690
Data F2	1850	1780	1900-1500	1050	1100

(Vowels in brackets refer to analyzer printouts. Number values are in Herz)

Figure 4.6(b) - Participant 6 Vowel Formant Frequency Comparison

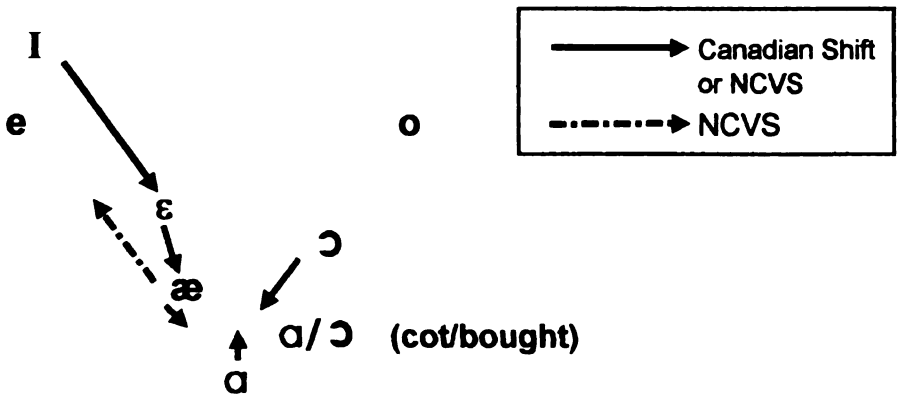

Figure 4.6(c) Participant 6 Vowel System

The high-front vowel |ɪ| is in a lower position by basic |ɛ| while |ɛ| is in the lower position of basic |æ|. The distribution of |æ| is wide as has been seen with other participants, but the overall tendency is to be higher rather than lower towards basic |ɑ| (Figures 4.6[a]and [b]). |æ| followed by nasal consonants ("bank" and "tan") lead the promotion but non-nasal consonants are also in a higher position ("bags" and "bag"). |ɑ| is slightly higher but has tended to remain in its normal position while |ɔ| is dramatically lower and merged with basic |ɑ|.

As this participant's vowel pattern is similar to that of participant 5, the conclusion must be the same. That is, although the vowel system is similar to the Canadian Shift, the high position of non-nasal consonants after |æ| tend to indicate a NCVS influence.

4.7 Participant 7 (48 year old woman, on-reservation)

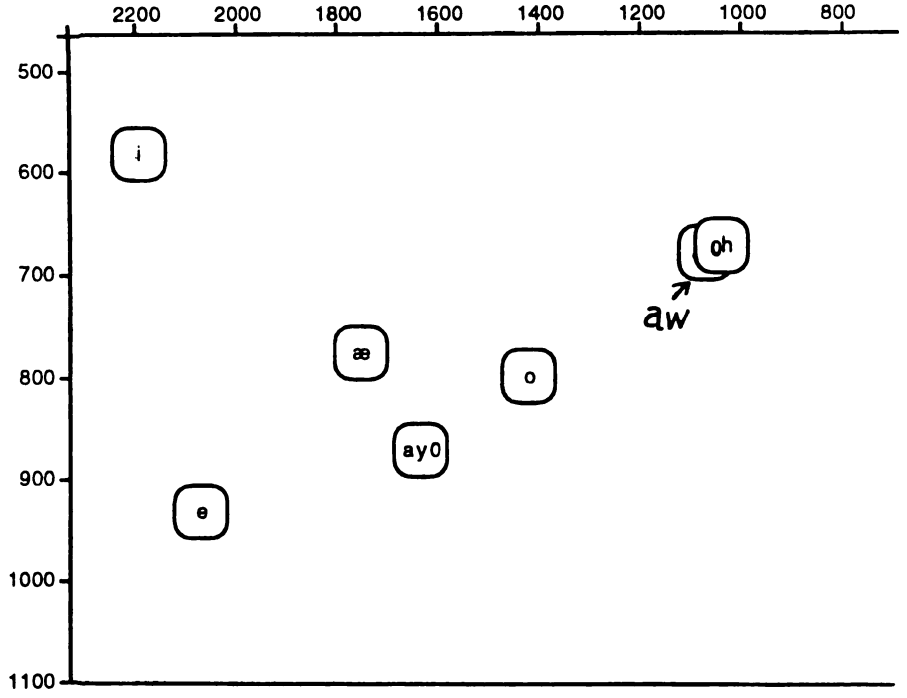

Figure 4.7(a) Interview Word List by Formant for Participant 7, 48, Woman, On-Reservation [Sault Ste. Marie, 1996]

	I (i)	ɛ (e)	æ	ɑ (o)	ɔ (oh)
Basic F1	430	610	860	850	590
Basic F2	2480	2330	2050	1220	920
Data F1	570	950	550-1080	680	700
Data F2	2200	2100	1000-1900	1000	1000

(Vowels in brackets refer to analyzer printouts. Number values are in Herz)

Figure 4.7(b) - Participant 7 Vowel Formant Frequency Comparison

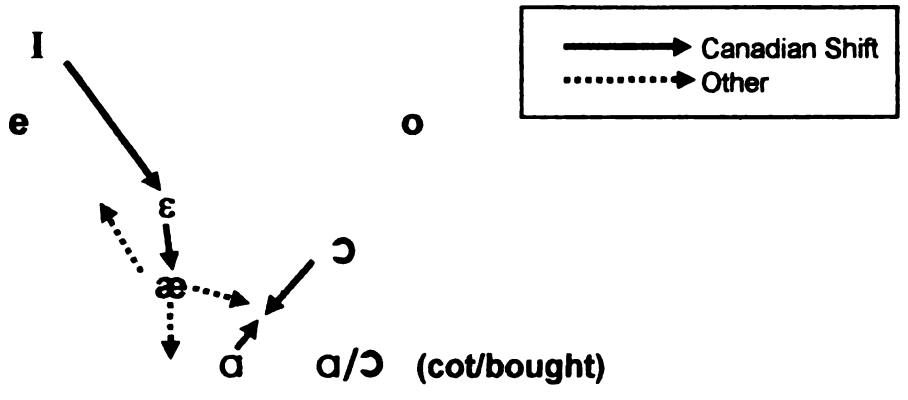

Figure 4.7(c) Participant 7 Vowel System

The high-front vowel |ɪ| is in a lower position by basic |ɛ| and |ɛ| is in a lower position by the basic |æ| slot. |ɑ| is retracted severely into the middle-back position and | ɔ| is slightly lower and is merged with basic |ɑ| (Figures 4.7[a]and [b]). All of these changes are typical of the Canadian Shift.

|ɑw| is higher for both conditions of the vowel followed by voiced and voiceless consonants, however, |ɑy| does not seem to be in such a high position.

Looking at the distribution of |æ|, it is split into three distinct groups: one group is highest towards |ɛ|, but this group is not predominantly nasal in nature; the second group is in a lower position straight down; and the third group is retracted so severely it is joined with |ɑ| and |ɔ| in their new merged positions! Although the words in each group have been analyzed to try and discover a pattern, no simple explanation arises when using the English rules so perhaps this participant, like participant 3, is experiencing another influence.

4.8 Participant 8 (25-year old woman, off-reservation)

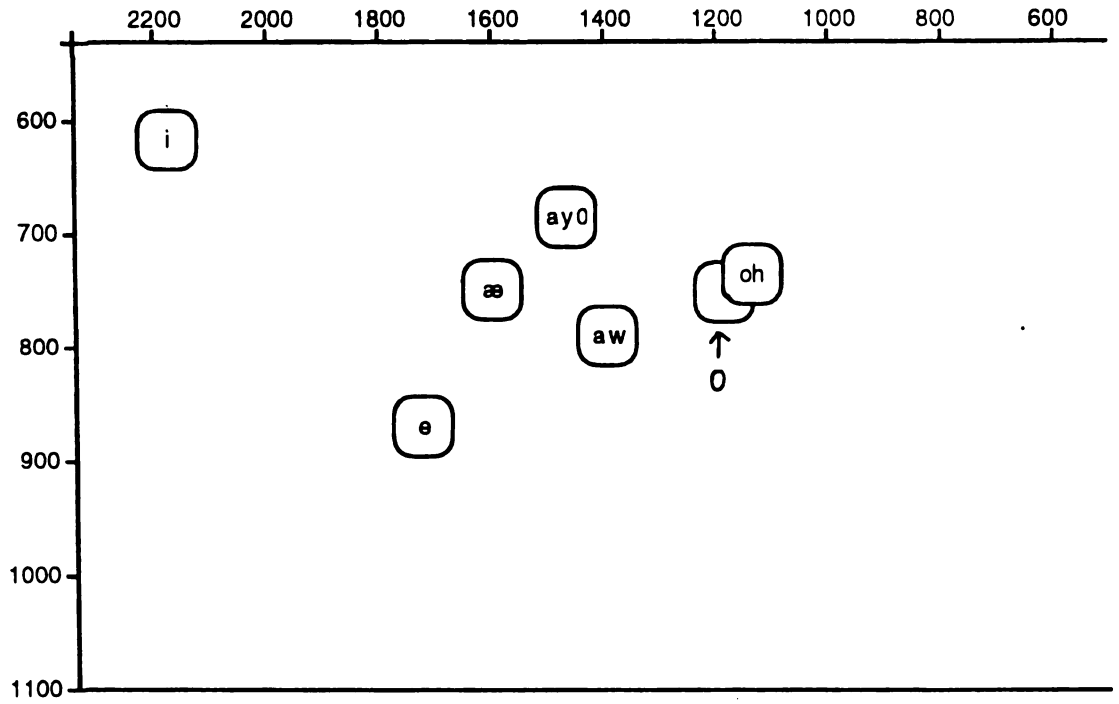

Figure 4.8(a) Interview Word List by Formant for Participant 8, 25, Woman, Off-Reservation [Sault Ste. Marie, 1996]

	I (i)	ɛ (e)	æ	ɑ (o)	ɔ (oh)
Basic F1	430	610	860	850	590
Basic F2	2480	2330	2050	1220	920
Data F1	600	1000	700-750	750	800
Data F2	2200	2000	2150-1100	1100	1150

(Vowels in brackets refer to analyzer printouts. Number values are in Herz)

Figure 4.8(b) - Participant 8 Vowel Formant Frequency Comparison

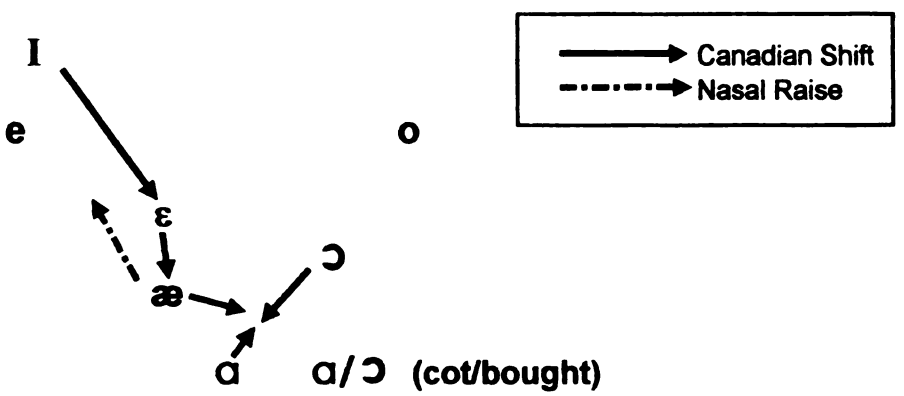

Figure 4.8(c) Participant 8 Vowel System

The high-front vowel |ɪ| is in the lower position of basic |ɛ|. |ɛ|, in turn, is lower than the position of basic |æ|. The distribution of |æ| is separated into two groups, the first is |æ| followed by nasal consonants and the second group is larger which contains |æ| followed by all other consonants. The group with nasal consonants is higher in a position near basic |ɛ|, but the larger, second group is retracted so severely that it is equal with |ɑ| and |ɔ| in their merged positions. |ɔ| is lower and merged with basic |ɑ|. |ay| as in "light" and |aw| as in "out" are in a high position. (Figures 4.8[a]and [b]).

To summarize, these changes are typical of the Canadian Shift and are described graphically in Figure 4.8(c).

5. CONCLUSION

Summarizing the results of the analysis, the two young men (participants 5 and 6) who live in the town of Sault Ste. Marie show involvement in the Northern Cities Vowel Shift. Both men also exhibit characteristics of the Canadian Shift, that is, |ɪ| and |ɛ| in a low position, and |ɔ| in such a low position that it is merged with basic |ɑ|. However, the high and front positions of many |æ| vowel words and the stability of |ɑ| indicate a vowel system that also belongs to the NCVS.

The two young women (participants 2 and 8), on the other hand, contain a vowel system that clearly shows an advanced state of the Canadian Shift. Both show the high position nasal of |æ| as highlighted by Clarke, but the main position of the |æ| vowel is backwards towards the position of basic |ɑ|. This result contradicts the assumption made in the hypothesis that young women would lead the vowel shift and contain a vowel system most representative of NCVS. Although the two women do exhibit an advanced Canadian Shift, they do not show the NCVS pattern. By examining the history of these young women, it can be seen that participant 2 lives in Garden River and attends college in Sault Ste. Marie. She leads a busy life style which prevents her from studying the Ojibwe language so it may be that she has very limited time to be influenced by American culture through her personal contacts or from external sources in the forms of radio, television, or cross-border travel.

Participant 8 should have greater exposure to American culture because she lives in Sault Ste. Marie, but she must often travel to Garden River to entrust her children with her Grandmother while she works. In addition, as she is a single mother who is working to support

her two children, it is also possible that she has little spare time to develop American social contacts or indulge in American popular culture. If this is the case, it appears for these two participants that the social environment they live in has influenced the formation of their vowel systems to show the Canadian Shift and not the NCVS.

Returning to the two young men, it is important to note that they both live in Sault Ste. Marie and neither have an interest in the Ojibwe language. As they both exhibit the NCVS, they support the statements made by Labov that young adolescents will contain the most advanced vowel system changes.

Turning to the adult participants, all four participants (1, 3, 4, and 7) show involvement with the Canadian Shift in their vowel patterns. This is revealed by examining the vowel system and noting the low positions of the |ɪ| and |ɛ| vowels and the high position of |ɑ| which is merged with basic |ɔ|. Because the Canadian Shift is present for both men and women, on-reservation and off-reservation, it appears that the main influence on their vowel system is the presence of the majority Canadian culture in their environment to produce the Canadian Shift.

To summarize, there are two possible conclusions that can describe the formation of the English vowel systems for the Ojibwe family studied in this thesis. The first possibility is that age and gender are the most important factors in determining the vowel system. This can be seen by the younger participants (as opposed to the older participants) having an English vowel system that reflects a more advanced shifting pattern. In addition to this, young men (as opposed to young women) have vowel systems that show the Northern Cities Vowel Shift.

This conclusion contradicts the findings of Labov who stated that young women should lead the vowel shift. However, there is a second possible conclusion that age and living environment are the most important factors in determining the vowel system. This would state that the older participants reflect the vowel system of the common culture, in this case the Canadian Shift, while the younger participants reflect the vowel system common to their living environment. Based on this conclusion, it is not the gender of the young women that is important, but the fact that they live a very busy life and are, in fact, "isolated" from the modern

American culture influence that is present across the border. Similarly, the young men have "isolated" their Ojibwe and Canadian roots and have embraced the American influence which is reflected in their vowel system.

This study shows that members of a minority community will be influenced by the major community in regard to the language vowel system. All eight members studied adopted an English vowel system representative of the majority community present around them - Canadian for the older participants and younger women participants, and American for the younger men participants.

This would seem to indicate that all influence of the native Ojibwe language has been lost, however, it is important to note two anomalies that surfaced during the analysis of the participants' vowel systems. The first occurred with participant 4 (an older man who lives off-reservation) and has to do with the strange distribution of the |ɔ| vowel which ranged in position from basic |ɪ| to basic |ɑ|. By referring back to the Ojibwe vowel system (Table 5), it can be seen that there are no |ʊ|, |u|, |ɔ|, |ɛ| , or |æ| vowels, rather, these sounds are produced by the other vowels present in the system. This means that the |o| vowel must be modified to produce the |ʊ|, |u|, and |ɔ| sounds. Therefore, since the |ɔ| sound is being formed from a variation of another vowel which is present in the Ojibwe system, it is possible that the wide range observed occurred because the English |ɔ| is not present in the Ojibwe system.

The second anomaly occurred with participant 7 (an older woman who lives on-reservation) and deals with the location of her |æ| vowel which is spread towards |ɛ|, |ɑ|, and |ɔ|. This is not typical of any of the major shift patterns and did not occur with any of the other participants. It could reflect the Ojibwe vowel system influence because |æ| is not present in the Ojibwe system and the use of other vowels to produce this sound may have led to the strange distribution.

In closing, although some influence from the native Ojibwe language may have been present in the vowel systems of the participants examined, further studies that focus on specifically that question would have to be performed. In regard to the original question

concerning the influence of the majority culture on the vowel system of a minority community, it has been observed for all participants that they adopted the English vowel system representative of the majority community present around them - Canadian for the older participants and younger women participants, and American for the younger men participants.

APPENDIX A - ORAL INTERVIEW QUESTIONS

1. What is your name?
2. Where and when were you born?
3. What citizenship do you have?
4. What is the highest level of education attained?
5. Where did you attend your school? Where did you spend your childhood?
6. Do you speak Ojibwe? If yes, how often during the day do you speak?
7. Which language do you feel comfortable speaking, English or your ancestral language?
8. What language do your parents / grandparents speak?
9. Where do you work? What kind of work do you do?
10. Are the majority of your friends Natives?
11. Are the majority of your neighbors Natives?
12. What is your religion of origin?
13. Do you attend church regularly? Which church do you attend?
14. What percentage of your neighbors are Natives?
15. Do you often participate in your traditional activities?

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