

CHAPTER TWO

PHONOLOGY

Whereas in most analyses actual utterances are transcribed by the researcher in phonetic detail in order to provide the data for a subsequent phonemic winnowing, the lack of native speakers of Wyandot renders this approach impossible. Here, the transcription system used by Barbeau in various works is the point of departure for a phonemic analysis.

Barbeau's transcription will be discussed first, in terms of which characters are used and the sounds they represent. This will be followed by the difficulties and problems posed by the system, and then the phonemic inventory and allophonic instantiations that can be discerned. Finally, phonemic distribution and alternations will be examined.

2.1 Barbeau's Characters

The following descriptions are taken with little alteration from various Barbeau works, especially Barbeau (1960:57-58) and (1915a, b). They are presented as Barbeau laid them out, in the same order and format, with the only additions being a few notes comparing different descriptions (indented under the main description), and IPA equivalents (on the far right). Additionally, *m* and *n* are placed on separate lines, whereas Barbeau placed them together.¹²

¹²Barbeau's terms *sonant* and *palatal* correspond to modern *voiced* and *velar*, respectively.

VOWELS

a	as in English <i>mat</i> , and in French <i>parade</i> Barbeau (1915a) hedges with "a vowel closely resembling those in"	[æ ~ a]
e	as in French <i>é</i> - English <i>a</i> in <i>cave</i>	[e ~ e']
ɛ	as in French <i>è</i> - English <i>e</i> in <i>pet</i>	[ɛ]
i	as in French <i>i</i> - English <i>i</i> in <i>fit</i>	[i ~ i]
u	as in French <i>ou</i> , - English <i>o</i> in <i>lose</i>	[u ~ uʷ]

NASALIZED VOWELS

ə, ɛ, i (rare), the *a*, *e*, *i* above vowels nasalized:

ə̃	as in the French <i>marchand</i>	[õ]
ɛ̃	as in the French <i>in</i> , in <i>vin</i>	[ɛ̃]
õ	the open <i>o</i> nasalized as in French <i>bon</i>	[õ]

SEMIVOWELS

w	as in the English <i>wine</i>	[w]
y	as in the English <i>yes</i>	[j]

CONSONANTS

c	as in the English <i>she</i> , - French <i>chat</i>	[ʃ]
j	as in the French <i>jamais</i> followed by a brief <i>y</i> Barbeau (1915a) hedges, with "closely resembling that of French <i>jamais</i> ", and adding that the <i>y</i> is very brief	[ʒ']
s	as in the English <i>sit</i>	[s]
t	as <i>t</i> with a slight aspiration Barbeau (1915a) states "approximately as in English and French" Barbeau (1949) also indicates "followed by a slight aspiration"	[t ~ tʰ]
d	as in <i>done</i> , often preceded by a weak " Barbeau (1915a) hedges with "approximately" Barbeau (1915b) refers to a "weak <i>n</i> "	[t ~ d ~ ʰd]
k	as in <i>key</i> Barbeau (1915a) states "approximately as in English"	[k ~ kʰ ~ c ~ cʰ]
g	the sonant <i>g</i> followed by a <i>y</i> , often preceded by a weak " Barbeau (1915a) uses <i>gy</i> , with a "preceding weak ñ" Barbeau (1915b) also uses <i>gy</i> , described as "sonant <i>g</i> immediately followed by <i>y</i> , often with a preceding weak ", palatalized <i>ng</i> of English <i>sing</i> "	[gʲ ~ ʰgʲ ~ ʲ ~ ʲ]
k̥	<i>k</i> followed by <i>y</i> Barbeau (1915a, b) instead use <i>ky</i>	[kʲ ~ kʰʲ ~ c ~ cʲ]
m	and	[m]
n	as in English and French	[n ~ ŋ]
ñ	as the <i>ñ</i> in Spanish; the <i>gn</i> in Italian	[ɲ]

r	corresponding to the English r Barbeau (1915b) hedges with "roughly"	[ɹ]
ʀ	rare; deep palatal, tending to disappear Barbeau (1915a, b) lack this character	[unknown]
h	aspiration always followed by a vowel	[h]

Superior letters indicate very brief, and sometimes unvoiced consonants and vowels, as in "dātrá'áskwījù''dī'

DIACRITICAL MARKS

ʔ	glottal stop or catch as in "gá'áwic	[ʔ]
◌̤	breathing after a vowel and before a consonant as in a'çç'k	[h]
◌̇	over a vowel shows the main stress or accent in a word; it usually corresponds to a rising pitch of the voice Barbeau (1915b) refers to this as "high pitch"	
◌̈	minor or weaker accent Barbeau (1915a) uses "secondary"	
◌̄	a raised period after a vowel indicates that it is long, as in īyó·tē'	
◌̆	over a vowel makes it brief: tēhát	

Unmarked vowels are of medium length. Two consecutive brief vowels may be combined into one main accent:

ūrēhā'

Barbeau also uses some additional characters which will be described below. The "superior letters" refer primarily to ^h, which usually appears before d or after a nasal vowel, as well as to vowels repeated after glottal stop, i.e. i̇ ė ç̇ ḟ ȧ ṗ ȯ q̇ u̇.

Barbeau (1915a:25, footnote 3) further describes <t k>¹³ as "unaspirated surds", which expressly contrasts with the description of <ṭ> as having a "slight aspiration".

Additional characters not mentioned but used include:

¹³Angled brackets <X> will be used for Barbeau's transcription as an orthography, with square brackets [X] reserved for phonetic interpretations thereof. Slashes /X/ will be used for phonemicizations.

- ʰ in Barbeau (1915a), appearing in the environment ʰgy
apparently ʰ assimilating to a velar environment¹⁴
- ʰ in Barbeau (1915b), appearing in the environment ʰgy
apparently ʰ assimilating to a velar environment
- ç rarely used, in Barbeau (1960)
presumably equivalent to cy, on the analogy k:ḳ::c:ç
- ħ rarely used, in Barbeau (1960)
presumably equivalent to hy
- w rarely used, in Barbeau (1960)
- y rarely used, in Barbeau (1960)
- s rarely used, in Barbeau (1960)
- r rarely used, in Barbeau (1960)
- ÿ rarely used, in Barbeau (1960)¹⁵

In general the different descriptions of the symbols used are in agreement with each other, differing mostly in the amount of hedging Barbeau used in comparing Wyandot sounds to similar sounds in other languages. The use of different symbols in different works can be ascribed to the demands of typesetting. Barbeau (1960) and Barbeau (n.d.) are both handwritten. In published articles, e.g. Barbeau (1915a,b), Barbeau would use ky for typesetters unable to create ḳ, while for those unable to print é he would use e´, and so on.¹⁶ Unfortunately, although his handwriting is mostly clear, there can be difficulty in distinguishing ç, ħ, ´, ` , and · from each other.

¹⁴Note this use of ʰ as velar, while ʱ is described as palatal.

¹⁵The character <p> also appears, but only in kúpi, a call for horses.

¹⁶Among Barbeau's personal correspondence can be found some letters describing possible procedures for photographic reproduction of his handwritten texts and dictionary, as means of avoiding the difficulties of typesetting. Fortunately, modern electronic typography can render such problems nearly moot.

As for the use of the under-arc $\underset{\cdot}{}$ as a diacritic, Boas *et al.* (1917:10-11) state that it "is regularly used to indicate a point of articulation in front of the standard one adopted for the sound indicated by the simple character." That is, since *k* is velar (in modern terms), $\underset{\cdot}{k}$ is palatal. Thus, $\underset{\cdot}{c}$ and $\underset{\cdot}{h}$ should indicate fronted versions of *c* and *h*.

It is not clear what $\underset{\cdot}{r}$ as a "deep palatal" might be. Replacing *palatal* with *velar* to modernize the term is not especially helpful, as *deep velar* is not clear either. However, Boas *et al.* (1917:13) refer to $\underset{\cdot}{r}$ as "cerebral", i.e. retroflex. Whether this is Barbeau's intention is unknown. It should be pointed out that the 19th century phonetician Samuel Haldeman, in doing field work on Wyandot, described *r* as "the smooth English sound, never vibrant" (Haldeman 1847:269).

Difficulties in ascertaining the phonetic nature of the Barbeau characters are readily apparent. For instance, vowels are often described as similar to phonemic equivalents in French and English, even though French and English vowels are often quite different phonetically. The offglides on English [e' u"] do not appear on French [e u], for one example. For another, although beginning students of French, if they are native speakers of English, may often perceive French [a] as [æ], the two are phonetically distinct. Although the nasal vowels are described as nasalized versions of the oral vowels, the descriptions of oral <a> as [æ ~ a] do not correspond to the description of nasal <a> as [ã].¹⁷

¹⁷The descriptions are less inconsistent if Barbeau was referring to his own Québécois speech rather than a European standard. Around 1911 he recorded Prosper Vincent singing Wendat songs at Lorette, Quebec. At the beginning of each recording is a brief identification in French, presumably by Barbeau. The pronunciation given of *Vincent* uses the nasal vowels [ẽ ã], as opposed to [ē õ].

Orthographic renderings here will follow whatever transcription variant is used in the original source. The single exception involves a shared "accent" of the type indicated under "Diacritical Marks" above by:

(9) $\overset{\frown}{\text{ur}\grave{\text{e}}\text{h}\grave{\text{a}}}$

Note that in the original there is but a single acute accent mark, which is placed above an arc $\overset{\frown}{\text{~}}$ linking the two breves $\grave{\text{~}}$. Here such linked accent marks, as well as accents placed over an intervocalic consonant, will be represented by separate equivalent marks over both vowels concerned. Thus, in the example of $\overset{\frown}{\text{ur}\grave{\text{e}}\text{h}\grave{\text{a}}}$ the single acute and linking sign have been replaced by two acutes.

There are several difficulties in using Barbeau's orthographic system, one of which is the use of non-standard characters. For instance, $\langle\text{k}\rangle$ represents the string ky, while $\langle\text{>}$ and $\langle\text{>}$ stand for h and ʔ. This is problematic for reasons of interpretation, in that there is no accepted standard for the characters, as there is for the IPA, for instance. Furthermore, $\langle\text{>$ and $\langle\text{>$ can be difficult to distinguish in handwriting. Typographically, obscure symbols are harder to access for publication purposes. A further difficulty is that there is an abundance of stackable diacritics reducing ease of reading. Barbeau's orthography makes more sense in light of the dates of his fieldwork, centering around 1912.¹⁸ However, this does not explain why Barbeau retained the system in publishing Barbeau (1960).

¹⁸When, for example, uvulars were called velars, velars were called palatals, and palatals were called prepalatals. Hence, Barbeau's description of η as palatal.

Two more characteristics of the Barbeau system are over-differentiation and under-differentiation in the characters used. Over-differentiation is only problematic in that the transcription is cluttered and awkward (and is in fact useful for discovering allophonic variation). On the other hand, under-differentiation is a problem, since some contrastive distinctions may be lost.

2.2 Over-differentiation

It is clear from only a few examples that the system employed by Barbeau is over-differentiated in certain respects. The same word may appear with several different patterns of length, stress and nasalization, as in chart 5. Recall that the diacritic *̃* indicates nasalization, *´* main accent, *`* minor accent, and *˘* shortness. These diacritic patterns are shown in the rightmost column apart from the letters, to make them more readily apparent.

- | | | |
|----|--|---------|
| a. | ahɛhaǒ' 'he said' TN:28:251:40 ¹⁹ | ˈ |
| b. | ahɛhaǒ' 'he said' TN:12:113:18 | ˈ ˈ |
| c. | ahɛhǎǒ' 'he said' TN:01:062:20; TN:02:063:36 | ˈ ˈ ˈ |
| d. | ǎhɛhaǒ' 'he said' TN:12:114:15 | ˈ ˈ ˈ |
| e. | ǎhɛhǎǒ' 'he said' TN:01:060:09 | ˈ ˈ ˈ ˈ |
| f. | ahɛ'hǎǒ' 'he said' TN:01:060:03 | ˈ n ˈ |
| g. | ahɛhaǒ' 'he said' TN:20:145:46; etc | ˈ |
| h. | ǎhɛhaǒ' 'he said' TN:17:132:14; TN:28:246:41 | ˈ ˈ |
| i. | ǎhɛhǎǒ' 'he said' TN:02:068:03a | ˈ ˈ ˈ |
| j. | ahɛhǎǒ' 'he said' TN:18:133:30 | ˈ ˈ |
| k. | ahɛhaǒ' 'he said' TN:12:114:58; TN:20:147:01; TN:24:190:03 | ˈ ˈ ˈ |
| l. | ǎhɛhaǒ' 'he said' TN:15:125:28 | ˈ ˈ ˈ |
| m. | ahɛhaǒ' 'he said' TN:28:246:18; etc | ˈ ˈ ˈ |
| n. | ahɛhǎǒ' 'he said' TN:02:068:12; etc | ˈ ˈ ˈ |
| o. | àhɛhaǒ' 'he said' TN:20:146:28 | ˈ ˈ ˈ |
| p. | ǎhɛhaǒ' 'he said' TN:28:245:56; etc | ˈ ˈ ˈ |
| q. | ǎhɛhaǒ' 'he said' TN:02:064:31 | ˈ ˈ ˈ |
| r. | ǎhɛhǎǒ' 'he said' TN:02:064:48; etc | ˈ ˈ ˈ ˈ |

¹⁹Examples are in one of two formats. These examples, in the shorter format:
 ǎhɛhǎǒ' 'he said' TN:02:068:03
 list first the original transcription by Barbeau ǎhɛhǎǒ', the gloss 'he said', and the source code
 TN:02:068:03. The longer format will be described when it appears.

s.	ǎhḗhǎǒ' 'he said' TN:12:113:11
t.	ǎhḗhǎǒ' 'he said' TN:24:194:11
u.	ǎhḗhǎǒ' 'he said' TN:29:259:44

Chart 5: Non-contrasting Patterns of Length, Stress and Nasalization

Each of these shows a different pattern of diacritics.

In the examples in chart 5 all but one of the forms have final nasalization and stress <ǒ>. In example (j), the final <ǒ> remains nasalized, though unstressed. However, every other vowel differs. Nine examples (d, e, h, i, l, p-s) have a short initial <ǎ>, while another nine (a-c, f, g, j, k, m, n) have an <a> of normal length. One (o) has an initial <à> with secondary stress. In the other two examples (t, u), with nasalized initials, one is short <ǎ> and the other regular length <a>.

In five examples (a, b, d, g, h) the penultimate vowel is plain <a>, in three versions (c, e, f) a short <ǎ>, in six (k-m, o-q) a nasal <ǎ>, in another six (i, n, r-u) a short nasal <ǎ>, and in one (j) a stressed nasal <ǎ>.

In ten versions (b-e, k, n, q, r, t, u) the antepenult is nasalized with secondary stress <ḗ>, and in one (i) it is short with secondary stress, and no nasalization <ḗ>. In one (a) it is oral, without stress or shortness <ḗ>, and another (j) oral and short <ḗ>. In six (g, h, l, m, o, p) there is a plain nasal <ḗ>, and one (s) a short nasal <ḗ>. And in the remaining example (f) it is nasalized with secondary stress as well as being followed by a nasal <ḗⁿ>.

Vowels may also appear in different qualities, which do not contrast:

- (10) a^hwé·hɔ^h 'she thought' TN:04:082:24; TN:17:131:27
 a^hwé·hɔ^h 'she thought' TN:01:059:14; TN:04:079:41

In example 10 the penultimate vowel is <e>, but in the second <ɛ>, although this distinction in pronunciation does not lead to a distinction in meaning in this instance. In other cases <ɛ> alternates with <ɛ̃>, so that <ɛ> cannot be seen as simply a variant of <e>. Any phonemicization of Barbeau's materials must take into consideration that not all of his characters represent distinct phonemes.

2.3 Under-differentiation

Conversely, the Barbeau transcription system may be under-differentiated in certain respects. For example, all living Iroquoian languages contrast the simple phonemes /t/ and /k/ with the clusters /th/ and /kh/.²⁰ However, neither cluster appears in the Barbeau transcription, with the exception of a small number of occurrences of <t̃>, including:

- (11) yātsí·ru^{t̃} 'she stops it' TN:19:138:51
 té^h·t̃ 'not I mean' ('I don't mean ...') TN:28:236:13²¹

Note that these are both final <t̃>. Compare the following:

²⁰Usually phonetically realized as [t k] and [t^h k^h]. These are frequently represented as <d g> and <t k> in orthographies intended for English-speaking learners. In Iroquoian /th kh/ are considered clusters rather than aspirated stops due to various rules, including morpheme boundary phenomena.

²¹Glosses in parentheses are renderings of Barbeau's glosses into more colloquial English.

- (12) **yatsí·rut** 'obstruction' TN:18:133:54
téʔ·t 'not I mean' ('I don't mean ...') TN:28:237:43

The final aspiration may indicate simply release of the final consonant. Only one non-final example of <t̥> in Wyandot occurs in Barbeau's texts:

- (13) **aʔ·wátíʔ·t** 'they pound corn' TN:26:203:25

Although the cognate of 'pound' in other Iroquoian languages has an aspirated cluster in this position, e.g. Cayuga *-theʔt-* (Mithun & Henry 1982), other examples of this morpheme in Wyandot lack the aspiration:

- (14) **watitétʔ·t** 'they pound corn' TN:04:078:01

Wendat, the putative ancestor of Wyandot, maintained the distinction between /t k/ and the clusters /th kh/, the latter written as <θ χ>. In addition, Wendat had <d g> as in Wyandot. These are shown with examples from Bruté de Rémur (1800). In 15 both <θ> and <χ>, i.e. /th kh/, are shown.

- (15) **θo iondesti de χichias ?**
'combien y-a-t-il de temps que tu es ici?'

The former appears in the first word and the latter in the last. Instances of <t> and <k> appear in 16:

- (16) akesarakʎat
'chaise, siège; pulpit, seat'

One word contains both characters.²² The letters <d> and <g> also both appear. An example of <g> is 17:

- (17) ostengʎarata
'bleu; blue'

The character <d> is demonstrated in 18:

- (18) ʎdèta
'groseilles; a currant tree'

Either Barbeau's transcription system fails to represent the distinction between /t k/ and /th kh/, or Wyandot is the only Iroquoian language to have lost the distinction, merging all /th/ with /t/ and all /kh/ with /k/.²³

²²The character ʎ represents <ou> in French orthography, i.e. [w] before vowels and [u] before consonants.

²³The loss of a /th kh/ versus /t k/ distinction, in the additional presence of <d g>, would make the system more like English.

The stop correspondences between Barbeau's orthography for Wyandot and cognate forms in other Iroquoian languages are given in chart 6:

Wyandot (Barbeau)	Wendat	5 Nations
t	θ	th
	t	t
k	χ	kh
	k	k
d	d	n
g	g	
n	n	

Chart 6: Orthographic Correspondences for Stops

Note that the 5 Nations branch of Northern Iroquoian has two oral stop series, /th kh/ and /t k/, while Wyandot, also with two oral orthographic series, has different ones: <t k> and <d g>.²⁴ Wendat however has three orthographic oral stop series, <θ χ>, <t k>, and <d g>.²⁵

²⁴Although Tuscarora also shares the <th kh> and <t k> distinctions, it is left out of the chart due to complications arising from sound changes where generally *t became ?n, and *n became t.

²⁵Wyandot <d g n> are all descended from *n. Generally, before a glide and an oral vowel *n became <g>. Before a nasal vowel (with an optional intervening glide) *n remained <n>. Before an oral vowel *n became <d>. However, both <d> and <n> can appear outside of the historically conditioning environments, and so are not treated as allophones. Cf. sections 2.5 *Consonant Allophones*, 2.8 *Comparative Perspective on Consonants*, 2.9 *Further Notes on d*, and 2.10 *Further Notes on g*.

Since English-based orthographies for Iroquoian languages use <d g> to represent /t k/ and <t k> to represent /th kh/, it may be argued that the presence of both <d g> and <t k> in Barbeau's orthography indicates this distinction. Thus, no examples of <ʔ kʔ> should be found, as these sounds are represented already by the simple stops <t k>. The influence of English on Iroquoian orthographies is shown below:

<i>Phone</i>	<i>Iroquoian Phonemicization</i>	<i>English-speaker Interpretation</i>	<i>English-based Orthography</i>
t ^h	th	t	t
k ^h	kh	k	k
t	t	d	d
k	k	g	g

Chart 7: Alternative Representations of Oral Stops

Note in chart 7 how an English speaker would interpret and transcribe the aspirated versus unaspirated stops. An English-based orthography would include <d g>, just as Barbeau includes <d g>.

However, this hypothesis is disproven by the fact that Barbeau's <d> is not cognate with /t/ in the other Iroquoian languages. Rather, it is cognate with /n/. Compare the following words for 'bread' in Cayuga (Mithun & Henry 1982) and Wyandot:

- (19) o-náʔta:-ʔ 'bread'²⁶
 dũ-dáʔtār-aʔ 'the bread' TN:04:084:26

In this example the Cayuga root has both /n/ and /t/. The Wyandot cognate has <d> instead of <n>, but uses <t> in the same position as Cayuga. The same Cayuga word in an English-based orthography appears as (Kick *et al* 1988):

- (20) onáʔda:ʔ 'bread'

Note here that the Cayuga /t/ is written as <t> in 19, but <d> in 20. However, the phone written variously as <t> or <d> in Cayuga is written <t> in the Wyandot cognate, while the Wyandot <d> is <n> in both Cayuga orthographies.

Therefore Barbeau did not interpret unaspirated [t] as an English speaker would, as <d>, and thus Barbeau's <t> does not automatically correspond to just /th/.

By the same token, <k> and <q> are not simple English-biased misrepresentations of [kh] and [k], as <q> is an allophone of /d/ and thus also cognate with /n/ (see discussion under 2.5 *Consonant Allophones*).

Having shown that <d q> are not cognate with /t k/, it remains to be shown that <t k> can be cognate with either /t k/ or /th kh/ in other Iroquoian languages. Compare the following Wyandot forms and Cayuga (Mithun & Henry 1982) cognates:

²⁶Hyphens are used to separate strings, whether morphological in nature or not, that address the point in question. A full morphological breakdown is not always supplied in this chapter.

- (21) a. Wyandot:
 ǎ-hàti-crǒ'ga' 'they make' TN:07:100:40
- b. Cayuga:
 hati-?trehtǒ:nihs 'mechanics (males)' (lit. 'they make cars')

In 21 the pronominal prefix appears in both languages as *-hati-*, with Wyandot <ǎ> in 21a corresponding to Cayuga /t/ in 21b. However, <ǎ> can also be found where related languages have /th/:

- (22) a. Wyandot:
 tǎha-rá'tǣ-ǎ' 'there he climbed up' TN:29:258:62
- b. Cayuga:
 tat-rá:thǣ-h 'climb up here!'

Wyandot *-ratǣ-* in 22a corresponds to Cayuga *-rathǣ-* in 22b. With this root, then, Wyandot <ǎ> corresponds to /th/.

Wyandot <k> can be cognate with /k/ or /kh/ in related languages, as shown with examples from Mohawk (G. Michelson 1973).

- (23) a. Wyandot:
 nǎhu-gák-a' 'he got married' TN:18:134:45-46
- b. Mohawk:
 waké-nyak-s 'I get married'

The <k> of Wyandot *-gak-* 'marry' in 23a corresponds to /k/ in Mohawk *-nyak-* 'get married' in 23b (cf. discussion following example 26). Conversely, Wyandot <k> of *-tsikeʔt-* 'sugar' in 24a corresponds to Mohawk /kh/, as in *-tsikheʔt-* 'sugar' in 24b:

- (24) a. Wyandot:
 du-tsikeʔt-a 'the sugar lump' TN:14:123:30-31
- b. Mohawk:
 o-tsikheʔt-a 'sugar'

Note the /kh/ cluster in Mohawk, but the simple <k> in Wyandot.

Furthermore, Barbeau fails to write <h> across morpheme boundaries after <ʔ>. That is, when a morpheme beginning in <h> follows one ending in <ʔ>, the <h> disappears.

- (25) a. *tūsa-h-āráʔtat* 'there again he runs' ('he runs there again') TN:28:243:38-40
- b. *aʔt-āráʔtat* 'he runs' TN:19:138:53

In 25a the masculine singular *-h-* appears with the verb *-araʔt-* 'run', after <a>. However, in 25b the same verb with the same pronoun lacks an overt <h> after <ʔ>.

The status of <h>-initial morphemes after <k>-final ones is more complicated, due to historical changes whereby generally *k became y unless "protected" by an adjacent consonant.

<i>Proto-phones</i>	<i>Modern reflexes</i>
*k	y
*Ck	(C)k

Chart 8: Development of *k

Several exceptions to this pattern have been left out of chart 8. As a general rule, intervocalic and prevocalic *k became y, while *k after another consonant remained k. As previously noted, the verb 'marry / get married' in cognate languages is *-nyak-* (G. Michelson 1973 for Mohawk, Mithun & Henry 1982 for Cayuga). The following example shows three forms of this verb in Wyandot, in the three basic aspects (which are treated in chapter 5: *Verb Base*):

- (26) a. ǎyè· - "gá^k 'I married' TN:02:067:25
 b. dětàgũ - "gás 'that they get married' TN:07:098:45
 c. űsahűti - "gá^kka' 'they (2) married' TN:02:071:12

The Wyandot root is *-^hgay- / -^hgak-*. In 26a there is no overt suffix (the <y> being written as <ǎ>), in 26b, <s> (the resultant <ys> cluster is reduced to just <s>). In 26c, however, there is <k> instead of <y>, before an <a> suffix. Retention of *k implies the historical presence of another consonant (see section 2.15 *Further Notes on y*). In this case, the cognate suffix in other Northern Iroquoian languages (the Punctual - see section 5.4.3) has an allomorph *-haʔ*. Thus it can be inferred that the Wyandot suffix was originally also *-haʔ*. A combination of the morpheme *-^hgay-* 'marry' with a following morpheme that is <h>-initial results in <k>. It can be argued that <k>, here, must represent an aspirated cluster

/kh/ since if the <k> did not occur next to a consonant, it would be <y>. On the other hand, it could be argued that <k> was retained historically for this reason, but that since then the aspiration has been lost.

To summarize, Barbeau's <t> corresponds to both /t/ and /th/ in cognate languages. Barbeau's <k> corresponds to both /k/ and /kh/ in cognate languages. English speakers interpret general Iroquoian /t k/ as <d g>, and Iroquoian /th kh/ as <t k>. However, this is not evidence that Barbeau's orthography is English-based, since his <d g n> are all cognate with /n/ in general Iroquoian. Thus it is not clear whether Wyandot has reduced all obstruent + *h* clusters to just the obstruent, or whether Barbeau's transcription is deficient.

Two possible ways to ascertain whether there has been phonological change or whether this is a case of orthographic deficiency are to examine Barbeau's transcriptions of other Iroquoian languages, and to check others' transcriptions of Wyandot. Unfortunately, Barbeau's examples from other languages are ambiguous. The following examples are from Barbeau (1959), with equivalents from Cayuga (Mithun & Henry 1982) and Mohawk (G. Michelson 1973). The English gloss refers to the entry in Barbeau (1959).

(27) /t/ as <t> 'feet'
ohsi?ta? (Cayuga)
ʔu'si·ta'

(28) /t/ as <d> 'feet'
ohsi:ta (Mohawk)
ʔo'si'dε

- (29) /th/ as <t> 'that one'
 thi:k_ʌ (Mohawk)²⁷
 ti·gə'
- (30) /th/ as <tʰ> 'cold'
 yoθó:re (Mohawk)
 yuθ'ó·re'
- (31) /k/ as <k> 'nails'
 ʌkátkete? (Mohawk)
 agat'kēde'
- (32) /k/ as <g> 'arm'
 khnɛtsháʔkeh (Cayuga)
 knɛʔts'aʔge
- (33) /kh/ as <k> 'my child'
 kheyʌ:ʔa (Mohawk)
 keyə'ʔə'
- (34) /kh/ as <kʰ> 'bread'
 sate:khó:nih (Cayuga)
 k'ó·ni'

As can be seen from these examples, Barbeau writes the simple stops /t k/ in other Iroquoian languages as both <t k> and <d g>. Additionally, he writes the aspirated clusters /th kh/ as both <t k> and <tʰ kʰ>.

Ascertaining the status of aspiration and stops in Wyandot using the transcriptions of other researchers is also problematic. For the most part these are of poor quality, although there may be indications that aspirated clusters and unaspirated stops did indeed fall together:

²⁷For ease in comparison across languages, certain redundant information has been added to examples from other languages. In particular, nasalization has been indicated on ʏ and ʌ in Mohawk and Oneida, and ʌ has been used instead of v.

- (35) a. kiarascooa 'we set off, thou and I'
 b. u·sĕkará'skwa)^a 'back let us go' ('let's go back') TN:19:137:53

Here 35a, from Gallatin (1848:cxxx), shows the first person inclusive dual agent *-k-* written as <ki>. The second example, 35b, shows an equivalent form by Barbeau. Since Gallatin used <ki> rather than <gi>, the stop may have been aspirated like in English. Unfortunately, many early recordings of Iroquoian languages use English voiceless stops where the Iroquoian languages have unaspirated stops, as shown by the neuter agent prefix *-ka-* in many place-names: Canajoharie, Canandaigua, Cattaraugus, Caughnawaga, etc. The loss of Connelley's dictionary (section 1.1 *History of Wyandot Linguistics*) is especially regrettable in that Connelley apparently had both a good ear and a consistent transcription system.

If Wyandot did collapse unaspirated stops and aspirated clusters, then there would be resultant ambiguous forms, as in examples 25a and 25b where the masculine singular agent, *-h-*, disappears in Barbeau's orthography. Some pronominal prefixes contrast solely due to <h>, such as *-hu-* masculine singular patient and *-u-* feminine-zoic singular patient; *-hi-* masculine dual agent and *-i-* non-masculine dual agent. For other pairs see the pronominal prefix charts in chapter 3: *Pronominal Prefixes*.

2.4 Consonants

This section details the inventory of consonant phonemes in Wyandot, their distribution, and their allophones.

The symbols used for consonants by Barbeau are <t ʔ k ʔk ʔk ʔ d ʔd g ʔg j s ʂ c ɕ h ʎ m n ʎ ñ r ʀ r ʷ w y ʲ ʲ>. These are displayed in the following table:

	<i>labial</i>	<i>alveolar</i>	<i>palatal</i>	<i>velar</i>	<i>glottal</i>
<i>voiceless stop</i>		t	ʔ	k	ʔ
<i>prenasalized voiceless stop</i>		ʔt	ʔʔ	ʔk	
<i>voiced stop</i>		d	g		
<i>prenasalized voiced stop</i>		ʔd	ʔg		
<i>voiceless fricative</i>		s ʂ	c		ɕ h
<i>voiced fricative</i>			j		
<i>nasal</i>	m	n ʎ	ɲ	ŋ	
<i>rhotic</i>		r ʀ			
<i>glide</i>	w ʷ		y ʲ ʲ		

Chart 9: Barbeau Consonant Characters

Because their place of articulation is unclear, the voiceless fricatives ɕ and h ʎ and the rhotic ʀ have been left out. They will be described in more detail below. The term "alveolar" for the second column is used here with the caveat that Barbeau was not explicit in his description of the place of articulation of this series. These are described as both like English, and thus alveolar, and also like French, and thus dental. For convenience, this place of articulation will be referred to as "alveolar"; however, these consonants may be dental, or may vary between both alveolar and dental areas.

Some of these symbols are treated here as digraphs because they are either described as a sequence of sounds, written as multiple characters in printed works, or both:

- (36) <ḳ> = <ky>
 <g> = <gy>
 <ç̣> = <cy>
 <ḥ> = <hy>
 <ṇ̃> = <ny>

This variety of consonant signs can be reduced to a much smaller set of consonant phonemes, as arrayed in the following chart:

	<i>labial</i>	<i>alveolar</i>	<i>palatal</i>	<i>velar</i>	<i>glottal</i>
<i>voiceless stop</i>		t		k	ʔ
<i>voiced stop</i>		d			
<i>voiceless fricative</i>		s	š		h
<i>voiced fricative</i>			ž		
<i>nasal</i>	(m)	n			
<i>rhotic</i>		r			
<i>glide</i>	w		y		

Chart 10: Wyandot Consonant Phonemes

The first series, /t k ʔ/, are voiceless stops. Although described by Barbeau as both unaspirated and aspirated, the voiceless stop series is treated as unaspirated here since Barbeau's transcription system fails to differentiate between /t k/ and /tʰ kʰ/. The voiced stop series consists solely of /d/. There are three voiceless fricatives, /s š h/. The single voiced fricative is /ž/. The nasals are /m n/. (m) is placed in parentheses since in almost all cases it can be shown to be an allophone of /w/. See section 2.5 *Consonant Allophones*, and example 48. Because there are a small number of unexplained <m>, however, it is included as a marginal phoneme. The single rhotic is /r/. There are two glides, /w y/.

The labial category consists only of /w/. The alveolar series is the most developed, with voiced, voiceless, and nasal stops, as well as a voiceless fricative and a rhotic. The palatal series lacks stops, consisting solely of fricatives and a glide. There is one velar, /k/, while the glottal series contains a stop and a fricative.

An unusual feature of this system is that there is a single voiced stop, /d/, contrasting with a voiceless stop /t/. Since /k/ has no voiced counterpart, there is a gap in the system. Another unusual feature is the presence of a voiced fricative /ʒ/. Furthermore, no other Iroquoian language has a voicing distinction, leaving Wyandot unique within Iroquoian. This particular fricative is also unusual cross-linguistically, in that there is a /ʒ ʒ/ contrast without a corresponding /s z/ contrast.

2.5 Consonant Allophones

Some phonemes have allophones distinct enough to have been recorded by Barbeau. This section discusses those allophones that can be discerned from his transcription. Strings of phones under discussion in the allophone sections, whether forming a morpheme or not, will be separated by parentheses in the Barbeau transcription line.

There is free variation between [d] and [ʰd], as shown in 37:

- (37) [d] ~ [ʰd]²⁸
- a. tayě(mɛ̃·d)úrǽhəʔ
 tayewè:dúrǽhəʔ
 taye-wɛd-urɛ-həʔ
 2,sg:1,sg-voice-find-IMP
 'thou my desire findest out' ('find out what I want')
 TN:04:088:18
- b. ǎhǎ(mɛ̃·ʰd)úrǽhəʔ
 ahawè:dúrǽhəʔ
 a-ha-wɛd-urɛ-həʔ
 FACT-MASC,sg,AGT-voice-find-PUNC
 'he her desire finds out' ('he found out what she wants')
 TN:04:088:47

Note that the final phoneme of the morpheme *-mɛ̃·d-* 'word' (phonemically *-wɛd-*) appears as <d> in 37a, and <^hd> in 37b.

The same variation holds for [g] and [ʰg], which are allophones of /d/ before glides:

²⁸These examples are in a longer format than earlier examples, with the following structure.

tayěmɛ̃·dúrǽhəʔ
 tayewè:dúrǽhəʔ
 taye-wɛd-urɛ-həʔ
 2,sg:1,sg-voice-find-IMP
 'thou my desire findest out'
 TN:04:088:18

First is the original transcription, followed by the phonemicization, then the morphological breakdown, followed by the morphological glosses, then a gloss for the whole word, and finally the source code. Lines may be left out when not pertinent.

- (38) [g] ~ [ˠg]
- a. ǎhì·(gǎ́ha)
 ahì:dyáha
 a-hi-dya-ha
 FACT-MASC,dl,AGT-eat-PUNC
 'they (2) eat'
 TN:04:081:34
- b. ǎhāti(ˠgǎ́ha·)
 ahatidyáha:
 a-hati-dya-ha
 FACT-MASC,pl,AGT-eat-PUNC
 '(for) them to eat'
 TN:03:076:28

Note that the initial phoneme of *-dya* - 'eat' appears as <g> in 38a, and <ˠg> in 38b.

The status of [g] and [ˠg] as allophones of /d/ is an extension of another rule found in Wyandot, as well as Cayuga and some Mohawk dialects, alternating t and k (see section 2.14 Phonemic Alternations):²⁹

- (39) /t/ → k / _y Wyandot, Cayuga, some Mohawk
 /d/ → g / _y Wyandot

Otherwise, *<dy> does not occur, and [g] only appears before glides. (<gw> does occur, but will be discussed later. See 2.10 *Further Notes on g*).

²⁹This rule will be modified in section 2.15 *Further Notes on y*.

- (40) /d/ → [g] / y
- a. nǎhǎti(ʼcrò·ⁿg)aʼ
 nahátihšrò:dyaʼ
 n-a-hati-hšròdy-aʼ
 TEMP-FACT-MASC,pl,AGT-make-PUNC
 'now they made'
 TN:37:293:05-06
- b. hũti(ʼcrǒⁿdiʼ)
 hutihšròdíʼ
 huti-hšròdi-ʼ
 MASC,pl,PAT-make-STAT
 'they had made'
 TN:37:293:59

Note that in these different inflections, the form for 'make', *-hšròdy-* / *-hšròdi-* (*-ʼcròg-* / *-ʼcròdi-*), alternates between /di/, written <di>, and /dy/, written <g>.³⁰

Barbeau refers to the "deep palatal" <ɽ>. This is an allophone of /r/ before /h/, as in the following examples:

- (41) /r/ → [ɽ] / h
- a. dǎʼú·(r)həʼ
 daʼú:rhehaʼ
 d-aʼ-u-rhe-haʼ
 PART-FACT-FEM.ZOIC,sg,PAT-day-PUNC
 'the next day'
 TN:04:088:05

³⁰See also section 2.15 *Further Notes on y*.

- b. **dīyá·(rh)ʔ**
diyá:rhiʔ
di-ya-rhi-ʔ
PART-FEM.ZOIC,sg,AGT-tree-NOUN³¹
'that tree'
TN:03:074:28

Unfortunately, the exact phonetic nature of this "deep palatal, tending to disappear" is unknown. An example where r disappears is:

(42) /r/ → Ø / _h (optionally)

- a. **dīyá·(h)ʔ**
diyá:hiʔ
di-ya-rhi-ʔ
PART-FEM.ZOIC,sg,AGT-tree-NOUN
'around the tree'
TN:03:075:43
- b. **dīyá(rh)ʔ**
diyárhiʔ
di-ya-rhi-ʔ
PART-FEM.ZOIC,sg,AGT-tree-NOUN
'around the tree'
TN:03:075:34-35

Here the r is present in the second example (as r), but missing in the first. This can also happen after š:

³¹Although a noun root, *-rhi-* 'tree' anomalously takes some verbal prefixes. See chapter 4: *Prepronominal Prefixes* and chapter 6: *Nouns*.

- (43) /r/ → Ø / š (optionally)
- a. **ǎhǎti·(c)ǝ·ga'**
 aháti:šǝ:dya?
 a-hati-hšřǝdi-a?
 FACT-MASC,pl,AGT-make-PUNC
 'they (are) to make' ('they made')
 TN:07:099:48
- b. **ǎhàti·(cr)ǝ·ga'**
 ahàti:šřǝdya?
 a-hati-hšřǝdi-a?
 FACT-MASC,pl,AGT-make-PUNC
 'they make'
 TN:07:100:40

Examples can also occur where the /r/ seems to have been written afterwards:

- (44) **dǎ'ú(')hǝhǝ'**
 da?úrǝhǝ?
 d-a?-u-rǝhǝ-ha?
 PART-FACT-FEM.ZOIC,sg,PAT-day-PUNC
 'the next morning'
 TN:28:254:20-21

The superscript ' appears to have been a correction or afterthought.

The labiovelar glide /w/ has an allophone [m] in the vicinity of a nasal vowel, with an optional intervening glottal stop /ʔ/.

- (45) /w/ → [m] / \bar{V} \bar{V}
 āhā(m̄)·[̄]dūrēhə̄
 ahaw̄: dūrēha?
 a-ha-w̄ed-ur̄e-ha?
 FACT-MASC,sg,AGT-voice-find-PUNC
 'he her desire finds out' ('he found out what she wants')
 TN:04:088:47

Note that here /w/ is anticipatorily (or regressively) nasalized to [m] before a nasal vowel, /ɛ̄/. This nasalization can also be perseverative (or progressive), affecting a /w/ following a nasal vowel.

- (46) /w/ → [m] / \bar{V} \bar{V}
 āh(̄m)āēdā·q̄
 ah̄q̄waedā:q̄?
 a-h̄q̄wa-Yeda-q̄?
 FACT-3,non.sg:MASC,sg-catch-PUNC
 'they him get hold of' ('they got hold of him')
 TN:27:232:09

In this example /w/ becomes [m] due to the preceding /q̄/. This nasalization may also occur when a glottal stop occurs between the nasal vowel and /w/.

- (47) /w/ → [m] / ʔ _
 ahăyqñ(ò)mă'cĕ'ndré·
 ahayqnyò'wahşędré:
 a-hayq-nyq'wahşe-drę
 FACT-MASC,sg:MASC,non.sg-bill-tie.PUNC³²
 'he their bills tied up' ('he tied their bills up')
 TN:11:110:16

Nasalization in this example occurs despite the intervening glottal stop. There are a small number of <m>s that do not occur in the environment of a nasal segment. Often, a nearby segment is nasal, but not indicated as such. However, the <m> can be seen to still be /w/ when those forms are compared to other examples of the same form, or to other members of the same paradigm.

Those rare cases of <m> which cannot yet be shown to be due to nasalization of /w/ will be indicated in the phonemicization as /m/.

- (48) măhă'cănó·
 mąhahşanó:
 'most so' ('very much')
 TN:02:064:05

In this example there is an initial <m> preceding a nasal <ă>. Since there is no *ă phoneme, it is unclear how <m> arises, unless nasalization spread across the entire word from the last vowel /q/, skipping the penultimate vowel, and nasalizing initial /w/.

³²Although aspect suffixes normally have their own morphological slot (see chapter 5: *Verb Stem Elements*), occasionally no overt suffix appears. In such cases the aspect is treated as fused with the verb. An alternative is to postulate a Ø suffix. No theoretical stance is intended by this choice.

2.6 Phonemic Consonant Distribution

The following chart lists the consonant phonemes and the environments in which they occur. The top row indicates the phoneme in question, while the left column gives the various environments. Pluses indicate the occurrence of that phoneme in that environment, while minuses indicate non-occurrence. Note that stop + h clusters, although presumably present from comparative evidence, are not indicated.

	t	k	?	d	s	š	h	ž	n	r	w	y
#_a	+	+	-	+	+	+	+	+	+	+	+	+
#_e	+	+	-	+	+	+	+	+	+	+	+	+
#_ę	+	+	-	+	+	+	+	-	+	+	+	+
#_i	+	+	-	+	-	+	+	-	+	+	-	(+)
#_o	+	+	-	+	+	+	+	-	+	+	-	+
#_u	+	+	-	+	+	+	+	+	+	+	(+)	+
#_t	-	-	-	-	+	-	-	-	-	-	-	-
#_k	-	-	-	-	+	-	-	-	-	-	-	-
#_?	-	-	-	-	-	-	-	-	-	-	-	-
#_d	-	-	-	-	-	-	-	-	-	-	-	-
#_s	+	-	-	-	-	-	-	-	-	-	-	-
#_š	-	-	-	-	-	-	-	-	-	-	-	-
#_h	-	-	-	-	-	-	-	-	-	-	-	-
#_ž	-	-	-	-	-	-	-	-	-	-	-	-
#_n	-	-	-	-	-	-	-	-	-	-	-	-
#_r	+	-	-	(+)	-	+	-	-	-	-	-	-
#_w	-	+	-	-	-	-	-	-	-	-	-	-
#_y	-	+	-	+	-	-	-	-	+	-	-	-
V_V	+	+	+	+	+	+	+	+	+	+	+	+
a_#	+	+	+	-	+	+	+	-	-	(+)	-	+
e_#	+	+	+	-	+	-	+	-	-	-	-	+
ę_#	+	-	+	-	+	-	+	-	-	-	-	-
i_#	+	+	+	-	+	+	+	-	-	-	-	-
o_#	+	-	+	-	+	-	+	-	-	-	-	-
u_#	+	-	+	-	-	+	+	-	-	-	-	-

Aside from this interjection, there are no examples of initial /yi/. It should be noted that although this exclamation appears at the end of texts, Barbeau (1960:2) describes it as used at the beginnings of texts. Initial #wu also only occurs in an exclamation:

- (50) wú^č
wúh
'wuh!'
TN:22:167:35; TN:23:173:33

These marginally occurring environments are indicated by (+).

2.7 Consonant Clusters

Wyandot consonants may appear in clusters. Initial clusters can be up to three consonants long, medial up to four, and final up to two.

Initial CC clusters include: ts-, tr-, kw-, ky-, dr-, dy-, st-, sk-, šr-, and ny-. Additionally, there is a single #CCC, skw-. These are represented in the following table. The left column gives the first member of the cluster, the top row the second.

	t	k	s	r	w	y
t	-	-	+		-	-
k	-	-	-	-	+	+
d	-	-	-	+	-	+
s	+		-	-	-	-
š	-	-	-	+	-	-
n	-	-	-	-	-	+

Chart 12: #CC Clusters

Final clusters can consist of two members: -ʔt, -ʔk, -ʔs, -st, -ht, -hk, -hs, -hš, and -rh. Most of these are of the form LO, where L stands for a laryngeal (h, ʔ) and O stands for a voiceless obstruent (t, k, s, š).

There are no CCC# clusters. The following table represents the final two-consonant clusters, to be read the same way as the preceding table.

	t	k	s	š	h
ʔ	+	+	+	-	-
s	+	-	-	-	-
h	+	+	+	+	-
y	-	-	-	-	-
r	-	-	-	-	+

Chart 13: CC# Clusters

Medial clusters can be two, three, or four consonants long. Medial CC clusters include: -tr-, -kw-, -ky-, -ʔt-, -ʔk-, -ʔd-, -ʔs-, -ʔh-, -ʔž-, -ʔr-, -ʔw-, -ʔy-, -dr-, -dy-, -st-, -sk-, -sh-, -šk-, -šr-, -ht-, -hk-, -hs-, -hš-, -hr-, -ny-, -rh-, -yʔ-, and -yr-.

The following chart shows the medial CC clusters.

	t	k	ʔ	d	s	š	h	ž	r	w	y
t	-	-	-	-	+	-	-	-	+	-	-
k	-	-	-	-	-	-	-	-	-	+	+
ʔ	+	+	-	+	+	+	+	+	+	+	+
d	-	-	-	-	-	-	-	-	+	+	+
s	+	+	-	-	-	-	+	-	-	-	-
š	-	+	-	-	-	-	-	-	+	-	-
h	+	+	-	+	+	+	-	+	+	+	+
n	-	-	-	-	-	-	-	-	-	-	+
r	-	-	-	-	-	-	+	-	-	-	-
y	+	-	+	-	-	-	-	-	+	-	-

Chart 14: -CC- Clusters

Medial CCC clusters are: -ʔts-, -ʔtr-, -ʔkw-, -ʔky-, -ʔdr-, -ʔdw-, -ʔdy-, -ʔsk-, -ʔny-, -skw-, -sky-, -hts-, -hkw-, -hky-, -hst-, -hsk-, -hšt-, -hšr-, -hšy-, and -hny-. Most of these can be reduced to the following types: LDG, LSG, skG, and Lts. Here L stands for either laryngeal (h, ʔ), D any stop (voiced d, voiceless t k, or nasal n), G a glide

or rhotic (w, y, r), and S either s or š. The following table shows the medial CCC clusters.

The first two consonants are listed at the left, while the final consonant is listed across the top.

	t	k	s	r	w	y
?t	-	-	+	+	-	-
?k	-	-	-	-	+	+
?d	-	-	-	-	+	+
?s	-	+	-	-	-	-
?n	-	-	-	-	-	+
sk	-	-	-	-	+	+
ht	-	-	+	-	-	-
hk	-	-	-	-	+	+
hs	+	+	-	-	-	-
hš	+	-	-	+	-	+
hn	-	-	-	-	-	+

Chart 15: -CCC- Clusters

Medial CCCC clusters are: -?skw-, -hstr-, -hskw-, and -hsky-. Note that these clusters take the form LsTG, where L stands for laryngeal, T for voiceless stop, G for glide or rhotic. They are also a subset of the possible combinations of CC# and #CC.

2.8 Comparative Perspective on Consonants

Since the phonemes /d š ž/ do not occur in closely related languages, it is necessary to show that they are not allophones of other phonemes. These phonemes and their cognates are shown in the following chart.

Wyandot	Northern Iroquoian
n	n
d	
s	s
š	
ž	Cy

Chart 16: Special Consonant Correspondences

As can be seen in the chart, both Wyandot /n/ and /d/ are cognate with /n/ in the other languages. The reflexes of /s/ in Wyandot are /s/ and /š/. The Wyandot phoneme /ž/ corresponds to clusters of y after various consonants.

First it will be shown that /d/ and /n/ contrast in Wyandot (see also section 2.9:

Further Notes on d):

- (51) #_a
- a. da
da
'that; the; who'
TN:05:095:35 etc.
- b. na
na
'now; then'
TN:28:238:14 etc.
- (52) #_e
- a. dēheréʼ
deheréʼh
'at a great distance'
TN:16:126:24-25
- b. nēwáʼtu
newáʼtu
'next time'
TN:02:067:28
- (53) #_ɛ
- a. dɛʼka
dɛʼka
'that so' ('that is what ...')
TN:27:226:58
- b. nɛkaʼ
nɛkaʼ
'hereto'
TN:36:286:51
- (54) #_q
- a. dɔʼmáʼ
dɔʼwáh
'this direction'
TN:21:155:18

- b. nɔmɔʔdeʔ
 nɔwaʔdeʔ
 'this time'
 TN:24:193:08
- (55) #_u
- a. du.wáʔ
 du:wáʔ
 'out of'
 TN:10:107:12
- b. nūsahūtɛ.ʔdūtɔʔ
 nusahutɛ:dutɔʔ
 n-usa-hu-atɛdutɔ-ʔ
 TEMP-OPT.REP-MASC,sg,PAT-speak-PUNC
 'now again he (to) him spoke' ('now he spoke to him again')
 TN:28:236:50-51
- (56) #_y
- a. ʔgá.reʔ
 dyá:reʔ
 'first'
 TN:05:092:30
- b. ɲɛtɛ.riʔ
 nyɛtɛ:rih
 [ny]-Yɛteri-h
 1,sg,AGT-know-STAT
 'I know'
 TN:28:241:48
- (57) V_V
- a. dayūdatāɛtɔ.ɲɔʔ
 dayudataɛtɔ:myɔʔ
 d-ayu-dat-a-Yɛt-(h)ɔnyɔ-ʔ
 SUBST-FEM.IND,sg,PAT-camp-JOIN-have-DISTR-STAT
 'that they have their camp several bodies' ('that several of them have a camp')
 TN:37:296:54-56

- b. naʷwǎŋɛːrɔ̃tiʔ
 naʔwanɛːrɔ̃tiʔ
 n-aʔ-wa-nɛrɔ̃ti-ʔ
 TEMP-FACT-1,sg,PAT-hunt-PUNC
 'when I hunt'
 TN:35:284:25-26

Both the phonemes /ʃ/ and /s/ are cognate with /s/ elsewhere in Iroquoian. Here it is shown that in Wyandot there is a contrast:

- (58) #_a
- a. sǎhǎʔcrɔ̃ːga
 sahaʃrɔ̃ːdya
 s-a-ha-hʃrɔ̃di-a
 REP-FACT-MASC,sg,AGT-make-PUNC
 'again he builds up'
 TN:21:152:42
- b. cǎhǎáʔtǎt
 ʃahaáʔtat
 ʃa-ha-Yaʔt-a-t
 COINC-MASC,sg,AGT-body-JOIN-stand.STAT
 'same one body' ('the same person')
 TN:22:167:44
- (59) #_e
- a. sɛáʔtiʔcáː
 seáʔtihšáː
 se-Yaʔt-ihša-ː
 2,sg:FEM.INDEF-body-look.for-IMP
 'thou somebody look' ('look for someone')
 TN:27:234:51

b. cəkəáʔtʰcaʰs
 šekeáʔtʰšahs
 še-t-ye-Yaʔt-ihša-hs
 COINC-CISLOC-1,sg,AGT-body-look.for-HAB
 'I (for) it have been looking' ('I have been looking for it')
 TN:27:217:50

(60) #_ə

a. sɛ̃ ʰdihʰaʰcɛ̃ʰ
 sɛ̃dihʰahšɛ̃ʰ
 s-ɛ̃-dih-a-hš-ɛ̃ʰ
 2,sg,PAT-SEMI-borrow-JOIN-DISLOC-STAT
 'thou borrow (it)'
 TN:29:261:14

b. cɛ̃ ʰtəriʰ
 šɛ̃təriʰ
 š-Yɛ̃teri-h
 2,sg,AGT-know-STAT
 'thou knowest'
 TN:15:125:50

(61) #_o

a. sɔ̃máʰə
 sɔ̃wáʰ
 'thyself'
 TN:27:228:12

b. cəʰʰmáʰ
 šəʰwáh
 'yonder'
 TN:27:218:07

(62) #_u

a. sũñɔ̃ ʰdɛ̃ʰ
 sunyɔ̃:dɛ̃ʰ
 s-(h)u-nyɔ̃de-ʰ
 REP-MASC,sg,PAT-take-STAT
 'back he him brought' ('he brought him back')
 TN:19:144:39

b. **cuhāhó'k'e'**
šuhahókye?
š-u-hah-qkye-?
DISTAL-MASC,sg,PAT-road-travel-STAT
'away he travels' ('he was travelling')
TN:12:112:38-39

(63) **V_V**

a. **ěsěgáha**
esedyáha
e-se-dya-ha
FUT-2,sg,PAT-eat-PUNC
'must thou eat' ('you must eat')
TN:08:102:21

b. **ecé:játq'**
ešé:žátq?
e-še-žatq-?
FUT-2,sg,AGT-mark-PUNC
'will you mark' ('you will make a mark')
TN:14:124:07

(64) **a_#**

a. **āhù'tātq'sěhas**
ahù?tatqhsěhas
a-hu-?tatqhs-ę-has
FACT-MASC,sg,PAT-basket-have-BEN.PUNC
'she (before) him basket lays down' ('she sets the basket down in front of him')
TN:26:203:37

b. **yāgá·hac**
yadyá:haš
ya-dya-haš
FEM.ZOIC,sg,AGT-eat-HAB
'she eats'
TN:21:152:18; TN:21:152:31

- (65) i_#
- a. hutiⁿdá^ʔrè·tsis
 hutidá^ʔarè:tsis
 huti-da^ʔar-etsi-s
 MASC,non.sg,PAT-horn-long-STAT.PL
 'their horns are long'
 TN:28:241:05
- b. deyəgyá^ʔ*wic
 deyadyá^ʔwiš
 de-ya-dya^ʔwiš
 SUBST-FEM.ZOIC,sg,AGT-turtle
 'the it turtle' ('the turtle')
 WM:086
- (66) h_#
- a. hās̱·ⁿgá^s
 has̱:dyáhs
 ha-s-q̱di-ahs
 MASC,sg,AGT-bowl-make-HAB
 'he makes bowls'
 TN:28:240:43
- b. haⁿ·drāwà^ccrānó^{ma}c
 ha:^ʔdrawàhšranó^{wahš}
 ha-draw-a-hšr-a-nq̱w-ahš
 MASC,sg,AGT-dance-JOIN-NOM-JOIN-fond-HAB
 'he (of) dances is fond of' ('he is fond of dancing')
 TN:24:185:27-28

Unlike /n d/ or /s š/, /š/ and /ž/ are from historically different sources. In general, the source for /š/ was *s, while the sources for /ž/ were mostly *ry, *hy, and *ky. However, due to their phonetic similarity, /š/ and /ž/ must still be shown to contrast:

- (67) #_a
 a. ca'kwá'sti'
 ša?kwáhstih
 š-Ya?t-wahst-ih
 2,sg,AGT-body-good-STAT
 'thou art pretty'
 TN:04:083:41
- b. ja'kwá'sti'
 ža?kwáhstih
 y-Ya?t-wahst-ih
 1,sg,AGT-body-good-STAT
 'I am nice'
 TN:25:197:16
- (68) #_e
 a. cé·he'
 šé:he?
 š-ehe-?
 2,sg,AGT-think-STAT
 'thou wantest'
 TN:25:195:26
- b. jéwa'
 žéwa?
 'walnut tree'
 WD:NR:067
- (69) V_V
 ecé·játq'
 ešé:žátq?
 e-še-žatq-?
 FUT-2,sg,AGT-mark-PUNC
 'will you mark' ('you will make a mark')
 TN:14:124:07

Only one example is given in 69, since both /š/ and /ž/ appear there intervocalically.³³

³³There are occasional examples where š appears instead of expected ž, and vice versa.

These three sets of examples show that the unusual phonemes of Wyandot do indeed contrast with those more common to Iroquoian. This is shown for /d/ in 51-57, for /š/ in 58-66, and for /ž/ in 67-69.

2.9 Further Notes on *d*

The phonemic status of *d* is not as clear-cut as with other segments. That is, arguments can be proposed that 1) *d* is just an allophone of *n*, or 2) *d* and *n* are in free variation, or 3) *d* is phonemic in Wyandot.

The position that *d* is an allophone of *n* is based on the historical origin of *d*, and the distributional results of that origin in modern Wyandot. Both *d* and *n* are reflexes of proto-Iroquoian **n*. Before a nasal vowel **n* remained *n*, while elsewhere **n* became *d*. The following example shows **n* before a nasal vowel in the proto-form:

(70)	'house ³⁴	
	Proto Northern Iroquoian	*-nqhs-
	Tuscarora	-nɛhs-
	Wyandot	-nqhs̥-
	Mohawk	-nɥhs-
	Oneida	-nɥhs-
	Cayuga	-nqhs-
	Seneca	-nqhs-

³⁴Tuscarora from Rudes (1999), Mohawk from G. Michelson (1973), Oneida from Christjohn & Hinton (1996), Cayuga from Mithun & Henry (1982), and Seneca from Chafe (1967).

Note that Wyandot **-nq̄hš-** 'house' retains n before the nasal vowel q̄. The next example is of *n before an oral vowel:

(71)	'kettle, bucket, pail'	
	Proto Northern Iroquoian	*-naʔts-
	Tuscarora	-naʔč-
	Wyandot	-daʔts-
	Mohawk	-naʔtsy-
	Oneida	-naʔtsy-
	Cayuga	-naʔts-
	Seneca	-nq̄ʔtsy- ³⁵

Note that Wyandot **-daʔts-** 'kettle' has d instead of n before the oral vowel a.

A following *y was skipped in determining the nasality of the environment. Thus, *nyY patterned like *nY, remaining nyY. Similarly, *nyV patterned like *nV, and became dyV, transcribed by Barbeau as <g>, i.e. gyV (recall that g is treated here as an allophone of d before glides). The skipping of *y in retaining nasality is shown before q̄ in 72:

(72)	'squash, pumpkin'	
	Proto Lake Iroquoian	-hnyq̄hs-
	Wyandot	-nyq̄hš-
	Cayuga	-hnyq̄hs-
	Seneca	-hnyq̄hs-

³⁵Seneca has q̄ instead of a due to a change whereby a became q̄ after n. This does not affect the reconstructed form, since the change is recent and can be seen underway in works of the early to mid-eighteenth century (e.g., Wright 1842).

Note that although *y is oral, *n did not become d in Wyandot here because the following vowel is nasal.

In most instances the proto-environment is retained in Wyandot, such that most instances of Wyandot n occur before a nasal vowel (with optional intervening y), while most instances of d occur before an oral vowel (with g before y and an oral vowel). Among the pronominal prefixes can be found pairs that end in either n or d depending on the following vowel:

- (73) a. hēndéheʔ
hędéheʔ
hęd-ehe-ʔ
MASC,pl,AGT-think-STAT
'they wanted'
TN:38:301:42
- b. hęnq̄·mé^c
hęnq̄:wéh
hęn-qwe-h
MASC,pl,AGT-person-STAT
'they (m.) persons'
TN:03:077:13

In 73a the masculine plural agent is -hęd- before an oral vowel, while in 73b the allomorph is -hęn- before a nasal vowel.

Thus, both diachronically and in most synchronic positions, it can be argued that d is just an allophone of n. The advantage of such an analysis is that the voicing distinction unique to Wyandot among all Iroquoian languages is reduced by one phoneme, and alternations such as -hęd- / -hęn- can be handled phonologically.

The second position, that d and n are in free variation, is based on the fact that both phones can occur outside the environment expected from historical changes, with apparently no change in meaning. The following example shows such a variation:

- (74) a. n̄ɔ̄iˈdāwéʔt
 n̄ɔ̄idawéʔt
 n-qi-dawéʔt
 X-1,dl,PAT-sibling.in.law.STAT
 'we two are brothers and sister-in-law'
 TN:04:084:23
- b. d̄ɔ̄j̄ˈdāwéʔt
 d̄ɔ̄idawéʔt
 d-qi-dawéʔt
 X-1,dl,PAT-sibling.in.law.STAT
 'we two are brother and sister-in-law'
 TN:04:084:14

Note that in 74a n appears before a nasal vowel, as expected from historical changes, while in 74b d appears in the same position, contrary to diachronic expectations. Furthermore, the word is glossed the same in both instances.

A similar pattern appears with these examples of the verb -ihaq- 'say':

- (75) a. dah̄ɛ̄h̄áq̄ʔ
 dah̄ɛ̄haq̄ʔ
 d-a-h̄ɛ̄-ihaq-ʔ
 PART-FACT-MASC,sg,AGT-say-PUNC
 'that he said'
 TN:21:157:43-44

- b. nahəhə́
 nahə́hə́
 n-a-hə́-ihə́
 X-FACT-MASC,sg,AGT-say.PUNC
 'that he says'
 TN:20:148:67

Note that in this case it is the *d* which is in the expected environment, while the *n* is not before a nasal vowel.

The advantage of considering *d* and *n* to be in free variation is that these instances of the phones appearing to alternate is to be expected.

The third possibility, that *d* is phonemic, is based on the fact that there are alternations of forms with *d* or *n*, regardless of environment, that maintain a specific semantic distinction. Forms beginning with *d* are often glossed with 'the' or 'that', while forms beginning with *n* are often glossed with 'now' or 'then'. The following example shows this distinction of form with distinction of meaning:

- (76) a. daʷwǎ́nə́:rətɪʔ
 daʷwǎ́nə́:rətɪʔ
 d-aʷ-wa-nə́rətɪ-ʔ
 PART-FACT-1,sg,PAT-hunt-PUNC
 'that I hunt'
 TN:35:285:26-27
- b. naʷwǎ́nə́:rətɪʔ
 naʷwǎ́nə́:rətɪʔ
 n-aʷ-wa-nə́rətɪ-ʔ
 TEMP-FACT-1,sg,PAT-hunt-PUNC
 'when I hunt'
 TN:35:284:25-26

Note that the difference in form is the presence of either initial d or initial n. The remaining string is a valid word on its own:

- (77) aʷwānérqtiʔ
aʔwanérqtiʔ
aʔ-wa-nérqti-ʔ
FACT-1,sg,PAT-hunt-PUNC
'I hunt'
WD:VR:142

The difference in meaning added by the difference between d and n is that 76a gains the gloss 'that' while 76b gains the gloss 'when'. In general, the initial d is either the Partitive (as in example 76a), or the Substantivizer (see section 4.5.3). Forms beginning with n usually carry a meaning related to time, glossed as 'now' or 'when'. The n prefix is the Temporal (see section 4.5.4).

When words demonstrating either n or d without a difference in gloss are put into context, a temporal versus non-temporal meaning is often found. Placing 75a in context, no time-related meaning is added:

- (78) ...kähę hũmę "gēri^c
 kahę huwędyerih
 hu-wędyeri-h
 MASC,sg,PAT-willing-STAT
 'there he is content

dēhqmętsę'tpa^c
 dehqwę?tsęhti?ah
 de-h-qwe-?tsęhti-?ah
 SUBST-MASC,sg,AGT-person-young.STAT-DIM
 the he is a boy

dahęhăó'...
 dahęhaó?
 d-a-hę-ihaq-?
 PART-FACT-MASC,sg,AGT-say-PUNC
 that he said'

The boy agreed to it and said, ...
 TN:21:157:40-44

This is consistent with the use of initial d. However, when 75b is taken in context, a temporal meaning does appear:

- (79) ...kähätú^c năhútę "du·tq'
 kahatúh nahútędu:tq?
 n-a-hu-atędutq-?
 TEMP-FACT-MASC,sg,PAT-speak-PUNC
 'now there now he (to) him spoke

nahęhăó'...
 nahęhaó
 n-a-hę-ihaq
 TEMP-FACT-MASC,sg,AGT-say.PUNC
 that he says'

Now the Lion [spoke to the man], saying, ...
 TN:20:148:64-67

Note that both the preceding words are glossed with 'now', which also appears in the free translation in reference to the time of the saying. This is consistent with the use of the Temporal.

The same distinction holds true for 74a and 74b. In context, 74b lacks a reference to time:

- (80) ...yqⁿdà^ʔ*tārawíhe^ʔ
 yqⁿdà^ʔtarawáhe^ʔ
 yq-da^ʔtar-a-w-a-he-^ʔ
 1,sg:2,sg-bread-JOIN-take-JOIN-DISLOC-STAT
 'I (to) you bread come to give
- | | |
|--|--|
| <p>dq̄jⁿdāwé^ʔ*t
 dq̄jⁿdawé^ʔt
 d-qi-dawe^ʔt
 SUBST-1,dl,PAT-sibling.in.law.STAT
 we two are brother and sister-in-law</p> | <p>tūhə^ʔ*rə^ʔ...
 tuhə^ʔrə^ʔ?

 that is all'</p> |
|--|--|

I only came to give you this bread, my cousin-in-law.
 TN:04:084:13-16

Note the presence of the Substantivizer d-. On the other hand, 74a in context carries a time-related meaning:

- (81) ...dāε káhε^ʔ nq̄iⁿdāwé^ʔ*t...
 dae káhε^ʔ nq̄idawé^ʔt
 n-qi-dawe^ʔt
 TEMP-1,dl,PAT-sibling.in.law.STAT
 'that is the one we two are brothers and sister-in-law'

This is the very one [who is to be] my cousin-in-law.
 TN:04:084:21-23

The reference is to a future state where the relationship will hold, rather than an existing condition. Note the presence of the Temporal n-.

The advantage of positing d as a phoneme itself is that the difference between the Partitive or Substantivizer on the one hand and the Temporal on the other can be maintained.³⁶

In summary, d has an ambiguous status as a phoneme. In most instances d and n are in complementary distribution, while in a few cases they appear to be in free variation. However, they also are used rather consistently to distinguish certain morphemes. This instability can be postulated to be evidence for a phonemic split in progress. That is, by the time of the early 20th century Wyandot d has grown beyond being simply an allophone of n, but has not progressed so far as to be completely contrastive with n.

In the analysis presented here, d is treated as a separate phoneme, with the acknowledgment that there are instances where d is not fully phonemic.

2.10 Further Notes on *g*

There are a few additional problems concerning <g>, all interrelated. Two are synchronic: the use of two different types of orthographic <g> by Barbeau, and the phonemic

³⁶Another possibility is to analyze the Temporal n- as underlyingly nY, with loss of the Y. Postulating aY is consistent with the probable historical origin of this form, the particle neh 'now'. Loss of the vowel is consistent with the patterning of the Substantivizer anteprenominal d(e), which retains its vowel as a particle but loses it as a prefix. This possibility is not adopted here for two reasons. One is that the Temporal often appears as na when a particle, clearly lacking a nasal vowel. The other is that the postulation of underlying forms goes against the synchronic, surface-form oriented analysis used elsewhere in this grammar.

status of the voiced velar stop. The diachronic problem is the proto-Northern Iroquoian source of the <gw> cluster. Each will be dealt with in turn.

Barbeau writes two different forms of <g>. Sometimes he uses open-hook <g>, but more often <g> with a closed descender. The difference is not explained, although some instances of closed <g> are clearly open <g> with the under-arc $\underset{\cdot}{g}$. This distinction is more frequent in Barbeau (n.d.) than in Barbeau (1960). Barbeau (n.d.) even has a separate alphabetical slot for closed <g> as opposed to open <g>, but the examples in those entries vary between open <g> and closed <g> (compare Appendix C). The difference disappears in print, where the character used matches whatever typeface has been set, e.g. <g> or <g>, etc.³⁷

Based on Barbeau's use of the under-arc diacritic $\underset{\cdot}{g}$, it can be postulated that open <g> is velar while closed <g> is palatalized <gy>. Thus, <g g> are parallel to <k k̥>. Additionally, both <g> and <g> can appear before <w>, resulting in four clusters:

	Open Descender	Closed Descender
Pre-Nasalized	^h gw	^h gw
Plain	gw	gw

Chart 17: GW Clusters

³⁷Note that this adds two more characters, g and ^hg, to chart 9 *Barbeau Consonant Characters*.

This hypothesis, that open <g> is velar and closed <g> is palatal, can be tested by frequency counts for both characters in palatal versus velar environments. That is, open <g> should be more frequent near velars, with closed <g> reserved for palatal environments. Although the transcription is inconsistent, a test count can still be made. In order to avoid assigning the environment based on the characters, morphemes were chosen based on historical environments. That is, although the environment may not always be clear synchronically, the historical forms clearly show where such environments once could be found. Two roots with <g> or <g> in historically palatal environments were chosen, **-qni-* / **-qny-* 'make' and **-nyak-* 'marry', as well as four other roots with historically labiovelar environments: **-tkwir-* 'branch', **-tkwɛ-* 'blood', **-tkwɛʔt-* 'bag', and **-tsiʔtkwar-* 'yellow / green'. The following chart gives the reconstructed forms and the modern reflexes the reconstructions were derived from.³⁸

³⁸Cherokee from King (1975), Tuscarora ('bile', not 'yellow') from Rudes (1999), Cayuga from Mithun & Henry (1982), Seneca from Chafe (1967), Oneida from Christjohn & Hinton (1996), and Mohawk from G. Michelson (1973).

	Palatal Environment		Labiovelar Environment			
	'make'	'marry'	'branch'	'blood'	'bag'	'yellow'
*	<i>-ɔny-</i>	<i>-nyak-</i>	<i>-tkwir-</i>	<i>-tkwɛ-</i>	<i>-tkwɛʔt-</i>	<i>-tsiʔtkwar-</i>
Cherokee	<i>-ʌne-</i>					
Tuscarora	<i>-ɛty-</i>	<i>-tyak-</i>	<i>-(a)tkwir-</i>			<i>-ɕiʔtkwar-</i>
Wyandot	<i>-ɔg-</i>	<i>-gak-</i>	<i>-gwir-</i>	<i>-gwɛʔy-</i>	<i>-gwɛʔt-</i>	<i>-tsigwar-</i>
Cayuga	<i>-ɔny-</i>	<i>-nyak-</i>		<i>-tkwɛhs-</i>	<i>-tkwɛʔt-</i>	<i>-tsiʔtkwa-</i>
Seneca	<i>-ɔny-</i>	<i>-nyak-</i>	<i>-kwiy-</i>	<i>-tkwɛhs-</i>	<i>-tkwɛʔt-</i>	<i>-tsiʔtkwa-</i>
Oneida	<i>-ɔny-</i>	<i>-nyak-</i>	<i>-kwil-</i>	<i>-nikwɛhs-</i>		<i>-tsiʔnkwal-</i>
Mohawk	<i>-ɔny-</i>	<i>-nyak-</i>	<i>-kwir-</i>	<i>-nekwɛh-</i>		

Chart 18: Test Environments for <g> versus <ɔ>

The level of reconstruction of the proto-forms is not stated in the chart since it varies: Proto-Iroquoian for 'make', Proto-Northern Iroquoian for 'marry', 'branch', and 'yellow', and Proto-Lake Iroquoian for 'blood' and 'bag'. The forms given for 'make' for the Northern Iroquoian languages are allomorphs appearing before vowels. Frequency counts are shown in this chart:

	Open g	Closed g	gy
'make'	-	64	7
'marry'	-	22	1
Total Palatals	0	86	8
'branch'	8	12	-
'blood'	11	5	-
'bag'	4	1	-
'yellow'	1	2	-
Total Labiovelars	24	20	0

Chart 19: Frequency Counts of <g> and <g>

The first column lists the glosses of the forms. The characters open <g> and closed <g> are listed across the top, along with instances of <gy> used by Barbeau in printed works. Totals for each character in each environment are also given. Note that in palatal environments only closed <g> is used. Open <g> is less clear cut in the labiovelar environments, however, with just a slightly greater tendency than closed <g>. Thus, although it is clear that in palatal environments closed <g> is used, there is no clear-cut distinction between closed <g> and open <g> in labiovelar environments.

The distinction will be maintained in orthographic examples. As an aside, Barbeau tends to use open <g> in English, rather than closed <g>.

As discussed in section 2.5 *Consonant Allophones*, <g> is treated here as an allophone of /d/ before /y/. This is demonstrated in examples 39 and 40. Given the parallel

<g g> and <k k̥>, it can be argued that <g> itself should be phonemic. This allows the orthography to be more regular, and creates a more symmetrical phonemic system that includes both /t k/ and /d g/, rather than leaving a gap. This gap can be seen both in Chart 9: *Barbeau Consonant Characters* and Chart 10: *Wyandot Consonant Phonemes*. However, such an analysis cannot be reconciled with the limited distribution of <g g>, which can only appear before glides. Thus, <g g> will be maintained as an allophone of /d/, despite the irregularity of the resulting consonant inventory.

The cluster <gw> is problematic historically, although synchronically it is simply /dw/. Since /d/ is descended from *n (see section 2.9 *Further Notes on d*), such a cluster would be expected to derive from proto-Northern Iroquoian **nw. As indicated by the double asterisks, this cluster is not reconstructed (Michelson 1988). Instead, where cognates can be found, /dw/ comes from *tkw, as seen in Chart 18: *Test Environments for <g> versus <g̃>*. The problem is the lack of a nasal source in *tkw for the change from *n to /d/. The cluster *tkw would be expected to result in /kw/ in Wyandot, not /dw/, following other known historical changes. One expected path involves a simplification of the cluster *tk to simply /k/ (discussed further in section 2.14 *Phonemic Alternations*):

(82) *t k w
 \ / |
 k w

This results in the wrong cluster.

Another expected path involves two changes. One is the simplification of the cluster *kw to simply /w/. This can be seen comparing Wyandot and Mohawk cognates. The Wyandot form, with just w, appears in 83:

- (83) rǫméć
 rǫwéh
 r-ǫwe-h
 MASC,sg,AGT-person-NOUN
 'he person' ('the man')
 TN:11:110:55, etc

Compare the Mohawk (G. Michelson 1973) form with kw:

- (84) rǫ:kweh
 'a male'

The second change is the alternation of /t/ and /k/ before glides, discussed in section 2.14 *Phonemic Alternations*. Together these show a different path of descent from *tkw, but also leading to the wrong result:

- (85) *t k w
 | \ /
 t w
 \ /
 k w

Thus the question remains: where did the nasalization come from? This also applies to the Mohawk form for 'blood', and the Oneida for 'blood' and 'yellow', in chart 18: *Test Environments for <g> versus <g̃>*.

Lagarde (1972:41) reconstructs proto-Northern Iroquoian **tsitkwar* 'yellow'. In order to account for <gw> in the Wendat form, given as *otsingwara*, Lagarde develops a route whereby **tkw* could become <gw>. She gives the sound change

(86) t > n / i _ kw

to account for this morpheme. This would add the nasalization required for a stage where <gw> did arise, becoming <gw̃> (thus /dw/) in Wyandot for this particular morpheme, as well as a source for nasalization for the Oneida form as well. That is, the cumulative effect of sound changes whereby **n* became /d/ and **kw* simplified to /w/ could give rise to /dw/ clusters:

Proto-Northern-Iroquoian	* <i>tsitkwar</i>
Lagarde's rule t > n / i _ kw	* <i>tsinkwar</i>
* <i>kw</i> → w	* <i>tsinwar</i>
* <i>n</i> → d	* <i>tsidwar</i>
/d/ → g / _ glides	< <i>tsigwar</i> >

Chart 20: Potential Route of Change from **itkw* to <gw>

Note that the global changes are not crucially ordered. These changes, however, would not account for any of the morphemes besides 'yellow' in Chart 18: *Test Environments for <g>*

versus <g>. If Lagarde's rule is modified to eliminate the reference to *i, then these morphemes could be accounted for as well.

One final problem involving g centers on the morpheme (in Barbeau's orthography) <-gqh-> for 'blood; skin; hide', for which a phonemicization has been left out of the following example:

- (87) hūgóhămɛ̃^ʰ
hu-gqh-amɛ̃-^ʰ
MASC,sg,PAT-blood-have-STAT
'he the hide has' ('he has the hide')
TN:27:219:37

Note the presence of open g. What Barbeau transcribed as closed g is usually interpreted phonemically as dy in this analysis, with gw and gw phonemicized as dw. In 87 g is not phonemicized as dy since Barbeau never uses g for historically palatal environments (as seen from Chart 18: *Test Environments for <g> versus <g>*). Comparative evidence indicates that <-gqh-> comes from *tkqh, as seen comparing the Tuscarora cognate from Rudes (1999):

- (88) -tkɛ̃-
'blood; gore'

The Nottoway form was probably along the lines of katkq phonemically. The reason this morpheme is problematic for the analysis presented here (where g and g are allophones of d

before glides) is that there is no glide. Thus, <-gqh-> should have been <-dqh-> in Barbeau's orthography, since there is no glide.³⁹

In Iroquoian languages there is a tendency for *w* to drop before back vowels. This holds for Wyandot as well. In 89 the noun *-rihw-* 'law' loses *w* before the *q* of *-qt-* 'tie':

- (89) hūdatrīhóʔtqʔ
hudatrihóʔtqʔ
hud-at-rihw-qt-(h)q-ʔ
MASC,non.sg,PAT-SEMI-law-tie-DISTR-STAT
'they office hold' ('they hold office')
TN:28:243:10

Loss of *w* before *q* suggests the possibility of *tkwqh as an underlying version of the historical form for 'blood; skin; hide'. This underlying form would create the *tkw which could serve as the source for Wyandot *dw* (i.e., <gw>). However, positing underlying phonemes which can never appear on the surface (as opposed to the occasionally appearing *w* of 89) is contrary to the analytical orientation of this work, so this morpheme will remain problematic.

2.11 Vowels

The following section treats the vowels in Wyandot and their distribution and allophones. Barbeau uses the following vowel characters in his transcription system:

³⁹Note that this form is doubly problematic for an analysis where *d* is an allophone of *n* in non-nasal environments. This is because *g* lacks a glide and is before a nasal vowel.

i	í	ì	ĩ	í	ì	ı	ı́	ı̀			
e	é	è	ě	é'	è	ɛ	é	è	ẽ	é'	è
ε	é	è	ě	é'	è	ɛ	é	è	ẽ	é'	è
a	á	à	ã	á'	à	ɑ	á	à	ã	á'	à
o	ó	ò	õ	ó'	ò	o	ó	ò	õ	ó'	ò
u	ú	ù	ũ	ú'		u	ú	ù	ũ		

Chart 21: Vowel Characters

Each base character is on a separate row, while each column represents a particular set of diacritics. The first character is plain, without diacritics. The following columns are with diacritics that indicate primary stress; secondary stress; shortness; shortness with primary stress; shortness with secondary stress; nasalization; nasalization with primary stress; nasalization with secondary stress; nasalization and shortness; nasalization, shortness, and primary stress; and nasalization, shortness, and secondary stress. The gaps are probably accidental. This range of symbols can be shown in the following matrix:

	plain	ˈ	ˊ	ˋ	ˌ	ˍ	ˎ	ˏ	ː	ˑ	˒	˓	˔	˕
i	+	+	+	+	+	+	+	+	+	+	-	-	-	
e	+	+	+	+	+	+	+	+	+	+	+	+	+	
ɛ	+	+	+	+	+	+	+	+	+	+	+	+	-	
a	+	+	+	+	+	+	+	+	+	+	+	+	-	
o	+	+	+	+	+	+	+	+	+	+	+	+	+	
u	+	+	+	+	+	-	+	+	+	+	+	-	-	

Chart 22: Diacritic Patterns

These 64 different characters can be reduced to six phonemes, with an additional marginal phoneme. They are represented in the next table, according to primary phonetic realization:

i	u
e	
ɛ	ɔ
a (a)	

Chart 23: Wyandot Vowel Phonemes

The six primary vowel phonemes can be arranged in a symmetrical chart, with high front /i/, high back /u/, low back /a/, low front /e/, front nasal /ɛ/, and back nasal /ɔ/.

i u
 ɛ ɔ
 e a

Chart 24: Wyandot Vowel Phonemes Symmetrically Arranged

Although Barbeau described the back nasal as [ɔ̃] ("the open *o* nasalized as in French *bon*"), he wrote it as <ɔ̃>. For simplicity, the back nasal will be written /ɔ/ here as well. Similarly, the front nasal will be written as /ɛ/ instead of /ɛ̃/. Although most instances of <ə̃> can be shown to be allophones of /a/, there are a small number that cannot be so explained. It is for this reason that (ə̃) is entered parenthetically in chart 23. See example 95 in section 2.12 *Vowel Allophones*.

2.12 Vowel Allophones

This section will discuss vocalic allophony. Each vowel has multiple allophones, especially in the environment of a nasal.

In 90a the root *-Yeraʔt-* 'use' appears with [ɛ], while 90b the same root is shown with [ɛ̃]:

- (90) /e/ → [ɛ] (optionally)
 a. ăhàtìj(é)·rat
 ahàtìžé:rat
 a-hati-Yeraʔt
 FACT-MASC,pl,AGT-use.PUNC
 'they used'
 TN:07:099:05

- b. àhǎ(é)raʔt
 àhaéraʔt
 a-ha-Yeraʔt
 FACT-MASC,sg,AGT-use.PUNC
 'he used'
 TN:13:119:31

Although /ɛ/ can appear as [ɛ], as in 91a, it is usually realized as [ɛ̃], as in 91b:

- (91) /ɛ/ → [ɛ̃] (optionally)
- a. hɔmɛ̃ts(ɛ)ʔtiʔaʔ
 hɔwetsɛ̃htiʔah
 h-qwe-ʔtsɛ̃hti-ʔah
 MASC,sg,AGT-person-young.STAT-DIM
 'he is a boy'
 TN:21:156:57
- b. hɔmɛ̃ts(ɛ̃)ʔtiʔaʔ
 hɔwetsɛ̃htiʔah
 h-qwe-ʔtsɛ̃hti-ʔah
 MASC,sg,AGT-person-young.STAT-DIM
 'he is a boy'
 TN:21:156:09

As an allophone of /ɛ/, [ɛ̃] usually appears in the vicinity of a nasal, with optional intervening segments. Some or all of these may be due to errors in transcription. That is, the nasal nature of a nearby nasal segment might have masked nasalization on the vowel itself. This allophone may thus actually be an English-biased perception mistake. As seen in the following example, /ɛ/ appears as [ɛ̃] in 92a, and [ɛ̃] in 92b, adjacent to a nasal segment [ʔ].

- (92) /ɛ/ → [ɛ] / % N
- a. aʔtəm(ɛ̃)taye^c
 aʔtew-ɛ̃-tayeh
 haʔ-te-w-ɛ̃t-aye-h
 TRANS-DU-FEM.ZOIC,sg,AGT-day-number-STAT
 'every day'
 TN:01:059:03
- b. aʔtəm(ɛ)ʔtá:ye^c
 aʔtew-ɛ-tá:yeh
 haʔ-te-w-ɛt-aye-h
 TRANS-DU-FEM.ZOIC,sg,AGT-day-number-STAT
 'every day'
 TN:12:112:23

Nasalization can also spread to /i/, resulting in [ĩ]. This can occur regardless of whether the nasal segment precedes or follows the /i/. Note in 93a the nasal [ĩ], and in 93b the oral [i]:

- (93) /i/ → [ĩ] / % N
- a. tāt(ĩ)ʔdá:re
 tatidá:re
 t-(h)ati-dare
 CISLOC-MASC,pl,AGT-live.STAT
 'they live' ('they live at ...')
 TN:29:270:25
- b. tat(i)ʔdà:rɛ̃ʔ
 tatidà:rɛ̃ʔ
 t-(h)ati-dare-ʔ
 CISLOC-MASC,pl,AGT-live-STAT
 'they live' ('they live at ...')
 TN:40:309:14

The phoneme /a/ can be nasalized to [ã] before a nasal segment, or following a nasal segment with an optional intervening laryngeal. 94a shows nasalization of /a/ before the pre-nasalized stop /d/. 94b shows nasalization of /a/ after /w/, which itself has been nasalized to [m] by the preceding /q/. 94c shows nasalization of /a/ after nasal /ɛ/ and an intervening /h/.

- (94) /a/ → [ã] / { $\begin{matrix} _ N \\ \bar{N} (L) _ \end{matrix} \}$
- a. ǎh(ǎ·"g)ǎ̃
 ahà:dyáh
 a-ha-dya-h
 FACT-MASC,sg,AGT-chase-PUNC
 'he her chases (after)' ('he chased her')
 TN:02:069:26
- b. h(òmq̃)yũwá·nɛ̃
 hòwayuwá:nɛh
 hɔwa-yuwanɛ-h
 MASC,pl:MASC-large-STAT
 'he is big (head leader)' ('he is the leader')
 TN:02:070:14
- c. ahǎjá'·tũr(ɛ̃·hǎ)
 ahažá'turɛ̃:ha?
 a-hay-Ya?t-urɛ-ha?
 FACT-MASC,sg:l,sg-body-find-PUNC
 'he me finds' ('he found me')
 TN:01:061:27

There are sporadic examples of [ã] where the nasalizing environment cannot be found.

Those cases will have ǎ in the phonemicization, as in 95:

- (95) h̄aʔ·r̄aʔ
 h̄aʔr̄aʔ
 'only'
 TN:04:081:37; TN:24:192:27

Here there is no apparent nasal segment from which nasalization could have spread. Such examples are primarily restricted to particles.

The high back vowel /u/ can also nasalize before a nasal segment, becoming [ɯ]. In 96a /u/ is nasalized preceding the pre-nasalized stop /d/, while in 96b it remains oral [u].

- (96) /u/ → [ɯ] / _ N (optionally)
- a. t(ú)·ⁿdi
 tú:di
 'also'
 TN:02:065:27
- b. t(ú)·ⁿdiʔ
 tú:diʔ
 'also'
 TN:24:194:15

The back nasal /q/ is often written [o] in the environment of a nasal, with optional intervening segments. As with [ɛ] as allophone of /e/, this may be a transcription error, with the nasality of a nearby nasal segment hiding the nasality of the vowel /q/. This can be seen in 97:

- (97) /q/ → [o] / % N
- a. **kasākáʔkən(ɔ)**
kasakyaʔkyenɔ
ka-s-at-Yaʔt-Yenɔ
CISLOC-2,sg,PAT-SEMI-body-fall.IMP
 'here thou liest down' ('lie down here')
 TN:04:086:09-10
- b. **āhākāʔkən(o)**
ahākyaʔkyen-ɔ
a-h-at-Yaʔt-Yenɔ
FACT-MASC,sg,AGT-SEMI-body-fall.PUNC
 'he lies down'
 TN:12:112:42

There are also occasional examples where /q/ is transcribed as [ɤ], indicating that the phonetic ranges of /q/ and /a/ may slightly overlap, or at least come close in vowel space:

- (98) /q/ → [ɤ] (optionally)
- a. **sā(hɤ)tédīyòrūjaʔs**
sahɔtéʔdiyòruʒahs
s-a-hɔ-ate-ʔdiyòr-uʒ-ahs
REP-FACT-MASC,pl,AGT-SEMI-sense-play-HAB⁴⁰
 'again they went on playing' ('they went back to playing')
 TN:03:075:07
- b. **nt(ɔ)tédīyòrūjaʔs**
tɔtediyòruʒahs
t-(h)ɔ-ate-ʔdiyòr-uʒ-ahs
CISLOC-MASC,pl,AGT-SEMI-sense-play-HAB
 'where they were playing'
 TN:03:075:05

Here the pronominal prefix **-hɔ-** *they* appears as <hɤ> in 98a, and <(h)ɔ> in 98b.

⁴⁰Anomalous use of the Habitual with a modal prefix, the Factual. See chapter 5: *Verb Stem Elements*.

Another variant of /q/ is [u] before /w/, which, as previously mentioned, becomes [m] after a nasal. Thus, /qw/ can appear as [um]:

- (99) /q/ → [u] / _ m (optionally)
- a. h(ũ)mɛʔ^ctsɛʔ^cʔa^c
 hɔwɛʔtsɛhtiʔah
 h-qwe-ʔtsɛhti-ʔah
 MASC,sg,AGT-person-young-DIM
 'boy'
 TN:19:144:25
- b. h(õ)mɛʔ^ctsɛʔ^cʔa^c
 hɔwɛʔtsɛhtiʔah
 h-qwe-ʔtsɛhti-ʔah
 MASC,sg,AGT-person-young-DIM
 'boy'
 TN:19:142:26

In 99 the term for 'boy' appears with either [um] or [qm]. Together the variants of /q/ as [ɸ] and [u] indicate that the back nasal can range over the entire height spread for back vowels.

The vowel /u/ can also appear as [ã], but only when short. That is, /u/ is occasionally represented as <ã>. This can occur even under stress. In 100a the verb -*yuwanɛ*- 'large' is transcribed with [ã], while in 100b with [ũ].

- (100) /u/ → [ã] (optionally)
- a. kway(ã)wãɛ^c
 kwayúwãɛh
 t-wa-yuwanɛ-h
 CISLOC-FEM.ZOIC,sg,AGT-large-STAT
 'she is large elder' ('she is the elder')
 TN:24:191:45

- b. kway(ü)wa·nɛ̃ˀ
 kwayuwa:mɛ̃h
 t-wa-yuwanɛ̃-h
 CISLOC-FEM.ZOIC,sg,AGT-large-STAT
 'she is big (the eldest)' ('she is the elder')
 TN:28:246:01

Additionally, all vowels may be repeated after a glottal stop. Occasionally when either a nasal vowel is repeated, or an oral vowel in a nasal environment is repeated, the orality / nasality of the repeated vowel does not match that of the main vowel.

Each of the following examples shows a different echoed vowel: ⁱ ^e ^ɛ ^{ɛ̃} ^a ^{ɔ̃} ^o ^{õ} ^u.

The echoed ^o only occurs after ɔ̃.⁴¹

- (101) yǎhà·wíˀ
 yahà:wíˀ
 ya-hawi-ˀ
 FEM.ZOIC,sg,AGT-carry-STAT
 'she carries'
 TN:04:090:26

- (102) yò̃^oˀtǎréˀ
 yò̃taréˀ
 y-qtar-eˀ
 FEM.ZOIC,sg,AGT-lake-NSF
 'lake'
 TN:08:103:50

⁴¹It is possible that what Barbeau transcribed as echoed vowels was phonetically creaky voice.

- (103) hò^hʔ^hʔyɛ^hʔá^hhə^h
 hòteʔyɛʔá^hhə^h
 hɔ-ate-ʔyɛʔá^hhə^h-h
 MASC,pl,AGT-SEMI-sibling-STAT
 'their brothers'
 TN:40:307:47
- (104) yɛ^hʔ^hric
 yɛ^hriš
 ya-iriš
 FEM.ZOIC,sg,AGT-lion
 'lion'
 TN:09:105:33
- (105) ʔe^h(skēmɛ^h "dǎrá"^h cɔñɔ^h)
 ehskewɛdaráʔšɔnyɔ^h
 e-hske-wɛd-a-r-a-ʔšɔnyɔ-ʔ
 FUT-2,sg:1,sg-voice-JOIN-put.away-JOIN-DISTR-PUNC
 'will thou (with) me converse' ('you will speak to me')
 TN:04:079:10
- (106) há^hʔ^hrə^h
 há^hʔ^hrə^h
 'only'
 TN:02:066:27; etc.
- (107) cɔ^hʔ^hmá^h
 šɔ^hʔ^hwá^h
 'by far'
 TN:04:080:49
- (108) ɛskò^hʔ^htró^h·^hda^h
 eskò^hʔ^htró^h:dah
 e-s-yɔ-iʔtrɔ-d-ah
 FUT-REP-1,sg:2,sg-live-DISLOC-PUNC
 'will I you take there' ('I will take you there')
 TN:02:071:37-38

(i09) u^hwá^htsa
u^hwáhtsa
u-^hwahts-a
FEM.ZOIC,sg,PAT-meat-NOUN
'the meat'
TN:21:151:27

2.13 Phonemic Vowel Distribution

The following section lists the vowel phonemes and the environments they appear in.

This is represented in the chart below.

	i	e	ɛ	a	ɔ	u
#_a	-	-	-	-	-	-
#_e	-	-	-	+	-	-
#_ɛ	-	-	-	+	-	-
#_i	-	-	-	+	+	-
#_ɔ	-	-	-	+	-	-
#_u	-	+	-	+	-	-
#_t	+	+	+	+	+	+
#_k	-	+	-	+	+	+
#_ʔ	+	+	+	+	+	+
#_d	+	+	+	+	+	+
#_s	+	+	+	+	+	+
#_š	+	+	-	+	+	+
#_h	+	+	+	+	+	+
#_ž	+	+	-	+	-	+
#_n	+	+	-	+	+	+
#_r	+	+	-	+	+	+
#_w	+	+	-	+	+	+
#_y	+	+	-	+	-	+
V_V	-	+	-	+	-	-
a_#	+	+	+	+	+	-
e_#	-	+	-	-	-	+
ɛ_#	-	-	+	-	+	-
i_#	-	-	-	-	-	-
ɔ_#	-	-	-	-	+	-
u_#	-	-	-	-	+	-

t_#	+	+	+	+	+	+
k_#	+	+	+	+	+	+
?_#	+	+	+	+	+	+
d_#	+	+	-	+	+	+
s_#	+	+	+	+	+	+
š_#	+	+	+	+	+	+
h_#	+	+	+	+	+	+
ž_#	+	+	-	+	-	+
n_#	+	+	+	+	+	+
r_#	+	+	+	+	+	-
w_#	+	+	+	+	+	-
y_#	+	+	+	+	+	+

Chart 25: Vowel Environments

As can be seen from the chart, vowels need not be separated by consonants. The following vowel clusters can be found: ae-, aę-, ai-, aq-, au-, eu-, qi- initially; -VeV- medially; -aa, -ae, -aę, -ai, -aq, -ee, -eę, -eq, -qq, -uq, and -eu finally. These do not appear to form diphthongs.

2.14 Phonemic Alternations

A certain number of alternations between forms can be stated for Wyandot. The historical origins of many of these alternations are readily apparent.

The following is an example of *ty* replaced by *k*. 110a shows *-yqhš-* 'face' after a vowel, while 110b shows the same noun after the Semireflexive (SEMI) *-at-*. The combination of *t* from the Semireflexive and *y* from 'face' results in *k*.

(110) *t + y → k*

- a. **eskeyq'curɛhə'**
eskeyq'hšurɛha?
e-ske-yqhš-urɛ-ha?
 FUT-2,sg:1,sg-face-find-PUNC
 'will thou my face find' ('you will invite me')
 WD:NR:085
- b. **sāhqmäkq'cütädi·ha'**
sahqwakq'hšutädi:ha?
s-a-hqw-at-yqhš-ut-a-di-ha?
 REP-FACT-3,non.sg:MASC,sg-SEMI-face-stick-JOIN-BEN-PUNC
 'thou self face stick to or present (go and invite)' ('invite them')
 TN:24:188:54-55

The next shows the final *t* of the Semireflexive *-at-* becoming *k* before the *w* of *-wɛd-* 'voice':

- (111) *t → k / _w*
ūsáhakwɛ'dú'utɛ's
usáhakwɛdú?tɛhs
usa-h-at-wɛd-u?tɛ-hs
 OPT.REP-MASC,sg,AGT-SEMI-voice-kind-PUNC
 'again his voice is the same' ('his voice imitated the other one')
 TN:29:257:38

It should be noted that the two rules in 110 and 111 are not parallel. The reasons will become clearer in section 2.15 *Further Notes on y*.

There is an alternation between d and t after s:

- (112) d → t / s _
- a. yaⁿdà'úrǎha'
 yadà'úrǎha?
 ya-da'ura-ha?
 FEM.ZOIC,sg,AGT-able-STAT
 'onebody is able to'
 TN:27:229:56-57
- b. ěstà'úrǎha'
 esdà'úrǎha?
 e-s-da'ura-ha?
 FUT-2,sg,AGT-able-PUNC
 'thou art able'
 TN:29:270:32

In 112a the initial stop of the morpheme *-da'ura-* 'able' appears as d, after the vowel a, but is t in 112b, after s.

There is also an alternation between ž before a vowel and the sequence ri before a consonant:

- (113) ri → ž / _ C
- a. ayǫmǎtúrǎhà'ke'
 ayǫwatúrǎhà:kye?
 a-yǫw-at-uri-h-akye-?
 FACT-3,non.sg:FEM.ZOIC-SEMI-drive-STAT-PROG-PUNC
 'he them is driving' ('he is driving them')
 TN:29:267:35

- b. hayǫmátūjeʼs
 hayǫwátužeʼs
 hayǫw-at-už-eʼs
 MASC,sg:MASC,non.sg-SEMI-drive-HAB
 'he them drives' ('he drives them')
 TN:27:211:01

Note that the verb *-uri-* 'drive' appears as *-uri-* before *h* in 113a, and as *-už-* before *e* in

113b. This is the result of a historical change, where **ry* became *ž*.

When initial *i* of an I-stem (see 3.2 *Phonological Conjugation Classes*) follows a pronominal prefix ending in *a*, the vowels *a* and *i* are replaced by *ɛ*:

(114) $a + i \rightarrow \epsilon$ / pronominal prefix _ other morpheme

- a. teʼstìʼtǫjáʼ
 tehstìhtǫžáʼ
 te-hst-ìht-ižaʼ
 DU-2,dl-field-cross.IMP
 'you two cross (the field)'
 TN:24:183:34
- b. yǫʼ(ʼtá)ʼyeʼ
 yǫhtáʼyeh
 ya-ìht-a-ʼyeh
 FEM.ZOIC,sg,AGT-field-JOIN-LOC
 'the prairie on' ('on the prairie')
 TN:29:270:12

Here the second dual pronominal prefix *-hst-* and the noun root *-ìht-* 'field' retain their basic forms in 114a. In 114b, however, where the noun follows the zoic agent (FEM.ZOIC,AGT) *-ya-*, there is merger at their juncture into *ɛ*.⁴²

⁴²This is the traditional Iroquoianist approach since Barbeau (1915a). An alternative is to treat pronominal prefixes as overlapping I-stems with *ɛ*, without postulating that the

2.15 Further Notes on *y*

The phoneme /*y*/ enters into two different but overlapping sets of alternations. In one set *y* alternates with *ny* and *k*. In the other set *y* alternates with *ny*, *w*, *ž*, and \emptyset .

(115) *y*, *ny*, *k*
y, *ny*, *w*, *ž*, \emptyset

In the first set *y* is the most frequently occurring, with fewer instances appearing as *ny*, and the fewest as *k*. In the other set \emptyset is the most often found, with *w*, *ny*, *ž* less frequent, and *y* appearing the least often. The first set of alternates will be represented by *y*, while the second set of alternations will be represented by the morphophoneme *Y*.⁴³

The following chart summarizes the alternations of *y* and *Y*. The question marks indicate unclear interactions. Different alternations and interactions will be addressed in turn.

pronominal prefixes occurring before I-stems are underlyingly the same as those occurring before C-stems (see 3.2 *Phonological Conjugation Classes*).

⁴³The first set is descended from **k*, while the second is from **y*. According to Mithun (1979), the two sets of alternations are **k* > *k*, *y*, *ž* and **y* > *y*, *ž*, \emptyset .

	y	Y
i_V	y	ž
i_Y	ny	ny
e_V	?	?
e_Y	?	ny
e_V	y	Ø
a_V	y	Ø
a_Y	y	ny
q_V	y	w
q_Y	y ~ ny	w
u_V	y	w
ʔ_V	y	?
C_V	k	y
C_C	-	i
t_C	-	[t]i
t_V	[k]	[k]y
š_	[s]k	?

Chart 26: Alternations of *y* and *Y*

The first several lines of the chart indicate various intervocalic alternations for *y* and *Y*. This is followed by alternations involving consonants. Square brackets indicate segments that overlap or replace elements from the environment.

Example 116 shows a *y* ~ *k* alternation from the first set (i.e., *y*) for the verb *-yq-* 'be in'.⁴⁴

⁴⁴Recall the historical rule where **k* became *y* except after another consonant, from section 2.3 *Under-differentiation*.

- (116) a. **yà:redáyqʰ**
yà:redáyqʰ
ya-reda-yq-h
FEM.ZOIC,sg,AGT-cave-in-STAT
'the cave in' ('in the cave')
TN:19:138:63
- b. **yǎnqʰskqʰ**
yanqʰskqʰ
ya-nqʰs-yq-h
FEM.ZOIC,sg,AGT-house-in-STAT
'it house in' ('in the house')
TN:29:265:53

The first example shows 'be in' beginning with a y, while the second shows the same verb with a k. This alternation is triggered by the presence or absence of a preceding consonant. When there is such a consonant, k appears. Otherwise, y.

However, when the preceding consonant is ʔ, y remains:

- (117) **aʔ*yǎkwɛʔnˀdĩhaʔ**
aʔyakwɛdĩhaʔ
aʔ-y-at-wɛd-iha-ʔ
FACT-1,sg,AGT-SEMI-voice-shout-PUNC
'I shouted to' ('I shouted to them')
TN:28:242:46

In 117 the first person singular agent **-y-** remains y despite being after a consonant, ʔ.

The alternation of y and ny is optional. Here the verb **-yɛ-** 'see' appears both with the alternation and without:

- (118) a. **ǎhá·yɛ̃ʔ**
 ahá:yɛ̃ʔ
 a-ha-yɛ̃-ʔ
 FACT-MASC,sg,AGT-see-PUNC
 'he saw'
 TN:17:132:06
- b. **ahǎyóñɛ̃ʔ**
 ahayónyɛ̃ʔ
 a-hayɔ-yɛ̃-ʔ
 FACT-MASC,sg:MASC,non.sg-see-PUNC
 'he them saw' ('he saw them')
 TN:02:070:09
- c. **nǎhayó·yɛ̃ʔ**
 nahayó:yɛ̃ʔ
 n-a-hayɔ-yɛ̃-ʔ
 TEMP-FACT-MASC,sg:MASC,non.sg-see-PUNC
 'now he them saw' ('now he saw them')
 TN:24:186:66-187:01

The y in 118a corresponds to ny in 118b, between nasal vowels. Although in the same environment, 118c retains y. This optional alternation is triggered by a preceding ɔ.

The first alternation to be shown from the second set (i.e., Y) is that of Y and w, shown with -Yɔ- 'arrive'. In 119a, -Yɔ- is realized by y, while in 119b y is replaced by w. The appearance of y is due to the preceding consonant. The conditioning environment for the w is the preceding back rounded vowel, u.

- (119) a. **āhāyómáʔḳq̣ʔ**
 ahayówàʔkyq̣ʔ
 a-hayq̣-Yaʔt-Yq̣-ʔ
 FACT-MASC,sg:MASC,non.sg-body-arrive-PUNC
 'he (with) them two arrived home' ('he arrived home with them')
 TN:24:185:07
- b. **tèʔsu·wq̣**
 tèʔsu:wq̣
 teʔ-s-(h)u-Yq̣
 NEG-REP-MASC,sg,PAT-arrive.STAT
 'not back he has arrived' ('he hasn't returned')
 TN:04:081:31

Additionally, it may be seen that in 119a the Y in *-Yaʔt-* 'body' also corresponds to w, this due to the preceding q̣. That is, back vowels trigger the alternation of Y and w.

The alternation of Y and ny can also be shown with the verb *-Yq̣-* 'arrive'. In 120 Y appears as ny. The triggering environment is a combination of the i preceding the Y, and the nasal vowel afterwards.

- (120) **tuhāhátĩñq̣ʔ**
 tuhahátinyq̣ʔ
 tu-h-a-hati-Yq̣-ʔ
 REM-TRANS-FACT-MASC,pl,AGT-arrive-PUNC
 'there they arrived'
 TN:37:299:38-39

When i precedes Y but the following vowel is oral, then the alternant found is ž:

- (121) **tehōmatijáʹtūrɛʹdiʹ**
tehōwatižáʹturɛʹdiʹ?
te-hōwati-Yaʹt-urɛ-di-ʹ?
 NEG-3,non.sg:MASC,non.sg-body-find-BEN-STAT
 'not their body found' ('they did not find their bodies')
 TN:40:311:03-04

Note that in 121 Y appears as ž. This ž also appears when Y follows y, as in 122:

- (122) **àwǎjé·dà·qʹ**
àwažé:dà:qʹ?
a-way-Yeda-qʹ?
 FACT-1,sg,PAT-catch-PUNC
 'it (of) me takes hold of' ('it takes hold of me')
 TN:05:091:43

The y at the end of first singular patient *-way-* fuses with the Y of *-Yeda-* 'catch' to form ž.

The most common alternant of Y is Ø. This occurs intervocally, aside from the environments just discussed. That is, after e and a the morphophoneme Y becomes Ø, regardless of nasality of the following vowel. In 123 the verbs *-Yɛteri-* 'know' and *-Yeda-* 'catch' both appear with Ø for Y after a, even though they differ in the nasality of the vowel after Y.

- (123) a. **hǎɛtērʰ**
hǎɛteriʰ
ha-Yɛteri-h
 MASC,sg,AGT-know-STAT
 'he knows'
 TN:24:184:16

- b. **ǎhòməédá·qʻ**
ahòwaedá:qʻ
a-həwa-Yeda-qʻ
FACT-3,non.sg:MASC,sg-catch-PUNC
'they him get hold of' ('they get hold of him')
TN:27:232:09

Y also appears as Ø after e:

- (124) **ekǎaʔqʻ·ⁿgaʻ**
ekeaʔtqʻ:dyaʻ
e-t-ye-Yaʔt-qdi-aʻ
FUT-CISLOC-1,sg,AGT-body-make-PUNC
'I body make' ('I will create people')
TN:01:062:23

To show that there are two different alternations, one for Y and one for y, examples need to be shown where the /y/ of one alternation set does not undergo the changes of the other set.

For example, y does not become w after back rounded vowels. In 125 the change from y to w expected for Y does not occur: y remains y (cf. 119).

- (125) **ǎhu·yǎʻ**
ahu:yǎʻ
a-hu-yǎ-ʻ
FACT-MASC,sg,PAT-see-PUNC
'he him saw' ('he saw him')
TN:12:113:24

The alternations between Y and Ø intervocalically, and between Y and ž after palatals (i and y), also fail to occur for y. In 126 both examples show *-yerq-* 'stay' with y. The first shows an intervocalic y (cf. 123) and the second shows y instead of ž (cf. 121).

- (126) a. **āwāyé·rǫʔ**
 awayé:rǫʔ
 awa-yerǫ-ʔ
 1,EXCL,pl,AGT-stay-STAT
 'we sit together'
 WD:VR:350
- b. **hātīyé·rǫ**
 hatiyé:rǫ
 hati-yerǫ
 MASC,pl,AGT-stay.STAT
 'they stayed'
 TN:40:309:46

Since y fails to join in the alternations of Y, they must be separate, even though they overlap.

The exchange of i and Y depends on whether a consonant or vowel follows. Before a consonant i can be found, while Y precedes a vowel.

Before Consonant	Before Vowel
i	Y

Chart 27: Alternation of *i* and *Y*

This can be seen using the verb *-hšrǫdi-* 'make'. 127a shows the verb 'make' as *-hšrǫdi-* before a consonant, and 127b *-hšrǫd'Y-* before a vowel.

- (127) a. hũti'crq̄'di'
 hutihšrq̄di'
 huti-hšrq̄di-?
 MASC,pl,PAT-make-STAT
 'they had made'
 TN:37:293:59
- b. āhāti'crq̄'ga'
 ahāti:šrq̄dya'
 a-hati-hšrq̄di-a?
 FACT-MASC,pl,AGT-make-PUNC
 'they make'
 TN:07:100:40

There are different interactions between t and y on the one hand, and between t and Y on the other. These interactions are further affected by the alternation between Y and i.

The following example shows that t alternates with k before Y.⁴⁶ 128a shows the noun *-rqt-* 'log' ending in a t and followed by a vowel. 128b shows the same noun, this time appearing as *-rpk-* when preceding Y.

- (128) t → k / _ Y
- a. yārq̄'ta'
 yarq̄:ta'
 ya-rqt-a?
 FEM.ZOIC,sg,AGT-log-NOUN
 'log'
 TN:11:109:36

⁴⁶Since /k/ is an independent phoneme, this rule has a different status than the similar allophonic rule converting /d/ to [g] before /y/ (see section 2.5 *Consonant Allophones*).

- b. aʔ^arɔ́:kyaʔ
 aʔrɔ́:kyaʔ
 aʔ-Ø-rɔt-Yaʔ
 FACT-1,sg,AGT-log-break.PUNC
 'I log cut' ('I cut the log')
 IR:08

The alternation of t and k before a palatal glide is common in Iroquoian languages, also occurring in dialects of Mohawk and Cayuga.

When a morpheme ending in t is followed by a morpheme beginning with y, their boundary has k instead of t, y, or ty. Thus, ty alternates with k. This can be seen in example 110, as well as here:

- (129) aʔ^awákɛ́:seʔ
 aʔwákɛ́:seʔ
 aʔ-w-at-yɛ-ʔs-eʔ
 FACT-FEM.ZOIC,sg,AGT-SEMI-see-BEN-PUNC
 'she (at it) looked' ('she looked at it')
 TN:26:202:38

At the boundary between the Semireflexive *-at-* and the verb *-yɛ-* 'see' is found k, rather than ty.

Extending the alternation of tY with ky to include the alternation between Y and i results in tY appearing as either ky before a vowel, or ti before a consonant.

Before Consonant	Before Vowel
ti	ky

Chart 28: t + Alternation of *i* and *Y*

This *ti* / *ky* alternation can be seen with the verb *-nɛrɔti-* / *-nɛrɔkY-* 'hunt'. Note in 130 that the root for 'hunt' appears as *-nɛrɔti-* before *h*, but as *-nɛrɔky-* before *e*. This is parallel to 127, with the additional alternation of *t* and *k*.

- (130) a. **dehũŋɛːrɔtiʔ**
 dehunɛːrɔtiʔh
 d-e-hu-nɛrɔti-h
 SUBST-FUT-MASC,sg,PAT-hunt-PUNC
 'that he (may) hunt'
 TN:04:079:23
- b. **hũŋɛːrɔkɛʔs**
 hunɛːrɔkyeʔs
 hu-nɛrɔti-eʔs
 MASC,sg,PAT-hunt-HAB
 'he goes out hunting'
 TN:23:176:07

The interactions of both *Y* and *y* with a preceding *t* are summarized in this chart:

	Before Consonant	Before Vowel
t + y	-	k
t + Y	ti	ky

Chart 29: Interaction of *t* with *Y* and *y*

In 29, the two rows indicate which alternation, Y or y, follows t. The columns indicate whether the tY / ty occurs before a consonant or a vowel.

Finally, š before another consonant, other than r, alternates with s. Before y the result is sk. In 131a the noun root *-ʔnqhs-* 'bag' is shown before a. 131b shows the same root before k, where it appears as *-ʔnqhs-*. This k itself is explained in section 2.16 *Epenthesis and Prothesis*, with example 133.

- (131) a. **yaʔnqʰcaʔ**
 yaʔnqʰšaʔ
 ya-ʔnqʰš-aʔ
 FEM.ZOIC,sg,AGT-bag-NOUN
 'it bag' ('bag')
 TN:31:274:02
- b. **hatĩnqʰskwiʔtręʰskaʔ**
 hatĩnqʰskwiʔtręʰskaʔ
 hati-ʔnqʰš-wiʔtręʰ-hsk-aʔ
 MASC,pl,AGT-bag-tie-UN-STAT
 'they the bag tie unfastened' ('they untied the bag')
 TN:29:269:58

Before y, š alternates with s, with the y alternating with k:

- (132) a. **anqʰcamęʰ**
 anqʰšawęh
 a-nqʰš-awę-h
 1,sg,PAT-house-have-STAT
 'a house I have' ('my house')
 WD:NR:082

- b. ayūnq'(skq)
 ayunq'hsq?
 ayu-nqhš-yq-?
 FEM.INDEF,sg,PAT-house-in-STAT
 'the house (hold) in' ('in the house')
 TN:30:272:51

In 132a the noun *-nqhš-* 'house' appears with š before a, while in 132b the intersection of the š of *-nqhš-* 'house' with the y of *-yq-* 'in' results in sk.

2.16 Epenthesis and Prothesis

There are various ways by which extra phones are added. An epenthetic k is inserted between s and w:

(133) s + w → skw

- a. sāhātrḗⁿdūtà^ada'
 sahatrḗdutà^ada?
 s-a-h-at-rḗd-ut-a-^ad-a?
 REP-FACT-MASC,sg,AGT-SEMI-song-stick.up-JOIN-DISLOC-PUNC
 'again he sings thereat' ('he sang again')
 TN:24:186:22
- b. skwātrḗⁿdú^ata'
 skwatrḗ:dú^ata?
 sk-w-at-rḗd-ut-a?
 REP-FEM.ZOIC,sg,AGT-SEMI-song-stick.up-HAB
 'again she (instead of) him sings' ('she sang for them instead of him')
 TN:24:190:57

Note how the repetitive (REP) *-s-* is followed by a in 133a, but there is a k between it and the following w in 133b.

When certain morphemes are joined together (usually incorporated nouns and following verbs, but also nouns and verbs followed by consonant-initial suffixes), the vowel *a* is sometimes inserted in between to break up consonant clusters. This *-a-* is called the joiner vowel (JOIN). In 134 the Joiner *-a-* is inserted between the roots *-qwehts-* 'land' and *-wahst-* 'good'.⁴⁷

- (134) *kq̄m̄ɛʔtsāwáʔstih*
kyq̄wehtsawáhstih
t-y-q̄wehts-a-wahst-ih
 CISLOC-FEM.ZOIC,sg,AGT-land-JOIN-good-STAT
 'to the land good' ('to the promised land')
 TN:29:267:20

A verb needs to be at least two syllables long. If it is not, then a prothetic (PROTH) *i-* is appended to the beginning of the word. The verb in 135 would only be one syllable long if the Prothetic were not added.

- (135) *ídeʔs*
ídeʔs
i-d-e-ʔs
 PROTH-3,dl,AGT-go-HAB
 'they two walk'
 TN:24:187:05

⁴⁷An alternative, used by Chafe (1967:15) for Seneca, is to postulate basic versus combining allomorphs. The combining allomorphs end in a (or, in the case of Seneca, *æ*, *q*, and *ɛ* as well).

However, there are several instances of initial i which also lack any meaning, but due to the length of the word, do not serve the same function as the Prothetic.

- (136) ĩhāyúwà·nɛ̃ʔ
 ihayúwà:mɛ̃h
 i-ha-yuwanɛ̃-h
 PROTH-MASC,sg,AGT-large-STAT
 'he is large'
 TN:13:118:32

The word in 136 is four syllables long without the initial i, so that it is not the Prothetic. Or, it could be the Prothetic, but with some other unclear function.

An intrusive glottal stop ʔ, sometimes complete with echoed vowel, can appear before a consonant, without affecting meaning. Note that the first example in 137 has the string <ɔʔ> while the second includes a glottal stop ʔ and echoed vowel. Otherwise, the forms are identical phonemically and semantically.

- (137) a. āh(ɔʔ)t̃)èʔwaʔ
 ahɔʔt̃)èʔwaʔ
 a-hɔʔ-ateʔw-aʔ
 FACT-MASC,pl,AGT-run.away-PUNC
 'they fled'
 TN:40:307:17
- b. āh(ɔʔʔ)t̃)èʔwaʔ
 ahɔʔt̃)èʔwaʔ
 a-hɔʔ-ateʔw-aʔ
 FACT-MASC,pl,AGT-run.away-PUNC
 'they fled'
 TN:20:147:05

This intrusive ʔ can also occur before consonant clusters. In 138 the consonant cluster <ñ> (representing ny) is preceded by a glottal stop ʔ and echoed vowel only in 138b.

(138) a. dēhùʔk(ξ̃ñ)eʔ
 dehùhkényeʔ
 de-hu-hkényeʔ
 SUBST-MASC,sg,PAT-younger.STAT
 'the he is younger' ('the younger one')
 TN:01:062:21

 b. dēhùʔk(ξ̃ʔñ)eʔ
 dehùhkényeʔ
 de-hu-hkényeʔ
 SUBST-MASC,sg,PAT-younger.STAT
 'the he is younger' ('the younger one')
 TN:01:063:03-04

The most frequent occurrence of the intrusive glottal stop is before d, both across morpheme boundaries and within morphemes:

(139) a. dũ(ʔdáʔtār)aʔ
 dudáʔtaraʔ
 d-u-daʔtar-aʔ
 SUBST-FEM.ZOIC,sg,PAT-bread-NOUN
 'the bread'
 TN:04:078:08

 b. du(ʔdáʔtār)aʔ
 duʔdáʔtaraʔ
 d-u-daʔtar-aʔ
 SUBST-FEM.ZOIC,sg,PAT-bread-NOUN
 'the bread'
 TN:34:282:13-14

The root for 'bread', *-daʔar-*, appears prenasalized initially in 139a, but with a glottal stop in 139b. The intrusive glottal stop can also appear within a morpheme:

- (140) a. ahūwédāʔ
 ahuwédaʔ?
 a-hu-Yeda-ʔ?
 FACT-MASC,sg,PAT-catch-PUNC
 'it him caught' ('it caught him')
 TN:13:121:08
- b. ahõmàtije'dáʔ
 ahõwàtizédáʔ?
 a-hõwati-Yeda-ʔ?
 FACT-3,non.sg:MASC,non.sg-catch-PUNC
 'they them caught' ('they caught them')
 TN:37:292:06

The root for 'catch', *-Yeda-*, appears with the glottal stop in 140b, but without in 140a.⁴⁷

2.17 Stress Placement

Barbeau indicates two types of stress or accent, primary and secondary. The first is the "main stress or accent in a word" which "usually corresponds to a rising pitch of the voice" (Barbeau 1960:58). Instead of "rising pitch", Barbeau (1915b) calls this "high pitch". It is symbolized with the acute mark ´. The second is described as a "minor or weaker accent", marked by the grave diacritic ` . Various primary stress patterns and their exceptions will be presented first, followed by secondary stress.

⁴⁷It is interesting to note that the historical changes affecting *n and *t in Tuscarora also involve the addition of a glottal stop. However, in Tuscarora, where *n became *t*, it is the reflex of *t that gained a glottal stop: *ʔn*.

According to Michelson (1988:52), Proto-Lake Iroquoian had penultimate accent, unless the penultimate vowel was the Joiner *-a-* (see section 2.16 *Epenthesis and Prothesis*). In that case, the accent was antepenultimate. Examples of Wyandot words that also follow this rule can be found. Each of the examples in 141 shows primary accent on the penultimate vowel, with none of the forms showing the Joiner *-a-*.

- (141) a. **ācegáha**
 ašedyáha
 a-še-dya-ha
 FACT-2,sg,AGT-eat-PUNC
 'for them to eat'
 TN:28:243:56
- b. **ahádà'ürá·ha'**
 ahadà?urá:ha?
 a-ha-da?ura-ha?
 FACT-MASC,sg,AGT-able-PUNC
 'he is able'
 TN:26:207:46
- c. **āhǎá'kq'**
 ahaá?kyq?
 a-ha-Ya?t-Yq-?
 FACT-MASC,sg,AGT-body-arrive-PUNC
 'he her brought (in)' ('he brought her in')
 TN:02:065:31
- d. **dehūmĕ'tsè't'a·**
 dehəwehtsəhti'a:
 de-h-qwe-?tsəhti-?a
 SUBST-MASC,sg,AGT-person-young.STAT-DIM
 'the he person young' ('the young man')
 TN:02:072:51

- e. **yǎwáʼstiʼ**
yawáhstih
ya-wahst-ih
FEM.ZOIC,sg,AGT-good-STAT
'it is nice'
TN:22:165:16

The following forms show the Joiner **-a-** as the penult, with stress thus on the antepenult, as in the Proto-Lake Iroquoian rule:

- (142) a. **arɛ·^hdíhàʼcaʼ**
arɛ:díhàhšaʼ
a-r-ɛ-dih-a-hš-aʼ
FACT-MASC,sg,AGT-SEMI-borrow-JOIN-DISLOC-PUNC
'he went to borrow'
TN:29:261:34
- b. **aʷátěyàt**
aʷátəyət
aʷ-w-atey-a-ht
FACT-FEM.ZOIC,sg,AGT-burn-JOIN-CAUS.PUNC
'she set fire'
TN:22:161:33
- c. **hawíʼcaʼ^hyeʼ**
hawíhšaʼyeh
h-awihš-a-ʼyeh
MASC,sg,AGT-strength-JOIN-LOC
'his strength'
TN:19:141:02
- d. **sǎhǎkáʼtaʼ^hda**
sahakáhtaʼda
s-a-h-akaht-a-ʼd-a
REP-FACT-MASC,sg,AGT-see-JOIN-DISLOC-PUNC
'again he goes to see (visit)' ('he went to visit again')
TN:21:153:42

- e. tēyɛ^ˈdātɔ̃kwādi^ˈ
 teyeʔdatɔ̃hkwadi:h
 te-ye-ʔd-atɔ̃kw-a-di-h
 DU-1,sg,AGT-arrow-shoot-JOIN-BEN-STAT
 'one side then the other' ('I shot both sides')
 TN:28:237:49

All of these forms show a stressed antepenult with the penult being the Joiner *-a-*.

Contrary to the historical rule, however, in Wyandot the Joiner *-a-* can be stressed when penultimate. In the following examples, the Joiner *-a-* vowel is stressed despite being penultimate.

- (143) a. ǎʔte^ˈũtsɛ^ˈtá^ˈdi^ˈ
 ǎhte^ˈhutsɛ^ˈhtá^ˈ:dih
 ǎh-te-hu-tseht-a-di-h
 NOT-NEG-MASC,sg,PAT-eat-JOIN-BEN-STAT
 'no not she him feeds' ('she doesn't feed him')
 TN:27:211:15-16
- b. ǎhũmɛ^ˈdá^ˈta^ˈ
 ahuwɛdá^ˈ?ta?
 a-hu-wɛd-a-t-a?
 FACT-MASC,sg,PAT-voice-JOIN-stand-PUNC
 'he prays for mercy'
 TN:25:197:07
- c. ɛsǎtrɛ^ˈ·^ˈdūtá^ˈda^ˈ
 esatrɛ:dutá^ˈ?da?
 e-s-at-rɛd-ut-a-ʔd-a?
 FUT-2,sg,PAT-SEMI-song-stick.up-JOIN-DISLOC-PUNC
 'will again thou sing thereat' ('you will sing again then')
 TN:24:193:16

- d. **hǎʰgáʰyeʰ**
haʔdyáʔyeh
ha-ʔdy-a-ʔyeh
MASC,sg,AGT-finger-JOIN-LOC
'his finger on' ('on his finger')
TN:28:237:19
- e. **dǎyòʰměskwá·díʰ**
dáyòʰweskwá:dih
d-ay-ɔweskw-a-di-h
PART-1,sg,PAT-like-JOIN-BEN-STAT
'that I it like' ('that I like it')
TN:35:285:24-25

There are also stress patterns which do not match that reconstructed for Proto-Lake Iroquoian. For instance, Wyandot words can have ultimate stress:

- (144) a. **ǎhà·ʰgáʰ**
ahà:dyáh
a-ha-dya-h
FACT-MASC,sg,AGT-chase-PUNC
'he her chases (after)' ('he chases her')
TN:02:069:26
- b. **ǎhà·yéʰ**
ahà:yéʰ
a-ha-yɛ-ʰ
FACT-MASC,sg,AGT-see-PUNC
'he saw'
TN:23:170:56
- c. **ǎhèhǎóʰ**
ahèhǎóʰ
a-hɛ-ihaɔ-ʰ
FACT-MASC,sg,AGT-say-PUNC
'he said'
TN:24:194:11

- d. **dũkà)ʰtũnʰ**
dukyàʔturĩh
d-u-at-Yaʔt-uri-h
PART-FEM.ZOIC,sg,PAT-SEMI-body-cover-STAT
'that body covered' (... that covered its body')
TN:29:260:29-30
- e. **hãmɛ ʰdĩjúʰ**
hawɛdižúʰ
ha-wɛd-ižu-ʰ
MASC,sg,AGT-voice-good-STAT
'his voice (is) big'
TN:01:063:02b

Although stress placement is often consistent (see chart 5: *Non-contrasting Patterns of Length, Stress and Nasalization*), stress can also be variable in Wyandot. That is, a given word may appear with more than one stress pattern. In 145 primary stress is on the second syllable in a, but on the third in b.

- (145) a. **ǎhátɛ ʰdu·tqʰ**
ahátɛ:du:tqʰ
a-h-atɛdutq-ʰ
FACT-MASC,sg,AGT-speak-PUNC
'he it told' ('he told it')
TN:18:134:54
- b. **ǎhatɛ ʰdu·tqʰ**
ahatɛ:du:tqʰ
a-h-atɛdutq-ʰ
FACT-MASC,sg,AGT-speak-PUNC
'he them tells' ('he told them')
TN:38:301:44

In 146 the three forms show stress on the second, third, and fourth syllables, although the words are otherwise identical.

- (146) a. **āhāti·gaha'**
ahāti:dyaha?
a-hati-dya-ha?
FACT-MASC,pl,AGT-eat-PUNC
'they eat'
TN:28:254:17
- b. **ahāti"ḡāha**
ahatidyaha
a-hati-dya-ha
FACT-MASC,pl,AGT-eat-PUNC
'they eat'
TN:03:076:22
- c. **āhāti"ḡāha·**
ahatidyāha:
a-hati-dya-ha
FACT-MASC,pl,AGT-eat-PUNC
'(for) them to eat' ('they eat')
TN:03:076:28

In 147a stress is shown on the second syllable, while 147b has stress on the fourth.

- (147) a. **ahātr̥ḡ"du·t̥ḡ'**
ahātr̥ḡdu:t̥ḡ?
a-h-at-r̥ḡd-ut-ḡ?
FACT-MASC,sg,AGT-SEMI-song-stick.up-PUNC
'he sings'
TN:26:209:48
- b. **àhātr̥ḡ·"dúḡḡ'**
àhātr̥ḡ:dúḡḡ?
a-h-at-r̥ḡd-ut-ḡ?
FACT-MASC,sg,AGT-SEMI-song-stick.up-PUNC
'he sings'
TN:24:189:33

The word for 'the younger one' appears variously with antepenultimate, penultimate, and ultimate stress:

- (148) a. **dēhú'kɛ̃ñè'**
dəhúhkɛ̃nyè?
de-hu-hkɛ̃nye?
SUBST-MASC,sg,PAT-younger.STAT
'the he is younger' ('the younger one')
TN:01:062:27
- b. **dēhù'kɛ̃ñe'**
dəhùhkɛ̃nye?
de-hu-hkɛ̃nye?
SUBST-MASC,sg,PAT-younger.STAT
'the he is younger' ('the younger one')
TN:01:062:21
- c. **dēhu'kɛ̃ñé'**
dəhuhkɛ̃nyé?
de-hu-hkɛ̃nye?
SUBST-MASC,sg,PAT-younger.STAT
'the younger one'
TN:04:083:07

Example 149 shows stress either on the first syllable, as in a, or the fourth, as in b:

- (149) a. **háwatenò·rɔ**
háwatenò:rɔ
haw-atɛ̃nɔrɔ?
MASC,sg:1,sg-uncle.STAT
'uncle'
WM:250

- b. **hawātēnó·rǝʔ**
hawatenó:rǝʔ
haw-atenǝrǝʔ
MASC,sg:1,sg-uncle.STAT
'my uncle'
TN:19:144:07

In 150 stress varies between penultimate and ultimate:

- (150) a. **sāhǎ·ǝʔ**
sahá:ǝʔ
s-a-ha-Yǝ-ʔ
REP-FACT-MASC,sg,AGT-arrive-PUNC
'again he comes (home)' ('he comes home again')
TN:21:152:33
- b. **sahǎ·ǝʔ**
saha:ǝʔ
s-a-ha-Yǝ-ʔ
REP-FACT-MASC,sg,AGT-arrive-PUNC
'back she gets (home)' ('she gets back home again')
TN:23:179:01

As can be seen, primary stress is not clear-cut in Wyandot. Although many words have consistent primary stress, many do not. Even among those that do, variant patterns can be found.

Secondary stress can sometimes replace primary stress. That is, in a given instance of a word the location of primary stress may be the same as that for secondary stress in another instance of the same word. In 151a primary stress is on the second syllable, while (b) has secondary stress there instead.

- (151) a. **ahákaʔke·nɔ̄**
 ahákyaʔkye:mɔ̄h
 a-h-at-Yaʔt-Yenɔ̄-h
 FACT-MASC,sg,AGT-SEMI-body-fall-PUNC
 'he lay down'
 TN:34:280:41
- b. **ǎhákaʔkěno**
 ahákyaʔkyenɔ̄
 a-h-at-Yaʔt-Yenɔ̄
 FACT-MASC,sg,AGT-SEMI-body-fall.PUNC
 'he lies down'
 TN:12:112:42

In 152a the final syllable bears primary stress, while in b it has secondary stress instead:

- (152) a. **děhiwé·yʔ**
 dehiwé:yh
 de-hi-vey-h
 SUBST-MASC,dl,AGT-marry-STAT
 'the his spouse' ('his wife')
 TN:02:073:30
- b. **děhiwè·yʔ**
 dehiwè:yh
 de-hi-vey-h
 SUBST-MASC,dl,AGT-marry-STAT
 'the his wife' ('his wife')
 TN:28:255:23-24

The following remaining examples also all show an alternation between primary stress in a and secondary stress in b:

- (153) a. **dīré·heʼ**
diré:heʼ
di-r-ehe-ʼ
PART-MASC,sg,AGT-think-STAT
'that he thought'
TN:24:192:29
- b. **di·rèheʼ**
di:rèheʼ
di-r-ehe-ʼ
PART-MASC,sg,AGT-think-STAT
'that he thought'
TN:26:206:06
- (154) a. **huⁿdá·mɛʼ**
huʼdá:wɛh
hu-ʼd-awɛ-h
MASC,sg,PAT-arrow-have-STAT
'he arrows has' ('he has arrows')
TN:26:202:52
- b. **hu^udà·mɛʼ**
huʼdà:wɛh
hu-ʼd-awɛ-h
MASC,sg,PAT-arrow-have-STAT
'he arrow has' ('he has arrows')
TN:26:202:40
- (155) a. **sēⁿdīkwārú·rīʼ**
sɛdikwarú:rih
s-ɛd-ikwar-ur-ih
2,sg,PAT-SEMI-quilt-cover-STAT
'thine quilt over (thine) face' ('the quilt on your face')
TN:28:253:18
- b. **sɛⁿdí·kwārù·rīʼ**
sɛdí:kwarù:rih
s-ɛd-ikwar-uri-h
2,sg,PAT-SEMI-quilt-cover-IMP
'thou quilts put over (thee)' ('put on the quilt')
TN:28:252:50

Just as primary stress is variable, so too is secondary stress. That is, two tokens of the same word may appear with different placements of secondary stress. In 156 secondary stress alternates between the second and third syllables, although primary stress remains penultimate:

- (156) a. **dēyàyǝmǝʔa**
deyàyǝwǝʔa
de-yayǝ-Yǝʔa
SUBST-FEM.INDEF:NON.MASC,non.sg-child.STAT
'the her children' ('her children')
TN:11:109:30-31
- b. **dēyǎyǝ·mǝʔa^c**
dēyayǝ:wǝʔah
de-yayǝ-Yǝʔah
SUBST-FEM.INDEF:NON.MASC,non.sg-child.STAT
'the her children (little girls)' ('her children')
TN:23:177:38

Example 157 shows consistent ultimate primary stress, but secondary stress varying between first and second syllables:

- (157) a. **tèʔñɛ ʔtǝr^t**
tèʔnyǝteri^h
teʔ-[ny]-Yǝteri-h
NEG-1,sg,AGT-know-STAT
'not I know' ('I don't know')
TN:24:184:27-28

- b. te^hŋɛtɛr^h
te^hnyɛterih
te^h-[ny]-Yɛteri-h
NEG-1,sg,AGT-know-STAT
'not I know' ('I don't know')
TN:05:092:08

In 158 both a and b have final main stress, but a has antepenultimate secondary stress while b has penultimate secondary stress:

- (158) a. tūsàha·ó^h
tusàha:ó^h
t-usa-ha-Yɔ-^h
DU-REP.FACT-MASC,sg,AGT-arrive-PUNC
'there back he comes' ('he came back there')
TN:05:093:26-27
- b. tūsahà·ó^h
tusahà:ó^h
t-usa-ha-Yɔ-^h
DU-REP.FACT-MASC,sg,AGT-arrive-PUNC
'there he arrived' ('he arrived there')
TN:05:092:42

In 159 primary stress on the antepenult, but differ in placement of secondary stress. 159a has secondary stress on the syllable before the primary, while b has secondary stress on the syllable after the primary.

- (159) a. ù^hcátūha^h
ù^hšátuha^h
u-hšatu-ha^h
FEM.ZOIC,sg,PAT-sick-STAT
'she is sick'
TN:34:279:17

- b. u'cátùha'
 uhšátùha?
 u-hšatu-ha?
 FEM.ZOIC,sg,PAT-sick-STAT
 'she is sick'
 TN:34:279:06

Next the placement of secondary stress varies between the first and second syllables:

- (160) a. yàñɛnɔ'
 yànyɛnɔh
 ya-nyɛnɔh
 FEM.ZOIC,sg,AGT-dog
 'dog'
 TN:13:118:42
- b. yãñɛnɔ'ɔ
 yanyɛnɔ:h
 ya-nyɛnɔh
 FEM.ZOIC,sg,AGT-dog
 '(the) dogs'
 TN:40:310:08

Since both primary and secondary stress can vary in placement unpredictably, they will be indicated in the phonemicization.

2.18 Addendum

This phonemic analysis is assumed throughout the rest of the chapters. When phones are specified, it should be assumed that they are phonemes rather than Barbeau's transcription. Hence, the <[]> and / / conventions will not be used in later chapters, except in those few cases where such a distinction is being discussed.