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1   Introduction[*]

Utkuhiksalik has been analysed as a subdialect of Natsilik within the Western Canadian

Inuktun (WCI) dialect continuum (Dorais, 1990:17; 41). [1] While Utkuhiksalik has much in com-

mon with the other Natsilik subdialects, the Utkuhiksalingmiut and the Natsilingmiut were his-

torically distinct groups (see §1.1). Today there are still lexical (see §1.2) and phonological dif-

ferences between Utkuhiksalik and Natsilik. The goal of this paper is to highlight the main

phonological differences by describing the Utkuhiksalik reflexes of Proto-Eskimoan (PE) *c, *y,

and *ð.

1.1   Overview of dialect relations[2]

The traditional territory of the Utkuhiksalingmiut (*the people of the place where there is*

soapstone) lay between Chantrey Inlet and Franklin Lake. Utkuhiksalik speakers also lived in the

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[1]   We use the term Natsilik, rather than Netsilik, to denote a dialect cluster that includes Natsilik, Utkuhik-
            salik, and Arviligjuaq. In this paper, we tend to use the term Natsilik to refer to Natsilik proper (i.e., the
            sub-dialect, minus Utkuhiksalik).

            According to Janet McGrath, a speaker of Natsilik proper, the self-designation for Natsilik is *Nattilingmi-
            utut*; the < tt> is pronounced like the < ch > in 'church'.

            Dorais (1990:17), among others, refers to Utkuhiksalik as *Utkuhikhaliq*. However, since there is a /ks/
            cluster in the self-designation, we have employed the term Utkuhiksalik.

            Briggs's primary collaborator refers to Utkuhiksalik as *Utkuhiksalingmiutitut* (employing the ending -
            miutitut *like people*); less commonly, she also uses the term *Utkuhiksalingmiutut* (with the ending
            -miutut *like a person*).

[2]   This account is a condensed and updated version of Briggs 1970:11-16.

vicinity of a place called Kitikkat (*eskers*), which was in the interior, southeast of Chantrey Inlet and towards Baker Lake.

The Ualiakłiit and Hanningařuqmiut spoke dialects closely related to Utkuhiksalik. The Ualiakłiit and Hanningařuqmiut traditionally resided to the west of Franklin Lake, where the river widens to form lakes Garry and Pelly. The Ualiakłiit (*the most western people*) resided at Pelly Lake and the Hanningařuqmiut (*the people of the place that lies across*), at Garry Lake, which lies across the course of the river.

One Utkuhiksalingmiut (or Chantrey Inlet) elder told Briggs that his own ancestors, and probably those of the Ualiakłiit and the Hanningařuqmiut, came from the sea called Ukřulik (*having bearded seals*), off the west coast of the Adelaide Peninsula. The Adelaide Peninsula, however, is also identified as the traditional territory of the Iluiliqmiut.

The traditional home of the Natsilik was to the North of the Utkuhiksalik-speaking area —King William Island and Boothia Peninsula, later concentrated in the settlements of Gjoa Haven, Spence Bay, and Pelly Bay.

Utkuhiksalik speakers currently residing in Gjoa Haven (and some currently living in Baker Lake) consider the speech variety originally spoken in Chantrey Inlet to be 'core' Utkuhiksalik. They consider the varieties spoken by the Ualiakłiit and Hanningařuqmiut to be more or less borderline. They also sometimes classify Iluilik as being Natsilik.

Historical and dialectal relations between the abovementioned groups were greatly complicated by famine-induced resettlement and other factors. Moreover, whether or not one is *currently* designated as an Utkuhiksalingmiutaq can also depend on fine-grained considerations which are not necessarily linguistic, involving, for example a person's history of residence and social affiliation. In summary, dialect affiliation and grouping is not a straightforward matter.

1.2   Lexical differences between Utkuhiksalik and Natsilik

While this paper focusses on the phonological differences between Natsilik and Utkuhik-salik, some of the lexical differences are also listed below by way of introduction. (See §2 for a description of the phonemic inventory.) As shown in (1.a,f), sometimes two separate bases are required in Utkuhiksalik in order to express two meanings denoted by one Natsilik base; in other cases, completely different bases express the same meaning in Utkuhiksalik and Natsilik (1.b,c,d,e).

1)   Lexical differences between Utkuhiksalik and Natsilik

	Utkuhiksalik	*Natsilik*
a.	aquĭřuŋa, aquiqtuqtuŋa *I'm fetching cached meat*	aquituqtuŋa, aquĭřuŋa *I'm ordering take-out pizza, ordering from a local store*
	tuksiqtuqtuŋa *I'm ordering take-out pizza, ordering from a local store (cannot use* aquiq *for this meaning)*	
b.	aaŋayaktiruikai(t) *Stop being wild! (said to a child)*	uimayaaruikait *Stop being wild! (said to a child)*
c.	alraani *last year*	aippaaŋani *last year*
	aippaa *another one (of the same kind)*	
d.	akkuqtuŋa *I meet someone coming from the opposite direction; I hit my head on a wall*	katittuŋa *I meet someone coming from the opposite direction*
e.	qimukhiq, qimukhit *dog team and driver*	qimukhiraaq, qimukhiraat *dog team and driver*
f.	qimukhiraqtut *They're travelling by dogsled*	qimukhiraqtut *They're travelling by dogsled; they're caribou-hunting by dogsled.*
	tuktuksaqhiuqtut *They are hunting caribou (cannot use* qimuk *for this meaning)*	

While the phonological differences between Utkuhiksalik and Natsilik are few, the above lexical differences illustrate that Utkuhiksalik may ultimately prove to be substantively distinct from Natsilik—a topic for future research.

2   Overview of the historical development of the Utkuhiksalik phonemic inventory

We now turn to describing the phonological development of Utkuhiksalik from PE. Example (2) lists the Utkuhiksalik and PE phoneme inventories, which are identical except for the reflexes of *c, and *ð in Utkuhiksalik. (Where the orthography — Briggs' — differs from the IPA, the IPA symbol is included in square brackets.)

2)   PE and Utkuhiksalik phoneme inventory (after Fortescue et al. 1994:xi)

p	t	*c	k	q	ʔ
	(s)	(hʸ)			h
v [ʋ] *ð	ř	y	g [ɣ]	r [ʀ]³	
	l				
	l~ [ɬ]				
m	n		ng [ŋ]		
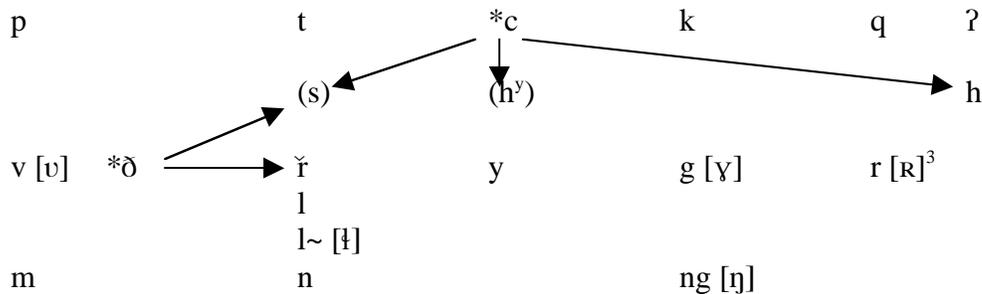
Phonemes such as /s/ and /hʸ/ are marginal, or occur only in limited contexts. They preserve an earlier change from PE *c to PI *s (Fortescue et al. 1994:xvi, xiv); in contrast, /h/ reflects a later change from PI *s. /ř/ is a voiced rhotic which sounds similar to [ð] or [ž]. /v/ or [ʋ] is a voiced bilabial or labiodental approximant (Ladefoged and Maddieson 1996: 322-326). Evidence that this sound is a sonorant consonant is provided in §7.

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³   In the historical reconstructions, the voiced uvular fricative is represented with [ʀ] instead of the IPA [ʁ], adopting the usage in Fortescue et al. (1994). In contrast, we employ < r > to spell the voiced uvular fricative in Utkuhiksalik and in related dialects.

Environments relevant to the development of *ð and *c and *y were both morphological (occurring in a *base* or in a *postbase*) and phonological (described below). For the development of *ð and *c and *y in bases, see §3-5, and for postbases, see §6.

Phonological environments relevant for the development of *ð and *c and *y are summarized in (3).

3)   Phonological environments and the development of PE *ð and *c and *y

Intervocalic (onset) position /V___V		
Pre-consonantal (coda) position /___C		
Post-consonantal (onset) position / C___	/labial ___	
	/coronal ___	
	/dorsal ___	/dorsal plosive ___
		/dorsal fricative ___

In intervocalic position, PE *ð became /ř/, remaining distinct from *y (Utkuhiksalik /y/). In contrast, PE *c became both /h/, and /hʸ/. These changes are described further in §3.

In consonant clusters, PE *ð and *c and *y display additional reflexes: first, the development of PE *c in Utkuhiksalik is different than in Natsilik, where PE *c became /h/ (phonetically realized as a fricative homorganic with the preceding consonant) across the board. As shown in (4), in addition to becoming /h/, PE *c often became /s/ after consonants in Utkuhiksalik (see §5.1.1, §5.2.1, and §5.3.1 for details).

4)   PE *c

/V__V	/__C	/labial__	/coronal__	/dorsal ___
h, (hy, ts)	——[4]	ps	ts	/ks/ [xs]…/kh/ [xx] /qs [χs]…/qh/ [χχ]

Second, PE *ð became /ř/ after the dorsal *fricatives* *ɣ and *ʀ (5); furthermore, it became /s/ after the dorsal *plosives* *k and *q (see §5.1.3, §5.2.2, §5.3.3 for details.)

5)   PE *ð

/V__V	/__C	/*labial__	/*coronal__	/*dorsal fricative___	/*dorsal plosive ___
ř	ř	př, (vy)	ʔř, (r̃ř)	*ɣð, *ʀð — > kř, qř	*kð, *qð — > ks, qs

Third, in bases, postconsonantal PE *y was generally vocalized to /i/ after the dorsal plo-

sives, but became a (homorganic) fricative after the dorsal fricatives (6). (See §5.1.2, §5.2.2,

§5.3.2). In postbases, however, even more postconsonantal reflexes of *y are attested, including

/t, s, y, ɣ, ʀ, h/, and /i/. (See §6.2 for details).

6)   PE *y

/V__V	/__C	/*labial__	/*coronal__	/*dorsal plosive ___	/*dorsal fricative___
y (ts)	____5	ʔy, Ci, vy	ts	plosives *ky, *qy — > ki, qi (also ks)	fricatives *ɣy, *ʀy — > [ɣɣ, χχ] also [ʀi]

The changes in bases, overviewed above, are discussed further in the following sections.

The development of *ð, *c, and *y in intervocalic position in bases is discussed in §3, and the

development of clusters containing *ð, *c, and *y in bases, in §4-5.

3   Intervocalic *D, *c, and *y

In intervocalic position, PE *ð became /ř/, remaining distinct from /y/. Likewise, in

Natsilik PE *ð became a rhotic sound similar to [ž], and distinct from /y/ (Fortescue et al. 1994:

xvi). In Utkuhiksalik, intervocalic /y/ occurs in words such as [qayaq] *kayak*, while intervocalic

[ř] can be heard in words such as [iři] *eye*.

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4   *c did not occur as the first consonant in a sequence.

5   *y did not occur as the first consonant in a sequence.

7)   Utkuhiksalik /y/, /ř/, and /řř/[6,7]

a.   /y/
        PE   *qayaʀ *kayak* (Fortescue et al. 1994:293)
        Utku   qayaq *kayak*

b.   /ř/ [ř, ž, ð]
        PE   *əðə *eye* (Fortescue et al. 1994:97)
        Utku   iři *eye*

c.   /řř/ [řř, žž, ðð]

i.   PI   *əžžit- *get something in one's eye* (Fortescue et al. 1994:97)
        Utku   iřřittuq *his eye is injured*

ii.   PI   *užžiq *show what to do* (Fortescue et al. 1994:359)
        WCI   uyyiqtuq *watch over (so that something is not done to excess)*
        Car   uyyiq *look after*
        Utku   uřřiqtuq *he feels anxious, worried; he is worried*

        Intervocalic (and word-initial) PE *c, (which became *s in PI; Fortescue et al. 1994:xvi,

xiv), developed into /h/ or 'h-like allophones' both in Utkuhiksalik (8,9) and in Natsilik (Fortes-

cue et al. 1994:xvi, xiv). For example, PE *aci *somewhere away from settlement* became /ahi/ in

both dialects (8).

8)   Intervocalic *c and Utkuhiksalik /h/

        PI   *aci(2) *somewhere away from settlement* (Fortescue et al. 1994:3)
        WCI   Cop ahi *somewhere else, away from settlement*
        Net   ahi *another person*
        Utku   ahi *other, different*

Intervocalic PE *c also became /hʸ/ and /ts/ in Utkuhiksalik (9). For example, PE *ica *moult* be-

came two phonologically and semantically closely-related bases, /iha ~ ihʸa/ and /itsa/ (9.c).

Also, as shown in (9.b-e), in some words, intervocalic PE *c became an [h] or an [hʸ] in free

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6   Abbreviations include: WCI (Western Canadian Inuit) and its dialects — Utku (Utkuhiksalik), Net
        (Natsilik), Sig (Siglit), Cop (Copper), and Car (Caribou); GRI (Greenlandic Inuit), NAI (North Alaskan
        Inuit), and NU (Nunamiut, a subdialect of the North Slope dialect of North Alaskan Inuit); CSY (Central
        Siberian Yupik) and the Chap(linski) dialect; CAY (Central Alaskan Yupik); SPI (Seward Peninsula Inuit);
        ECI (Eastern Canadian Inuit); PY-S (Proto Yupik).

variation. For example, PI *isu became [ihu ~ ih^y u] *end*. Finally, as shown in (9.f-h), *c became

[h] alternating with [ts] in some allomorphs of the same morpheme. For example, PE *piciʀ be-

came [pihiq] *song, hymn (singular)* and [pitsit] *song, hymn (plural)*.

9)   Intervocalic *c and Utkuhiksalik /h^y/ /h^y ~ h/, /ts/:

a.   PE   *əcuʀ *be murky* (Fortescue et al. 1994:96)
        WCI   isuq-
        Utku   ih^y uq- *be murky*

b.   PE   *qacu- *become loose or slack* (Fortescue et al. 1994:273)
        WCI   qasu-
        Utku   qah^(y)u-nga-řuq *flabby, floppy, slack, not taut*

c.   PI   *ica *moult* (Fortescue et al. 1994:121)
        Cop   iha-
        Net   icavik *July*
        Utku   ih^(y)a *a moulting bird*
        Utku   itsa-kha^8-i-řuq *it is moulting*
        Utku   itsa-vi-at *July-August (i.e., the season of moulting)*

d.   PI   *isu(k) *end* (Fortescue et al. 1994:145)
        WCI   isu *end*
        Utku   ih^(y)u-littuq *it has almost reached the end*

e.   PE   *acu *indeed (exclamation)* (Fortescue et al. 1994:3)
        WCI   Net ahu *maybe, isn't it*
        Utku   ah^y u, ahiu *yes (the latter form used under emphasis)*

f.   PE   *taciʀ *spit; sand bar* (Fortescue et al. 1994:232)
        WCI   tasiq *lake*
        Utku   tahiq, tatsik, tatsit, tatsip *lake (singular, dual, plural, relative case)*

g.   PE   *ataʀuciʀ *one* (Fortescue et al. 1994:50)
        WCI   atausiq
        Utku   atauhiq *one;* atautsikut *together* (atauhiq *one* +kkut *vialis* or +tkut *household; group of companions*)

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[7]   It is unclear whether any /yy/ clusters exist in Utkuhiksalingmiutut, /ʔy/ typically occurs instead. See §5.1.2 for some examples.

[8]   We are uncertain whether the postbase -kha- begins with a /k/ or a /q/ underlyingly (or whether the /k/ or /q/ might instead be part of the preceding base). Our analysis does not hinge on any incompletely analysed forms.

h.   PE   *piciʀ *(song about) factual event* (Fortescue et al. 1994:261)
      WCI   pisiq *dance song*
      Utku pihiq, pitsit *song; hymn (singular, plural)*

As well, PE *ty clusters underwent developments similar to *c, becoming /h/ (10.a,b) and

/y/ (10.c). For example, PE *katyuɣ became /kahuq/ *meet, bump* in Utkuhiksalik.

10)   Reflexes of *ty

a.   PE   *katyuɣ *knock into; meet* (Fortescue et al. 1994:161)
      Sig   kasuq *fight; meet*
      Utku kahuq *meet; bump*

b.   PE   *tatyuʀ *lead by the hand* (Fortescue et al. 1994:335-6)
      WCI   tasiuq
      Utku tahiuqtuq *take someone's hand again; shake hands*

c.   PE   *pityaqə *do deliberately* (Fortescue et al. 1994:264)
      WCI   pisari
      Utku piyaariřuq *say on purpose; joke*

The above observation suggests that *c and *ty were the same protosound in PE.

In general, then, PE *y remained /y/ intervocalically, while *c became /h/, /hy/ and /s/,

and *ð became /ř/, as summarized in the following table.

11)   Intervocalic development of PE *c, *ð, *y in Utkuhiksalik

	*D	*c	*y
/V__V	r#	h, (hy, ts)	y (ts)

As mentioned in §2, there are more reflexes of *ð, *c, and *y in consonant clusters than

in intervocalic position. We discuss the development of clusters with initial *ð in §4 below.

(There were no *c-initial clusters in PE, and few beginning with *y; see Fortescue et al. 1994;

we have found no counterparts of *y-initial clusters in Utkuhiksalik.) In §5 we discuss clusters in

which the second consonant was *ð, *c, or *y.

4   *Ð-initial clusters

Of the three consonants in question, only PE *ð occurred in cluster-initial (coda) position,

where it became /ř/. For example, PE *aðɣaʀ became /ařɣak/ *hand* in Utkuhiksalik:

12)   *ðɣ /řɣ/

a.   PE   *aðɣaʀ *hand* (Fortescue et al. 1994:4)
        Net   ažgak *hand*
        Utku   ařgak *hand*

b.   PE   *aqəðɣiʀ *ptarmigan* (Fortescue et al. 1994:39)
        Net   aqigžeq *ptarmigan*
        Utku   aqiřgiq *ptarmigan*

Synchronically, however, /ř/ also occurs in clusters that did not historically contain initial

*ð: first, PE *ɬɣ sometimes became /řɣ/ (13.a). Second, /lʀ/[9] is now pronounced either as [ľʀ] or

[řʀ] in Utkuhiksalik (13.b-e).

13)   Clusters with initial /ř/

a.   PE   *naʀuɬɣutə *plunge or dart* (Fortescue et al. 1994:219)
        CAY   naruɬxutə- *die of a heart attack*
        Utku   nauřgutiřuq *fall or have a sudden, abrupt collapse, stumble, have one's legs give
               out*

b.   PE   *alʀani *next or last year* (Fortescue et al. 1994:17)
        Cop   alraani *a year or more ago or hence*
        Utku   alraani *last year*

c.   PE   *iðəʀ *hide* (Fortescue et al. 1994:122)
        Net   ižrut(i) *hide from*
        Utku   ilru-miaq-tuq *he hides something*

d.   PE   *lʀayaq *almost; barely* (Fortescue et al. 1994:407)
        WCI   lrayaq, qqayaq (after k, q), tqayaq *almost*
        Utku   qimaa-lrayaq-tunga *I almost ran away*

e.   PE   *aqilʀuʀ *something soft* (Fortescue et al. 1994:39)
        Cop   aqilruq *lead*
        Sig   aqilruq *softest part of something (e.g., snow to cross)*
        Net   aqilruq *swamp*
        Utku   aqilruq *lead*

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[9]   PE *lʀ was not metathesized in Utkuhiksalik, or in Natsilik; however, it was metathesized in other Inuktitut

        dialects (Fortescue 1983:20).

One Utkuhiksalik speaker identifies the [r̆ʀ] pronunciation as more Natsilik-like. Fortescue

(1983:20) notes that in Natsilik, the same cluster can be pronounced as [ɬʀ], [žʀ], and sometimes

as [lzʀ].

5   Clusters ending with *ð, *c, and *y

This section deals with clusters in which the second consonant was *ð, *c, or *y (i.e.,

clusters in which the relevant sounds occurred in onsets). The description is organized according

to the place of articulation of the first consonant of the cluster, since the labial (p, v, m), coronal

(t), or dorsal (k, q, ɣ, ʀ) place of articulation of the first consonant of the cluster was an impor-

tant determinant in the historical development of Utkuhiksalik clusters with *ð, *c, or *y.

5.1   Proto-clusters with labials

In this section, we discuss proto-clusters consisting of a labial (*m, *p, *v) followed by

*ð, *c, or *y.

5.1.1   Labials plus *c

PE clusters containing a labial (*m, *p, *v) plus *c (PI *s) typically became /ps/ in Utku-

hiksalik (14). For example, PE *pimci *dried fish* became /pipsi/ (14.c). In /ps/ clusters, the /p/ is

pronounced as [ɸ] or [f], and the /s/, as [s], [š], [sʸ], or [fʸ].

14)   Reflexes of PE *mc, *pc

a.   PE   *mcaɣ *finally* (Fortescue et al. 1994:411)
       CSY
       Chap   msaɣ- *finally*
       NAI   fsaaq- *again, more*
       Nu   psaaq- *again*
       Cop   ffaaq- *again, more*
       Net   phaaq- *again; more*[10]
       Utku   psʸaaq- *more*
       Utku   tii-tu-psʸaa-rit *have some more tea*

b.   PI   *apcak *make loud noise (by pounding)* (Fortescue et al. 1994:36-7)
       WCI   apsaq- *make a noise nearby (ice, ground, thunder)*
       Utku   apsʸak-tuq *a sound that's not very audible*

c.   PE   *pimci *dried fish* (Fortescue et al. 1994:262)
       WCI   pipsi *dried fish*
       Utku   pipsi-t *dried fish*

d.   PY   *mcuɣ *a little* (Fortescue et al. 1994:411)
       NAI   pifsukaq *barely escape danger, barely miss a hitting*
       Utku   pui-psyu-laaq-tuq *crackles (ice in warm water)*

5.1.2   *Labials plus *y*

In contrast, for clusters of labials and *y various reflexes are attested. First, *py became

/ʔy/ (15.a). This was also an instance of a general change reported for Natsilik, in which PE

*stop+sonorant clusters became ʔ+sonorant (Fortescue 1983:12;20). Second, in some *my and

*vy clusters, *y vocalized to /i/ (15.b-d). Finally, some *my clusters became /vy/ (15.e).

15)   Reflexes of PE *py, *my, *vy

a.   PE   *əpyalŋu *feel suffocated* (Fortescue et al. 1994:113)
       ECI   iyyaŋu *suffocate*
       Utku   iʔyaŋŋittuq *it's (not) stuffy*

b.   PE   *əvyaŋ(ŋ)iʀ *breast* (Fortescue et al. 1994:120)
       Net   iviaŋiq
       Utku   iviaŋiq

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[10]   A Natsilik speaker, Janet McGrath, (p.c.) reports that the < h > in this Nattilingmiutut postbase is a sound
       intermediate between [h] and [s], i.e. a palatal-like sound.

c.   PE   *nəvyuvaɣ *fly* (Fortescue et al. 1994:233-234)
           WCI   niviuvak, niviuvak *housefly*
           Utku niviuvak *fly*

d.   PE   *pamyuʀ *tail (of land animal)* (Fortescue et al. 1994:248)
           WCI   pamiuq
           Utku pamiuq

e.   PE   *myaɣ *somewhat* (Fortescue et al. 1994:413)
           WCI   vyak *rather; more or less*
           Utku vyak *a little*

The various outcomes of clusters with PE *y reflect a general constraint against consonant+y clusters in Utkuhiksalik: only /ʔy/ and /vy/ are allowed synchronically, and /ʔ/ and /v/ ([ʋ]) are arguably not consonants, but glides. See §7 for the classification of /v/ as a sonorant comparable to [w], and see Chomsky and Halle 1968:303-307 for the classification of /ʔ/ as a sonorant.

5.1.3   *Labials plus *D*

      PE *labial+ð clusters such as *vð often became /př/. (/př/ is pronounced [b⁰̥ř]; the first segment is a partly- to fully- voiced labial stop that has a lenis release when before /ř/.) For example, PE *avðaʀ *hindrance or protection* became /apřaq/ *mattress* (16.a). However, another source of /př/ clusters was the metathesis of liquid+p clusters (16.b), and the metathesis of *ðv clusters (16.c).

16)   Reflexes of *vð, ðv, etc.

a.   PE   *avðaʀ *hindrance or protection* (Fortescue et al. 1994:56)
           NAI   avžat *bedding*
           Utku apřaq *mattress; caribou hide mattress*

b.   PE   *əlpət or *əɬvət *you* (Fortescue et al. 1994:106)
           Net   ilvit, ižvit *you*
           Utku ipřit *you*

c.   PE   *taðva *there (you are)* (Fortescue et al. 1994:323-4)
           Net   tavža *there (you are)*
           Utku tapřa *here; right now*

Additionally, PE *vð not only became /př/ but also /vy/ in some instances:

17)   *vð /vy/ [py, vy]

    PE   *kuvðaʀ *net*
    WCI   kuvyaq *net*
    Utku   ku[py]at, ku[vy]at *net*

In summary, the development of *ð in clusters was similar to the development of intervocalic *ð,

except that some /y/ reflexes of *ð are also attested.

5.1.4   *Summary of proto-clusters with labials*

In order to conclude the description of the development of proto-clusters containing a la-

bial plus *ð, *c, or *y, we first assume that /v/ is a sonorant, and that Utkuhiksalik has a 'CVC'

syllable template. (In Utkuhiksalik, the maximal number of consonants in sequence is two; word-

initial two-consonant sequences do not occur.) Given these assumptions, we note that the main

changes from *labial+*c to /p.s/, from *labial+*y to /ʔ.y/, /v.y/ and /labial+i/, and from *vð to

/p.ř/ and /v.y/ reflect a preference for syllable contacts in which the coda (C1) is equally as sono-

rous as, or less sonorous than, the following onset. Such a preference is the opposite of the one

formalized by the Syllable Contact Law (Murray and Vennemann 1983); instead, this type of

constraint that is expected to hold of complex onsets. Nevertheless, there is no evidence for

complex onsets in Utkuhiksalik.[11]

5.2   *Proto-clusters with coronals*

The development of PE clusters containing a coronal plus *c, *y, and *ð in Utkuhiksalik

is described below.

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[11]   A similar, more rigidly enforced constraint on coda-onset sequences is attested in Iroquoian languages such

as Cayuga, where sonorants such as [n, r, y] generally do not occur in codas (Dyck 1999).

*5.2.1   Coronal plus *c and *y*

There were several coronal plus *c or *y clusters in PE, including *tt, *tc, *cc, and *yy.

(as well as *ty, which was discussed in §3.) While all of these clusters occurred before /a/ and /u/

in PE, *tt did not occur before /i/ in PE (Fortescue et al. 1994:xvi).

In general, PE *tt remained unchanged in Utkuhiksalik, while *tc, *cc, and *yy became

/ts/. Utkuhiksalik is similar to PE, then, in having a contrast before /a/ and /u/, but no such con-

trast (i..e, only an assibilated cluster) before /i/. Because the presence of a /tt/ versus ts/ contrast

in Utkuhiksalik was previously unattested, we include more description of such clusters be/low.

As shown in (18), /tt/ [tt] contrasts with (heavily assibilated) /ts/ [ts ~ tš] before /a/. /tta/ is

a reflex of PE *tta, and /tsa/ is generally a reflex of PE *tca or *cca.

18)   /tt/ and /ts/ before /a/

a.   /tta/ *tta

i.   PE   *ata *listen! (exclamation)* (Fortescue et al. 1994:49)
         PI   *attaq *pay back (in return)*
         ECI   attataq *borrow*
         Utku   a[tta]taq-naq *it's hot! ouch!*

ii.   PE   *k(k)attaʀ, q(q)attaʀ- *repeatedly, habitually* (Fortescue et al. 1994:400)
         WCI   -qattaq- *repeatedly*
         Utku   -qa[tta]q- *regularly, all the time, continually*

iii.   PI   *pəttaq *hole* (Fortescue et al. 1994:257)
         WCI   pittaq *(make) hole in ice*
         Utku   pittaq-tuq *the hole has gone through the ice into the water*

b.   /tsa/ *tca, *cca, *ya

i.   PE   *ya, tya[12] *be liable or apt to* (Fortescue et al. 1994:433-4)
         NAI   ya *easily*
         Utku   qala-[ts]ar-aittuq, qala-[tš]ar-aittuq *it cooks quickly*

---

[12]   According to Fortescue et al. (1994: 433-4), this protoform is possibly related to PI *tya *intend or be about
         to* (Fortescue et al. 1994:429); the latter form more closely corresponds to the form of the Utkuhiksaling-
         miutut postbase; however, *tya has also become yya- *shall, should* in WCI, and ya- *vague future* in Natsilik
         (ibid., 429).

ii.   PE   *accaɣ *paternal aunt* (Fortescue et al. 1994:2)
        Net   atsak *paternal aunt*
        Cop   attak *paternal aunt*
        Utku   a[ts]a-ga *my father's sister*

iii.   PI   *itcaq *tent skin* (Fortescue et al. 1994:146)
        Net   itsaq *skin tent*
        Utku   itsaq *tent skin*

iv.   PE   *quya *be thankful*; quyanaʀ *thank you* (Fortescue et al. 1994:321)
        Utku   quyanaq *thank you (lit.: it causes gratitude)*
        Utku   qutsahiqtatka *I give them (as) a thank-you present*[13]

Furthermore, as shown in (19), /tt/ contrasts with /ts/ before /u/. Here, however, the contrast lies

mainly in the degree of palatalization or assibilation of /tt/ vs. /ts/: /tt/ can be *lightly* and *option-*

ally assibilated or palatalized before /u/ (19.a.i).[14] In contrast, /ts/ is more heavily assibilated or

palatalized in the same environment (19.b.ii). Nevertheless, Utkuhiksalik /ts/ is less heavily assi-

bilated and less post-alveolar than Natsilik /tt/, which is pronounced as [tʃ].

        In general, /ttu/ is a reflex of PE *ttu, and /tsu/ is a reflex of PE *ccu.

19)   /tt/ and /ts/ before /u/

a.   /ttu/ *ttu

i.   PI   *catuq *take back* (Fortescue et al. 1994:72)[15]
        WCI   sattu- *take back what one has given; regain something lost*
        Utku   ha[ttu]-ittuq, ha[tt(ˢ)u]-ittuq, ha[ttsu]ittuq *he expired from gratitude*

ii.   PE   *akultu *be far apart* (Fortescue et al. 1994:14)
        WCI   akuttu- *be far apart*
        Utku   akuttu-řut *they're far apart*
        Utku   akuttuut *they're far apart*

---

[13]   The gloss recorded for this form is ambiguous between the two meanings; Briggs has not yet had opportu-
        nity to determine which is the correct gloss for Utkuhiksalik.

[14]   Similarly, short /t/ can be lightly palatalized while unassibilated in Utkuhiksalik. Non-assibilated /ti/ is gen-
        erally a reflex of PE *tə. Some examples include Utkuhiksalik [natiq, natʸiq] *floor* from PE *natəʀ *floor*
        (Fortescue et al. 1994:220), and [tʸitʸiqqat] *letters (<write, mark)* from PE *tətəʀ *mark* (Fortescue et al.
        1994:344).

[15]   We are uncertain whether this is the correct protoform in this instance, but we cannot find any more likely
        candidates.

b.   /tsu/ *ccu, *t+yu

i.   PE   *qəc(c)uɣ *scratch or dig claws into* (Fortescue et al. 1994:294)
        WCI   Cop qitsuk- *scratch*
        Utku   qi[tšu]k-tauguma *if I am scratched*

ii.   PE   *yuknaʀ- *probably* (Fortescue et al. 1994:437)
        SPI   +yuŋnaq-, ɣuŋnaq- (after k, q), +suŋnaq- (after t) *may, must have X-ed*
        WCI   +yuŋnaq-, ɣuŋnaq- (after k, q), +tuŋnaq- (after t) *no doubt, probably, can*
        Utku   +yuŋnaq-, ɣuŋnaq- (after k), ruŋnaq- (after q), +suŋnaq- (after t) *is able to*
        Utku   tikit-suŋnaq-tuq *s/he might arrive*
cf.   Utku   niri-yuŋnaq-tuq *s/he can eat*

iii.   PE   *yuɣuma *want to* (Fortescue et al. 1994:436)
        WCI   +yuma, +ɣuma (after k/q), +tuma (after t) *want to*
        Utku   +yuma, +ɣuma (after k), +ruma (after q), +suma (after t) *want to*
        Utku   tikit-suma-řuq *s/he wants to arrive*
c.f.   Utku   niri-yuma-řuq *s/he wants to eat*

        Finally, there is no contrast between /ts/ and /tt/ before /i/, where only one coronal sound

varying between [ttʸi ~ tsʸi ~ tsi] occurs. /tsi/ is a reflex of PE *yyi, *c(c)i, *tci, and

*t-yi (20). For example, PE *nayyiʀ *ringed seal* became /natsiq/ *seal* in Utkuhiksalik (20.a).

20)   /tsi/

a.   PE   *nayyiʀ *ringed seal* (Fortescue et al. 1994:223)
        WCI   natsiq *seal*
        Utku   na[ttˢi]q *seal*

b.   PE   *nayyiʀaʀ *baby seal* (Fortescue et al. 1994:223)
        WCI   Cop nattiaq *young seal*
        Utku   natsiaq *baby seal*

c.   PE   *c(c)iʀyaʀ *be easy to* (Fortescue et al. 1994:395)
        WCI   ttiriaq-, +hiriaq (after consonants) *be easy to*
        Utku   qalat-siriaq-tuq *it cooks easily*

d.   PI   *tciaq *be fairly big or good* (Fortescue et al. 1994:426)
        Utku   tsiaq *fine, well (postbase for verbs)*
        Utku   tsiava(q) *fine, good (postbase for nouns)*

e.   PE   *ði *half-transitivize (detransitivizer)* (Fortescue et al. 1994:396)
        WCI   #yi, #i, #+hi (after consonants) *half-transitivize (detransitivizer)*
        Utku   -hi (after k, q, vowels), -si (after p, t)
        Utku   qamititsiřuq /qamit-tit-si-řuq/ *s/he puts out fire, light, etc.*

In summary, Utkuhiksalik differs from Natsilik in that it maintains the PE contrast be-

tween assibilated and non-assibilated coronal clusters before /a/ and /u/. However, like Natsilik

(and PE), Utkuhiksalik has no such contrast before /i/, where only an assibilated /ts/ occurs.

5.2.2   Coronals plus *D

The observations about coronal+*ð clusters in this section are tentative, since we have

found so few examples of clusters originating from PE * tð. Some PE *tð clusters became /ʔř/;

for example, PE *itðə *cold* became /iʔři-/ (21.a). *tð also underwent total assimilation to /řř/ in

some instances (21.b).

21)   [ʔř] clusters

a.   PE   *itðə *cold* (Fortescue et al. 1994:146)
        WCI   iyyi *cold*
        Net   itři[16] *cold*
        Utku   iʔři-liqtuq *the weather (or wind?) is very cold*

b.   PE   *katə *meet* (Fortescue et al. 1994:160)
and   PE   *ðaʀ *repeatedly or habitually* (Fortescue et al. 1994:396)
cf.   PE   kaðuɣ *strike (with instrument)* from *katðuɣ (katə plus ðuɣ) (Fortescue et al.
                1994:151)
        Utku   qařřa-harapku *I throw a stick, snow beater, piece of antler, etc., at an object*

The reflex in (21.a) is also an instance of the general change reported for Natsilik, in which PE

*stop+sonorant clusters became ʔ+sonorant (Fortescue 1983:12;20).

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16   Fortescue et al. (1994:146) report the Nattilingmiutut base to be < itzi >; the form listed above was pro-
            vided by Janet McGrath.

5.2.3   *Summary of proto-clusters with labials and with coronals*

The development of proto-clusters with labials and coronals is summarized in (22).

22)   PE *c, *y, *ð in non-dorsal clusters

	/__C	/labial__	/coronal__
*c	——[17]	ps	ts
*y	——[18]	ʔy, Ci, vy	ts
*ð	ř	př, (vy)	ʔř, (r̃r̃)

*ð generally became /ř/ in clusters (sometimes becoming /y/), and *c became /s/. *y became /s/

after coronals, but either vocalized to /i/ or remained /y/ after labials.

5.3   *Proto clusters with dorsals*

For clusters containing a containing a *dorsal* plus *ð, or *y, manner of articulation was a

determinant in historical development: in particular, whether the first, dorsal consonant in a

cluster was a plosive (/k/ and /q/) or a continuant (/ɣ/ and /ʁ/) was relevant for the reflexes of *ð,

or *y. We describe clusters with a dorsal plus *ð, *c, or *y in the following sections.

5.3.1   *Dorsals plus *c*

Dorsal clusters with *c became /kh/, /ks/, /qh/, and /qs/; these clusters are phonetically re-

alized as [xx, x̠x̠ᶜ], [xs], [χχ], and [χs] respectively. For example, PI *makcaq *sing a baby to*

sleep became ma[x̠x̠ᶜ]aq- or ma[xx]aq- *sing a lullaby* (23.a).

23)   Reflexes of PE *kc *ʁc, *qc

a.   PI   *makcaq *sing a baby to sleep* (Fortescue et al. 1994:284-5)
        Utku   ma[x̠x̠ᶜ]aq- *sing a lullaby*
        Utku   ma[xx]air̃uq *I sing a lullaby to a small child*

b.   PI   *akcut *hard or with effort* (Fortescue et al. 1994:10)
        Utku   a[x̠x̠ᶜ]ut *try harder; do with effort*

---

[17]   *c did not occur as the first consonant in a sequence.

[18]   *y did not occur as the first consonant in a sequence.

c.   PI   *aʀcaʀ *grab* (Fortescue et al. 1994:41)
          Utku a[x̠x̠ᶜ]aaq, a[xx]aaq *grab*

d.   PI   *aqci *have plenty* (Fortescue et al. 1994:38)
          WCI Perry River aqsi- *waste food supply*
          Utku aqsi-řuq *he abandons game; leaves it on the ground without caching it*

e.   PI   *iqci *be afraid* (Fortescue et al. 1994:142)
          WCI iqsi-, iχχi- *be afraid*
          Utku i[χχ]iřuq *s/he's afraid*

As shown in (23.a), /kh/ clusters, while often pronounced as [xx], are sometimes fronted to [x̠x̠ᶜ],

a pronunciation which can be described as 's-like'. The significance of s-like pronunciations is

discussed further in §5.3.2.

5.3.2   *Dorsals plus *y*

       Dorsal plus *y clusters displayed various reflexes. PE *y was generally vocalized to /i/

after the dorsal plosives (24.a, b), (but see 24.c), and became a fricative after the dorsal fricatives

(24.d,e). However, PE *y also vocalized to /i/ before some of the fricatives (24.f), or deleted

(24.g). While diverse, all the historical changes resulted a general lack of dorsal+y clusters in

synchronic Utkuhiksalik.

24)   Reflexes of PE *ky, *ʀy, *qy, *ɣy

a.   PI   *kəkyaɣ, kəkyaʀ *nail* (Fortescue et al. 1994:167)
          WCI kikiak
          Utku kikiak

b.   PE   *ukyuʀ *winter; year* (Fortescue et al. 1994:364)
          WCI ukiuq
          Utku ukiuk

c.   PE   *pəkyaɣ, pəkyəɣ *fly off* (Fortescue et al. 1994:254)
          WCI piksik *jump; bounce*
          Utku piksiktuq *it jumped, bounced*

d.   PE   *anəʀya(C)aʀ *take a breath* (Fortescue et al. 1994:28)
          WCI aniqsaaq *breathe*
          Utku ani[χχ]aaq, ani[χ̠χ̠]aaq *pant*

e.   PE   *manəɣyuɣaʀ *sob (after crying)* (Fortescue et al. 1994:189)
       ECI   maniyyuɣaq *sob after crying; have a heavy heart*
       Utku   mani[ɣɣ]uutĭruq *he appeases*

f.   PE   *miʀyaʀ *vomit* (Fortescue et al. 1994:202)
       WCI   miriaq *vomit*
       Utku   miriaqtuq *s/he vomits*

g.   PI   *inəqyunaʀ *be cute* (Fortescue et al. 1994:133)
       Net   iniqunaq *look pretty*
       Utku   iniqunaq *look pretty*

Examples such as (24.d) are particularly interesting for the reason that in the same elici-

tation session, one of the primary consultants pronounced the second segment of the /qh/ [χχ]

cluster with a variable degree of s-like timbre (i.e., fronting to [χ̞]). Intermediate examples such

as (24.d) and (23.a-c) suggest that the sound change from PI-like /ks/ [xs] and /qs/ [χs] to the

more Natsilik-like /kh/ [xx] and /qh] [χχ] is still in progress in synchronic Utkuhiksalik.[19]

5.3.3   Dorsals plus *D

Dorsal+ð clusters display two types of reflexes, /s/ after proto-plosives (k, q) and /ř/ after

proto-continuants (ɣ, ʁ). PE *kð became /ks/ (25.a,b), and *qð and *qc became /qs/ (25.c,d). In

/ks/ and /qs/ clusters, the plosives are realized as [x] and [χ] through manner assimilation, while

the /s/ can be pronounced as [s], [š], [sʸ], or [ç].

25)   Reflexes of PE *kð, *qð

a.   PE   *kðaʀ *future, material for*
       WCI   -xxaq *future; get material for* (Fortescue et al. 1994:401)
       Utku   -ḵsaq; ḵšʸaq *potential; material for*
       Utku   iga-ksaaq-tuq *it takes a long time to cook; she is a slow cook*
       Utku   igalaaq-saq-hiniaq *he has gone to fetch window-material*

b.   PE   *cikðiɣ *squirrel* (Fortescue et al. 1994:76)
       WCI   siksik *marmot*
       Utku   hiksik *ground squirrel; marmot*

---

[19]   However, as noted in the footnote accompanying example (14.a), an 's-like' sound intermediate between

[h] and [s] in occurs in Natsilik as well. A more detailed phonetic description of Natsilik is called for.

c.   PE   *əqðuɣ *carry on shoulder* (Fortescue et al. 1994:114)
        Cop   iχχuk- *carry on shoulder*
        Sig   iqsuk *carry on shoulder*
        Utku   iqsuk-tuq *s/he carries on shoulders*

d.   PE   *aqə *kick (ball)* (Fortescue et al. 1994:38-9)
        PI   *aqšaq *ball*
        WCI   aqsaq, aχχaq *ball*
        Utku   aqsaq *ball*

e.   PE   *akðaɣ *roll or turn over* (Fortescue et al. 1994:10)
        WCI   akšak *roll, slide like caribou killed on a slope*
        Utku   aksak *drop*
        Utku   aksaqtailiuk *don't drop it*

f.   PE   *uqðuʀ *blubber or seal oil* (Fortescue et al. 1994:378)
        WCI   uqsuq
        Utku   uqsuq

In contrast, clusters beginning with dorsal *continuants* — such as *ɣž and *ɣð — became /kř/,

with the proto-*ɣ becoming a plosive /k/:

26)   Reflexes of PE *ɣð

a.   PI   *aɣžaq *transport* (Fortescue et al. 1994:7)
        Net   aɣžaq *transport*
        Utku   akřaqtuq *he carries something somewhere (usually by hand)*

b.   PE   *taɣðaʀ *come up on shore (waves)* (Fortescue et al. 1994:324)
        NAI   taɣžaq *go up river*
        Sig   taɣyaq *go upstream*
        Utku   takřa-u-řugut *we travel away from water (i.e., away from the lake, sea, river)*

c.   PE   *uɣðuɣ *bearded seal* (Fortescue et al. 1994:360)
        WCI   uɣyuk *bearded seal*
        Utku   ukřuk *bearded seal*

Similarly, PE clusters with uvular continuants — PE *ʀð and ʀž — became /qř/, with the proto-

*ʀ becoming a /q/:

27)   Reflexes of PE *ʀð

a.   PE   *aʀða *ash* (Fortescue et al. 1994:41-2)
        NAI   arža *ash; gunpowder*
        WCI   arya *ash*
        Utku   aqřaq *gunpowder; ash*

b.   PI   *aʀžuk *little* (Fortescue et al. 1994:394)
        WCI   aryuk, +(r)yuk *dear little*
        Utku   qiřu-aqřuk *(person's name) from* qiřuk *wood* -aqřuk *little*

c.   PE   *uʀðuʀ *moss* (Fortescue et al. 1994:381)
        Utku   uqřuk *reindeer moss*

As for pronunciation, in synchronic clusters with a plosive plus /ř/, the plosive is generally

voiced; as well, there is a lenis release between the plosive and the /ř/, so that /kř/ is pronounced

as [g^{0}ř], and /qř/ as [ɢ^{0}ř].

5.4   *Summary of the development of *Ð, *c, and *y in bases*

        Example (28) summarizes the development of *ð, *c, and *y in bases.

28)   Phonological environments and the development of PE *ð and *c and *y

Intervocalic position /V___V ***c /h/ *Ð /r# *y /y/**		
Pre-consonantal (coda) position /___C ***Ð+C /r#C/**		
Post-consonantal (onset) position / C___	/labial + ***c /ps/** ***Ð /pr#vy/** ***y //y, labial+y, vy/**	
	/coronal + ***c or *y /ts/** ***Ð //r#r##**	
	/dorsal ___	/dorsal plosive (k,q)+ ***c /kh, ks, qh, qs/** ***y /ki, qi/** ***Ð /ks, qs/**
		/dorsal fricative (/ɣ,ʀ/)+ ***c /kh, ks, qh, qs/** ***y /ks, kh, qs, qh, Vi, ʀi/** ***Ð /kr#qr#**

PE *c became /h/ intervocalically, and it became /h/, s-like, or /s/ after consonants; PE *ð became /řr/, but also became /s/ after the dorsal plosives /k/ and /q/; finally *y either remained unchanged, became a fricative or underwent glide vocalization to /i/.

The reflexes of PE *ð, *c and *y in bases was different than in postbases; in general, the reflexes in bases were a subset of those that developed in postbases. The historical development of *c, *y, and *ð in postbases is described next.

6   Postbases containing *ð, *c, *y

Initially, it is difficult to make any generalizations about the historical development of postbases beginning with *ð, *c, or *y. In order to do so, however, we first distinguish between two types of postbases, ones with either a linear (transparent and regular) or a nonlinear (opaque) historical development, as illustrated in the hypothetical situation shown in (29).

29)   Allomorphy in PE and its descendants
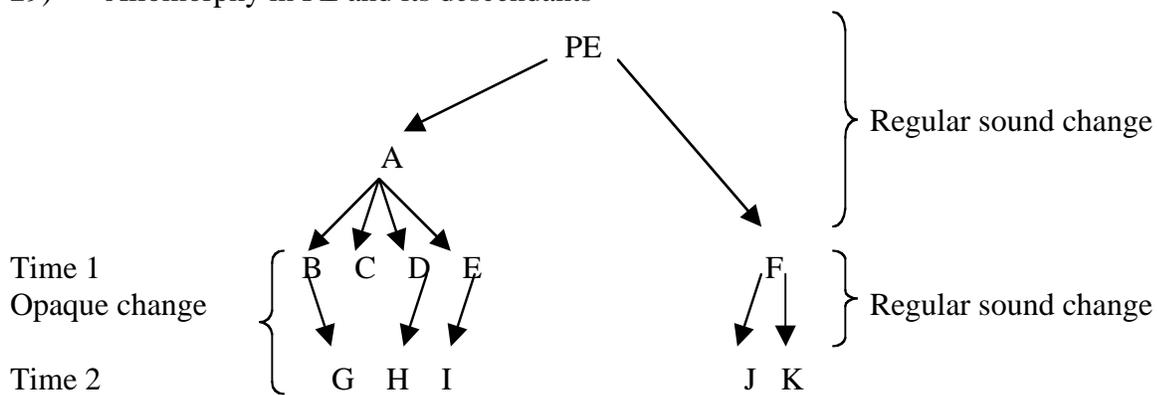
We assume that, in the opaque case, a proto-postbase *A* would have developed various allomorphs, *B-E*, whose distribution would have been phonetically transparent at Time 1. However, between Time 1 and 2 (the present), the processes responsible for the transparent allomorphy would have become unproductive. As a result, at Time 2, the allomorphs *G-I* would have been obviously related in form and meaning, but not transparently so; rules of allophonic distribution

would have become opaque or even arbitrary; that is, the historical residue of these rules would

be idiosyncratic or lexical in nature.

In contrast is the situation represented by the development of postbase *F* in (29). In this

case, *F* would have developed various allomorphs, *J* and *K*, whose distribution would have been

phonetically transparent at Time 2 (the present); moreover the process responsible for the allo-

phonic distribution would still be productive, making the allomorphy fully transparent at present.

Describing historical changes in the opaque cases would require the reconstruction of

protoforms and stages intermediate between PE and Utkuhiksalik. The conclusion would be that

Utkuhiksalik currently has many productive, semi-productive, and unproductive morphological

classes, and that the allomorphy in each class reflects diverse historical sound changes. Faced

with a similar problem, Fortescue (1992) carried out the desired type of reconstruction in order to

describe the complex developments from PE postbases to Proto-Inuit and Proto-Yupik postbases.

Fortescue's more general conclusions illustrate that present-day Inuktitut languages and dialects

have many arbitrary morphological classes: for example, because of successive phonological in-

novations, morphological restructuring, and reanalysis, "…different affixes with the same origi-

nal shape may end up with different morphophonemic behaviour. Even more commonly, the

same historical affix may end up with different properties (and allomorphs) in different lan-

guages and dialects or one affix may split both semantically *and morphophonemically* in the

same language." (Fortescue 1992: 18; emphasis added). Synchronically, then, Eskimoan lan-

guages and dialects have (a) individual affixes displaying idiosyncratic patterns (Fortescue 1992:

23); (b) highly lexicalized affixes or patterns, which are limited to applying to a small subset of

bases (Fortescue 1992: 20); and (c) larger classes of similarly-patterning affixes (Fortescue 1992:

21-26).

In the following sections, then, we distinguish between synchronically transparent and nontransparent allomorphy.

6.1   Transparent allomorphy

In postbases, PE *ð or *c often developed in the same (transparent) manner as in bases, *ð became /ř/ and *c became /h/. In contrast, PE *y did not develop in a transparent manner in postbases at all.

Cases of transparent allomorphy involving *ð in postbases are illustrated in (30) and (31). PE *ð often became /ř/ in postbases; for example, the PI postbase *ližaq *have along with one* became /-li̱řaq/ *wear, be covered with* (the initial syllable can truncate) (30.a):

30)   PE *ð-initial postbases develop into [ř].

a.   PE   *apun *snow on ground* (Fortescue et al. 1994:37)
      WCI   apun *snow on ground*
      ECI   aput *snow on ground*

and   PI   *ližaq *have along with one* (Fortescue et al. 1994:407)
      GRI   lišar *have with one;* lišaar *be wearing*
      Utku   -li̱řaq *wear, be covered with*
      Utku   apuʔ-řaq-tuq *it's buried in deep snow*

b.   PE   *əqə *shrink, contract* (Fortescue et al. 1994:114)
      WCI   iqi *shrink, contract*
and   PE   *ðiɣ *be far in a direction* (Fortescue et al. 1994: 397)
      Utku   ři *motion towards*
      Utku   iqřiq *flutter; flare; a fringe*

Metathesis sometimes also occurred in *ð-initial postbases. For example, while PE *ðviɣ *place or time of* is attested in unmetathesized form as [řvik], the same postbase occurs in metathesized form [vřik] in Utkuhiksalik, as shown in (31). (The reflex [vik] is also attested.)

31)   /řv/ clusters

a.   PE   *ðviɣ or *viɣ *place or time of* (Fortescue et al. 1994:398)
      WCI   +vik *place or time of*
      Net   +vik (preceding t becomes ž) *place or time of*

with   PE   *aqva *run* (Fortescue et al. 1994:41)
        Net   aqpaaq *fetch*
        Utku   aqpa- *race; run*
        Utku   aqpařvik; aqpavřik *a place to which people race; a base (in baseball)*

        Likewise, in postbases, PE *c generally developed (transparently) into /h/. For example,

PE *caʀ *try to cause to* developed into two related postbases, /-haq/ and /-haari/ (32.a).

32)   PE *c-initial postbases develop into [h]

a.   PE   *caʀ *try to cause to* (Fortescue et al 1994.:394)
        WCI   +ha(a)q *try to get to*
        Sig   +saq *I hope that*
        Sig   +saari- *on purpose*
        Sig   +saruma- *intend*
        Utku   -haq, -haari *try to cause to*
        Utku   ili-haq-tuq *s/he is studying, trying to learn*
        Utku   kappia-haari-řuq *s/he causes someone to fear*
        Utku   uřřiq-haari-řuq *s/he causes someone to worry*

b.   PE   *caʀ *go to get* (Fortescue et al 1994.:394)
        WCI   +hi- *get, buy, find*
        Utku   -haq
        Utku   qimatu-ha-ruma-nnaq *I want to get the backfat, hide!* (with qimatut *backfat (raw or cooked), or hide left behind*)
        Utku   piruřaq-haq-tunga *I'm getting the cached meat*

c.   PE   *ciqtuq *pretend to* (Fortescue et al 1994.:394)
        WCI   hiqtuq-
        Utku   hiqtuq *be on the verge of*
        Utku   aittaq-hiqtuq *it's on the verge of opening (because it's cracked, etc.)*
        Utku   ani-hiqtuq *s/he's on the point of leaving*

At least in the above examples, *c did *not* become /s/ after /k,q/ (a development which was

common in bases; see §5.3.2). Instead, the development of *c in postbases is similar to the de-

velopment of *intervocalic* *c in bases. We speculate that *c exclusively became /h/ in postbases

because such postbases often occurred after vowel-final bases (i.e., the *c was often intervo-

calic).

6.2   Non-transparent allomorphy

We now turn to describing synchronically non-transparent allomorphy. While *ð and *c

developed transparently, all postbases beginning with PE *y display irregular allomorphy as do

some with *ð. For example, some PE *y-initial postbases became postbases with [y, s, ɣ] and

[ʀ]-initial allomorphs: PE *yuknaʀ *probably* became /-yuŋnaq/ (after vowels), /-ɣuŋnaq/ (after

k), /-ʀuŋnaq/ (after q) and /-suŋnaq/ (after t).

33)   PE *y-initial postbases develop into [y, s, ɣ, ʀ].

a.   PE   *yuknaʀ- *probably* (Fortescue et al. 1994:437)
       SPI   +yuŋnaq-, ɣuŋnaq- (after k, q), +suŋnaq- (after t) *may, must have X-ed*
       WCI   +yuŋnaq-, ɣuŋnaq- (after k, q), +tuŋnaq- (after t) *no doubt, probably, can*
       Utku   +yuŋnaq-, ɣuŋnaq- (after k), ruŋnaq- (after q), +suŋnaq- (after t) *be able to*
       Utku   tikit-suŋnaq-tuq *s/he might arrive*
cf.   Utku   niri-yuŋnaq-tuq *s/he can eat*

b.   PE   *yuɣuma *want to* (Fortescue et al. 1994:436)
       WCI   +yuma, +ɣuma (after k/q), +tuma (after t) *want to*
       Utku   +yuma, +ɣuma (after k), +ruma (after q), +suma (after t) *want to*
       Utku   tikit-suma-řuq *s/he wants to arrive*
c.f.   Utku   niri-yuma-řuq *s/he wants to eat*

Meanwhile, as example (34) illustrates, PE *y also became /s/ — rather than /ɣ/ or /ʀ/ — after

/k,q/:

34)   PE *y-initial postbases develop into [s].

       PE   *yuɣ *want or tend to* (Fortescue et al. 1994:436)
       Sig   +suq *want to*
       Net   +huq, +ɣuq (after k, q) *want to*
       Utku   +suq (after k,q) *want to*

and   PE   *na- *might or so as to* (Fortescue et al. 1994:413)
       Net   +na *may well*
       Utku   naqsuq *probably; I think*

and   PY-S   *miqə- *compel to* (Fortescue et al. 1994:412)
       CSY   + miqə- *compel to; make*
       Utku   miqsuq *cause*

       Examples (33) and (34) illustrate that the historical reconstruction of stages intermediate

between PE and Utkuhiksalik would best explain the synchronically wide range of allomorphy

deriving from PE *y.[20] In the absence of such intermediate-stage reconstruction, however, we observe that all of the developments involving *y-initial postbases resulted in eliminating consonant+/y/ sequences in favour of clusters consisting of a consonant plus a homorganic fricative. Consonant+/y/ sequences met a similar fate in bases (see §5).

Finally, postbases beginning with PE *ð also sometimes developed in a non-transparent manner. As shown in (35), several postbases with initial PE *ð now have /s/-initial and /h/-initial allomorphs.

35)   PE *ð-initial postbases became [h, s].

a.   PE   *ði *half-transitivize (detransitivizer)* (Fortescue et al. 1994:396)
        WCI   #yi, #i, #+hi (after consonants) *half-transitivize (detransitivizer)*
        Utku   -hi (after k, q, vowels), -si (after p, t)
        Utku   haap-si-řuq *to put out in a visible place*
c.f.   Utku   haap-tiri-řuq *s/he puts something out in full view*

b.   Utku   qimu[xx]iliqtut < qimuk-hi-liq-tut *they are travelling by dog team*

c.   Utku   iři[χχ]iřuq < iřiq-hi-řuq *he is hiding something*

d.   PE   *tað-uv-ðu *that one (non-absolutive singular)* (Fortescue et al. 1994:451)
        NAI   taavžuma, taafšuma, taaptuma (Fortescue et al. 1994:480, 483)
        Utku   taaps[(hr)]uma *that (one, batch)*[21]

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[20]   An interesting alternative, however, is whether such apparently irregular historical changes can be explained by reference to the *type* of postbase to which the *y-initial morpheme attached (and similarly for *ð-initial postbases). A few thoughts on the matter: in both examples (33) and (34), the postbases are non-truncating (i.e., they do not cause deletion of the preceding morpheme's final consonant); this observation suggests that a postbase's status as truncating or non-truncating is not relevant to describing the particular developments of *y-initial postbases in question. However, a principled explanation of sound changes in *y-initial postbases might be possible, in an approach that would recognize various phonological domains within the Inuktitut verb. A common relevant distinction is that between 'cohering' and 'non-cohering' morphemes, which are typically subject to different sets of allomorphic rules.

[21]   Isolated *labial-ð clusters, notably some *vð clusters, became a /ps/ cluster with a *rhotacized* /s/ cluster in Utkuhiksalingmiutut. In such clusters, the /s/ is consistently pronounced with a distinct rhotic quality as [psʳ] or [pʃʳ].

In contrast, some *ð-initial postbases now have allomorphs beginning with /ɣ/ or /t/ instead (36),

while yet others have allomorphs beginning with /řr/ or /t/ (37).

36)   PE *ð-initial postbases develop into [ɣ, t], etc.

        PE   *ðaʀ, *ðɑqə[22] *habitually or repeatedly* (Fortescue et al. 1994: 396)
        WCI   +taq *repeatedly*
        Utku   -ɣaq (after vowels and deleting k), -raq (after deleting q), -taq (after non-deleting
                k, q) *repeatedly*
        Utku   qima-ga-i-řunga *I have left several (objects) behind; (from* qimak *leave several
                objects behind)*
        Utku   qiřgiq-taq-tuq *he jumps repeatedly*
        Utku   titi-raq-tuq *he makes repeated marks; (from* titiq *mark; write)*

37)   PE *ð-initial postbases develop into [řr, t].

a.   PE   *tuʀ, ðuʀ *intransitive participial* (Fortescue et al. 1994: 397)
        WCI   -yuq, -tuq (after consonants)
        Utku   -řuq, -tuq (after consonants)
        Utku   ani-řuq *he went out*
        Utku   ihiq-tuq *he came in*

b.   PE   *ðaʀ *passive participial* (Fortescue et al. 1994:395-6)
        WCI   +yau *transitive indicative passive*
        Utku   řaq (after vowels), taq (after consonants) *transitive indicative passive*
        Utku   aqpiuʔ-řa-u- *say; speak*

In general, after consonant-final bases, non-transparent *ð either became a homorganic fricative,

or underwent fortition to /t/.

In conclusion, postbase allomorphy is synchronically idiosyncratic. While it is possible to

provide rules describing allomorphic distribution within a given lexical class of postbases, such

rules would not hold more generally of, for instance, all PE *ð-initial (or *c- or *y-initial) post-

bases.

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[22]   This postbase probably had the alternants /taʀ-, taqə-/ after consonants in PE (Fortescue et al. 1994: 396).

7   Conclusions

The major trends in the development of PE *c, *ð, and *y in Utkuhiksalik are summa-

rized in (38).

38)   PE *c, *ð, *y

Environment	*Ð	*c	*y
/V__V	ř	h, (hy, ts)	y (ts)
/ __C	ř	____[23]	____
/ labial __	př, (vy)	ps	ʔy, Ci, vy
/ coronal __	ʔř, (řř)	ts	ts
/ dorsal __	plosives *kð, *qð —> ks, qs -------------------------------- fricatives *ɣð, *ʀð —> kř, qř	/ks/ [xs]…/kh/ [xx] /qs [Xs]…/qh/ [χχ] (and intermediate sounds)	plosives *ky, *qy —> ki, qi —> ks, (qs?) -------------------------------- fricatives *ɣy, *ʀy —> [ɣɣ, χχ] also [ʀi]

First, PE *c often became /s/, or a fronted velar fricative sound intermediate between /h/ and /s/,

after consonants. Thus, the sound change from PE *c to PI *s to /h/ was not generalized to *all*

contexts in Utkuhiksalik, as it was in related dialects such as Natsilik. (In contrast, in postbases,

*c became /h/ regardless of the context.)

Second, PE *ð became /ř/, except after *k and *q, where it became /s/.[24] Like Natsilik,

then, Utkuhiksalik preserves the PE contrast between *ð and *y in the form of a contrast between

/ř/ and /y/, or /s/ and /y/.

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[23]   *c and *y did not occur as the first consonant in a sequence.

[24]   While it is beyond the largely descriptive scope of this paper, it is interesting to speculate why *ð became

/s/ only after /k, q/. We assume that /ř/ has more features than /s/: specifically, in addition to having

[+continuant] which is shared by both /ř/ and /s/, /ř/ has the feature [-lateral] in order to distinguish it from

/ɬ/. The change from /ř/ to /s/, then, could be an example of lenition occurring in an environment where /k,

q/ could not otherwise govern /ř/. (See Harris 1990, Rice 1992 for the relevant concepts of government.) In

Third, PE *y has many reflexes in Utkuhiksalik, including /t, s, y, ɣ, ʀ, h/, and /i/. The /y/ reflex generally occurs only intervocalically (but a /ɣ/ reflex also occurs postvocalically). Otherwise, the /ɣ/ and /ʀ/ reflexes tend occur after dorsals. Finally, a /t/ reflex typically occurs post-consonantally, but an /s/ reflex also occurs after /t, k, q/. The variety of reflexes of PE *y reflect constraints on clusters that eliminated consonant+y sequences in Utkuhiksalik.

Finally, recall that the manner of articulation distinction between plosives and fricatives was only relevant for the development of clusters beginning with dorsals (k, q, ɣ, and ʀ). This observation suggests that, while /k/ and /q/ have fricative counterparts within the phonemic inventory, /p/ and /t/ do not; that is, /v/ is not the fricative counterpart of /p/, nor is /s/ (or /řr/) the fricative counterpart of /t/. This leads to the conclusion that the Utkuhiksalik phonemic contrasts should be represented as in (39), where /v/, in particular, is classified as a labiodental approximant or sonorant consonant, [ʋ], rather than as a fricative (Maddieson and Ladefoged 322-326). (Variants of the marginal phonemes /s/ and /hʸ/ are shown in square brackets in 39.)

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this context, it is interesting to note that there is always a lenis release between a plosive and a following /řr/ in Utkuhiksalingmiutut. (Examples were described in §5.1.3 and 5.3.1.) In government phonology, details aside, the lenis release would be analysed as an empty nucleus, present because /řr/ could not otherwise be governed by the preceding segment. In other words, it could be that /řr/ is not generally governable by consonants in Utkuhiksalingmiutut, nor was it historically. The historical lenition of /řr/ to /s/, and the synchronic, lenis release between plosives and /řr/ could both be consequences of this property of /řr/.

39)   Utkuhiksalik phoneme inventory

obstruent	plosive	p	t		k	q	ʔ
	vd fricative				ɣ	ʁ	
	vl fricative		ɬ				h
			[s, ʃ, sʸ, ç, sˠ]				[hʸ, x, χ, x̱, χ̱]
sonorant		v	ř	y			
			l				
		m	n				ŋ

In conclusion, as example (39) illustrates, the aspects of the Utkuhiksalik phonemic inventory which distinguish it from other Inuktitut dialects include (a) the presence of an /ř/ versus /y/ contrast; and (2) the retention of /s/, /hy/, and other intermediate, [s]-like (or fronted velar) fricative sounds in clusters. While Utkuhiksalik shares with Natsilik the retention of the /ř/ versus /y/ contrast, the presence of /s/ and [s]-like sounds appears to be unique to Utkuhiksalik.

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Historical developments in Utkuhiksalik phonology

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Abstract

Utkuhiksalik is a Western Canadian Inuktun dialect closely related to Natsilik. In this paper, we examine the historical reflexes of Proto-Eskimoan (PE) *ð, *c, and *y in Utkuhiksalik. We focus on these particular proto-consonants in order to make the following observations:

(a) Like Natsilik, Utkuhiksalik maintains a contrast between PE *ð and *y. In general, *ð has developed into /řr/, a voiced rhotic that sounds similar to to [ð] or [ž]; in contrast, one of the main reflexes of *y is /y/. For example, intervocalic [řr] can be heard in Utkuhiksalik words such as [iři] *eye*, while intervocalic /y/ occurs in words such as [qayaq] *kayak*.

(b) Utkuhiksalik displays unique /s/ reflexes of PE *c. According to Fortescue et al. (1994:xvi, xiv), PE *c became *s in Proto-Inuktitut, and then developed into /h/ or 'h-like allophones' both in Utkuhiksalik and in Natsilik. While this is true of the development of *intervocalic* *c in Utku-hiksalik, we demonstrate that PE *c developed into /s/ after consonants in Utkuhiksalik. It also developed into 's-like' (fronted dorsal) sounds such as [x̠, χ̂], as well as into /h/ postconsonan-tally. It appears, then, that Utkuhiksalik is still undergoing the sound change from PE *c > PI *s > /h/. Utkuhiksalik is distinct from Natsilik in this respect, since no /s/ reflexes are reported for Natsilik.

(c) Utkuhiksalik also retains a PE-like contrast between /tt/ and /ts/ clusters before /a/ and /u/ but not before /i/. This contrast is absent in Natsilik, which has only a lightly assibilated /tt/ cluster.