1 Introduction*

Utkuhiksalik has been analysed as a subdialect of Natsilik within the Western Canadian Inuktun (WCI) dialect continuum (Dorais, 1990:17; 41). While Utkuhiksalik has much in common with the other Natsilik subdialects, the Utkuhiksaalingmiut and the Natsilingmiut were historically distinct groups (see §1.1). Today there are still lexical (see §1.2) and phonological differences 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 Utkuhiksaalingmiut (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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* Research for this paper was supported by SSHRC grant #410-2000-0415, awarded to Jean Briggs. The authors would also like to acknowledge the invaluable assistance of the Utkuhiksaalingmiut who presently live in Gjoa Haven, especially Briggs’s adoptive mother and aunts. Tape recordings of these consultants, collected by Briggs from the 1960’s to the present, constitute the data for this paper. Briggs is currently compiling a dictionary of Utkuhiksalik.

1 We use the term Natsilik, rather than Netsilik, to denote a dialect cluster that includes Natsilik, Utkuhiksalik, 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 Nattilingmiutut; 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 Utkuhiksaalingmiutitut (employing the ending -miutitut like people); less commonly, she also uses the term Utkuhiksaalingmiutut (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 Ualiakliit and Hanningařuqmiut spoke dialects closely related to Utkuhiksalik. The Ualiakliit and Hanningařuqmiut traditionally resided to the west of Franklin Lake, where the river widens to form lakes Garry and Pelly. The Ualiakliit (*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 Ualiakliit 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 Ualiakliit and Hanningařuqmiut to be more or less borderline. They also sometimes classify Ilulilik 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 Utkuhiksalik, 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

<table>
<thead>
<tr>
<th>Utkuhiksalik</th>
<th>Natsilik</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. aquiruja, aquiquqtuna I’m fetching</td>
<td>aquituqtuna, aquiruja I’m ordering</td>
</tr>
<tr>
<td>cached meat</td>
<td>take-out pizza, ordering from a local store</td>
</tr>
<tr>
<td>tuxiqtuna I’m ordering take-out pizza,</td>
<td></td>
</tr>
<tr>
<td>ordering from a local store (cannot use</td>
<td></td>
</tr>
<tr>
<td>aquiq for this meaning)</td>
<td></td>
</tr>
<tr>
<td>b. aanayaktiluikai(t) Stop being wild!</td>
<td>uimayaaruikait Stop being wild! (said to a</td>
</tr>
<tr>
<td>(said to a child)</td>
<td>child)</td>
</tr>
<tr>
<td>c. alraani last year</td>
<td>aippaanani last year</td>
</tr>
<tr>
<td>aippaa another one (of the same kind)</td>
<td></td>
</tr>
<tr>
<td>d. akkuqtuna I meet someone coming from</td>
<td>katitusu I meet someone coming from</td>
</tr>
<tr>
<td>the opposite direction; I hit my head</td>
<td>the opposite direction</td>
</tr>
<tr>
<td>on a wall</td>
<td></td>
</tr>
<tr>
<td>e. qimukhiq, qimukhit dog team and</td>
<td>qimukhiqaq, qimukhiraat dog team and driver</td>
</tr>
<tr>
<td>driver</td>
<td></td>
</tr>
<tr>
<td>f. qimukhiraqtut They’re travelling by</td>
<td>qimukhiraqtut They’re travelling by</td>
</tr>
<tr>
<td>dogsled</td>
<td>dogsled; they’re caribou-hunting by dogsled.</td>
</tr>
<tr>
<td>tuktukuaqhiuqtut They are hunting</td>
<td></td>
</tr>
<tr>
<td>caribou (cannot use qimuk for this</td>
<td></td>
</tr>
<tr>
<td>meaning)</td>
<td></td>
</tr>
</tbody>
</table>
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 *Δ 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)

\[
\begin{array}{ccccccc}
p & t & \ast c & k & q & ? \\
(s) & \downarrow & (h') \\
v [v] & \ast \delta & \tilde{r} & y & g [\gamma] & r [R]^3 \\
1 & \downarrow & l \sim [l] \\
m & n & ng [\eta] \\
\end{array}
\]

Phonemes such as /s/ and /h'/ 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. /r/ is a voiced rhotic which sounds similar to [\delta] or [\tilde{z}]. /v/ or [v] 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.

\[3 \text{ In the historical reconstructions, the voiced uvular fricative is represented with } [\eta] \text{ instead of the IPA } [\gamma], \text{ adopting the usage in Fortescue et al. (1994). In contrast, we employ } <r> \text{ to spell the voiced uvular fricative in Utkuhiksalik and in related dialects.}\]
Environments relevant to the development of *δ and *c and *y were both morphological (occurring in a base or in a postbase) and phonological (described below). For the development of *δ and *c and *y in bases, see §3-5, and for postbases, see §6.

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

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

<table>
<thead>
<tr>
<th>Intervocalic (onset) position /V___V</th>
<th>Pre-consonantal (coda) position /___C</th>
<th>Post-consonantal (onset) position /C___</th>
</tr>
</thead>
<tbody>
<tr>
<td>/labial ___</td>
<td>/coronal ___</td>
<td>/dorsal ___</td>
</tr>
<tr>
<td>/dorsal plosive ___</td>
<td>/dorsal fricative ___</td>
<td></td>
</tr>
</tbody>
</table>

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

In consonant clusters, PE *δ 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

<table>
<thead>
<tr>
<th>/V__V</th>
<th>/__C</th>
<th>/labial__</th>
<th>/coronal__</th>
<th>/dorsal__</th>
</tr>
</thead>
<tbody>
<tr>
<td>h, (hy, ts)</td>
<td>——₄</td>
<td>ps</td>
<td>ts</td>
<td>/ks/ [xs].../kh/ [xx] /qs [χs].../qh/ [χχ]</td>
</tr>
</tbody>
</table>

Second, PE *δ became /r/ after the dorsal fricatives *γ and *κ (5); furthermore, it became /s/ after the dorsal plosives *k and *q (see §5.1.3, §5.2.2, §5.3.3 for details.)
Historical developments in Utkuhiksalik phonology; 5/16/04

5) PE *ð

<table>
<thead>
<tr>
<th>N</th>
<th>C</th>
<th>labial</th>
<th>coronal</th>
<th>dorsal fricative</th>
<th>dorsal plosive</th>
</tr>
</thead>
<tbody>
<tr>
<td>ŋ</td>
<td>ŋ</td>
<td>ĭ, (vy)</td>
<td>ŋ,i, (ıı)</td>
<td>*ỳð, *ðò → kĩ, qį</td>
<td>*kð, *qð → ks, qs</td>
</tr>
</tbody>
</table>

Third, in bases, postconsonantal PE *y was generally vocalized to /i/ after the dorsal plosives, 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, r, h/, and /i/. (See §6.2 for details).

6) PE *y

<table>
<thead>
<tr>
<th>N</th>
<th>C</th>
<th>labial</th>
<th>coronal</th>
<th>dorsal plosive</th>
<th>dorsal fricative</th>
</tr>
</thead>
<tbody>
<tr>
<td>y (ts)</td>
<td>y, Ci, vy</td>
<td>ts</td>
<td>plosives *ky, *qy → ki, qi (also ks)</td>
<td>fricatives *yy, *ry → [yy, ǁǁ] also [ri]</td>
<td></td>
</tr>
</tbody>
</table>

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 *ð, *c, and *y

In intervocalic position, PE *ð became /ı/, remaining distinct from /y/. Likewise, in Natsilik PE *ð became a rhotic sound similar to [ź], and distinct from /y/ (Fortescue et al. 1994: xvi). In Utkuhiksalik, intervocalic /y/ occurs in words such as [qayaq] kayak, while intervocalic [ıı] can be heard in words such as [ıııı] 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.
Historical developments in Utkuhiksalik phonology; 5/16/04 page 7 of 36

7) Utkuhiksalik /y/, /r/, and /r̩/6,7

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

b. /r/ [ɾ, ź, Ԁ]
   PE *ওও eye (Fortescue et al. 1994:97)
   Utku ɨɾi eye

c. /r̩/ [ɾ̩, ź̩, Ԁ̩]
   i. PI *ওওɨɨ- get something in one’s eye (Fortescue et al. 1994:97)
      Utku ɨɾɨtɨq his eye is injured
   ii. PI *uʒiq 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 ɨɾɨtɨq 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 (Fortescue 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 /h/ and /ts/ in Utkuhiksalik (9). For example, PE *ica moult became two phonologically and semantically closely-related bases, /iha ~ ih̩a/ and /itsa/ (9.c).

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

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'yu] *end. Finally, as shown in (9.f-h), *c became [h] alternating with [ts] in some allomorphs of the same morpheme. For example, PE *picir became [pihiq] song, hymn (singular) and [pitsit] song, hymn (plural).

9) Intervocalic *c and Utkuhiksalik /h/ /hy ~ h/, /ts/:
   a. PE *'cucur *become murky (Fortescue et al. 1994:96)
      WCI isuq-
      Utku ih'yuq- be murky
   b. PE *qacu- *become loose or slack (Fortescue et al. 1994:273)
      WCI qasu-
      Utku qah'yuqflabby, floppy, slack, not taut
   c. PI *ica *moult (Fortescue et al. 1994:121)
      Cop ih-
      Net icavik July
      Utku ih'yuq a moult comedic
      Utku itsa-kha'q-i-ruq it is moult comic
      Utku itsa-vi-at July-August (i.e., the season of moult)
   d. PI *isu(k) *end (Fortescue et al. 1994:145)
      WCI isu end
      Utku ih'yuq end
   e. PE *acu *indeed (exclamation) (Fortescue et al. 1994:3)
      WCI Net ahu maybe, isn’t it
      Utku ah'yu, ahiu yes (the latter form used under emphasis)
   f. PE *tacir *spit; sand bar (Fortescue et al. 1994:232)
      WCI tasiq lake
      Utku tahiq, tatsik, tatsit, tatsip lake (singular, dual, plural, relative case)
   g. PE *atarucir *one (Fortescue et al. 1994:50)
      WCI atausiq
      Utku atauhid one; atausikut together (atauhid one +kkut vialis or +tkut household; group of companions)

7 It is unclear whether any /yy/ clusters exist in Utkuhiksalik. /hy/ 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 *picir (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 *katyuV became /kahuq/ meet, bump in Utkuhiksalik.

10) Reflexes of *ty

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

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

c. PE *pityaq do deliberately (Fortescue et al. 1994:264)
   WCI pisari
   Utku piyaarir#uq 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/ intervocally, while *c became /h/, /h'/', and /s/', and *ŋ became /r/, as summarized in the following table.

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

<table>
<thead>
<tr>
<th>*D</th>
<th>*c</th>
<th>*y</th>
</tr>
</thead>
<tbody>
<tr>
<td>/V__V</td>
<td>r#</td>
<td>h, (hy, ts)</td>
</tr>
</tbody>
</table>

As mentioned in §2, there are more reflexes of *ŋ, *c, and *y in consonant clusters than in intervocalic position. We discuss the development of clusters with initial *ŋ 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 *ŋ, *c, or *y.
4  *Dinitial clusters

Of the three consonants in question, only PE *δ occurred in cluster-initial (coda) position, where it became /ɾ/. For example, PE *aŋyar became /aŋyak/ *hand in Utkuhiksalik:

12)  *δY /ɾY/
   a. PE  *aŋyar *hand (Fortescue et al. 1994:4)
      Net  aŋzak *hand
      Utku  aŋgak *hand
   b. PE  *aqunjik ptarmigan (Fortescue et al. 1994:39)
      Net  aŋiŋqeq ptarmigan
      Utku  aŋiŋgiq ptarmigan

Synchronically, however, /ɾ/ also occurs in clusters that did not historically contain initial *δ: first, PE *iY sometimes became /ɾY/ (13.a). Second, /lɾ/ is now pronounced either as [lɾ] or [ɾ] in Utkuhiksalik (13.b-e).

13)  Clusters with initial /ɾ/
   a. PE  *naruŋutə plunge or dart (Fortescue et al. 1994:219)
      CAY  narulutə- die of a heart attack
      Utku  nauŋgutiruŋ fall or have a sudden, abrupt collapse, stumble, have one's legs give out
   b. PE  *alraani next or last year (Fortescue et al. 1994:17)
      Cop  alraani a year or more ago or hence
      Utku  alraani last year
   c. PE  *iðər hide (Fortescue et al. 1994:122)
      Net  iŋrut(ii) hide from
      Utku  ilru-miaq-tuŋq he hides something
   d. PE  *lrayaq almost; barely (Fortescue et al. 1994:407)
      WCI  lrayaq, qqayaq (after k, q), tqayaq almost
      Utku  qimaa-lrayaq-tuŋa I almost ran away
   e. PE  *aqilrur something soft (Fortescue et al. 1994:39)
      Cop  aqilruŋ lead
      Sig  aqilruŋ softest part of something (e.g., snow to cross)
      Net  aqilruŋ swamp
      Utku  aqilruŋ lead

9 PE *lɾ was not metathesized in Utkuhiksalik, or in Natsilik; however, it was metathesized in other Inuktitut dialects (Fortescue 1983:20).
One Utkuhiksalik speaker identifies the [rr] pronunciation as more Natsilik-like. Fortescue (1983:20) notes that in Natsilik, the same cluster can be pronounced as [lr], [zr], and sometimes as [lZr].

5 Clusters ending with *[^D*] *c, and *y

This section deals with clusters in which the second consonant was *[^d], *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, y, r) place of articulation of the first consonant of the cluster was an important determinant in the historical development of Utkuhiksalik clusters with *[^d], *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 *[^d], *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 Utkuhiksalik (14). For example, PE *pimci dried fish became /pipsi/ (14.c). In /ps/ clusters, the /p/ is pronounced as [φ] or [f], and the /s/, as [s], [z], [z^3], or [f^3].
14) Reflexes of PE *mc, *pc

a. PE *mca\textit{ finally} (Fortescue et al. 1994:411)
   CSY Chap msay- \textit{finally}
   NAI fsaaq- \textit{again, more}
   Nu psaaq- \textit{again}
   Cop ffaaq- \textit{again, more}
   Net phaaq- \textit{again; more}\textsuperscript{10}
   Utku ps'aaq- \textit{more}
   Utku tii-tu-ps'aa-rit \textit{have some more tea}

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

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

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

5.1.2 \textit{Labials plus *y}

In contrast, for clusters of labials and *y various reflexes are attested. First, *py became /?y/ (15.a). This was also an instance of a general change reported for Natsilik, in which PE *stop+sonorant clusters became ?+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 *\textit{opyalnu feel suffocated} (Fortescue et al. 1994:113)
   ECI iyya\textit{n, suffocate}
   Utku i'yaatjuttuq \textit{it’s (not) stuffy}

b. PE *\textit{ovyany(\eta)i\textit{r breast}} (Fortescue et al. 1994:120)
   Net ivi\textit{niq}
   Utku ivi\textit{niq}

\textsuperscript{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 *nøvyuvaV fly (Fortescue et al. 1994:233-234)
   WCI niviuvak, niviuvak *housefly
   Utku niviuvak fly

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

e. PE *myaV 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/ ([v]) 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 /pð/. (/pð/ is pronounced [bð]; the first segment is a partly- to fully- voiced labial stop that has a lenis release when before /ʔ/.) For example, PE *avðar hindrance or protection became /apðaʔ/ mattress (16.a). However, another source of /pð/ 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 *avðar hindrance or protection (Fortescue et al. 1994:56)
      NAI avžat bedding
      Utku apðaʔ mattress; caribou hide mattress
   b. PE *èlpø or *èlø you (Fortescue et al. 1994:106)
      Net ilvit, ižvit you
      Utku ipřit you
   c. PE *taðøa 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 /pð/ but also /vy/ in some instances:
17) *vð /vy/ [py, vy]

PE *kuvðar 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 labial 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 /r.y/, /v.y/ and /labial+i/, and from *vð to /p.ð/ and /v.y/ reflect a preference for syllable contacts in which the coda (C1) is equally as sonorous 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 contrast (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 below.

As shown in (18), /tt/ [tt] contrasts with (heavily assibilated) /ts/ [ts ~ t̡s] 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)
P1 *attaq pay back (in return)
ECI attataq borrow
Utku a[tta]taq-naq it’s hot! ouch!

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

iii. PI *pɔttaq 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 be liable or apt to (Fortescue et al. 1994:433-4)
NAI ya easily
Utku qala-[ts]ar-aittuq, qala-[t̡s]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 Utkuhiksalingmiutut postbase; however, *tya has also become yya- shall, should in WCI, and ya- vague future in Natsilik (ibid., 429).
ii. PE *accay 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; quyanar thank you (Fortescue et al. 1994:321)
    Utku quyanaq thank you (lit.: it causes gratitude)
    Utku qutsahiptatka I give them (as) a thank-you present

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). 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)
     WCI sattu- take back what one has given; regain something lost
     Utku ha[ttu]-ittuq, ha[ttu]-ittuq, ha[ttu]-ittuq he expired from gratitude

   ii. PE *akultu be far apart (Fortescue et al. 1994:14)
      WCI akuttu- be far apart
      Utku akuttu-rut 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 *to. Some examples include Utkuhiksalik [natiq, nat’iq] floor from PE *nat’or floor
(Fortescue et al. 1994:220), and [t’it’iqqat] letters (<write, mark) from PE *nat’or mark (Fortescue et al.

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 *qac(c)uy scratch or dig claws into (Fortescue et al. 1994:294)
   WCI Cop qitsuk- scratch
   Utku qi[t-su]k-tauguma if I am scratched

ii. PE *yuknar- probably (Fortescue et al. 1994:437)
   SPI +yuŋnaq-, ụŋnaq- (after k, q), +suŋnaq- (after t) may, must have X-ed
   WCI +yuŋnaq-, ụŋnaq- (after k, q), +tuŋnaq- (after t) no doubt, probably, can
   Utku +yuŋnaq-, ụŋnaq- (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 *yuŋuma want to (Fortescue et al. 1994:436)
   WCI +yuma, +yuma (after k/q), +tuma (after t) want to
   Utku +yuma, +yuma (after k), +ruma (after q), +suma (after t) want to
   Utku tikit-suma-tuq s/he wants to arrive

c.f. Utku niri-yuma-ıuq s/he wants to eat

Finally, there is no contrast between /ts/ and /tt/ before /i/, where only one coronal sound varying between [tt'i ~ ts'i ~ tsi] occurs. /tsi/ is a reflex of PE *yyi, *c(c)i, *tci, and *t-yi (20). For example, PE *nayyi ringed seal became /natsiq/ seal in Utkuhiksalik (20.a).

20) /tsi/

a. PE *nayyi ringed seal (Fortescue et al. 1994:223)
   WCI natsiq seal
   Utku nalti[ti]q seal

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

c. PE *c(c)iroyar 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 *öi 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 qamititsiruq/qamit-tit-si-ıuq s/he puts out fire, light, etc.
In summary, Utkuhiksalik differs from Natsilik in that it maintains the PE contrast between 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 /tɾ/; for example, PE *itða cold became /iɾi-/ (21.a). *tð also underwent total assimilation to /ɾɾ/ in some instances (21.b).

21) [ɾɾ] clusters

a. PE  *itða cold (Fortescue et al. 1994:146)
   WCI  iyyi cold
   Net  iɾi¹⁶ cold
   Utku  iʔri-liq̓t̓uq the weather (or wind?) is very cold

b. PE  *katð meet (Fortescue et al. 1994:160)
   and PE  *daɾ repeatedly or habitually (Fortescue et al. 1994:396)
   cf. PE  kaðuy strike (with instrument) from *katðuy (katð plus ðuy) (Fortescue et al. 1994:151)
   Utku  qaʔri-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 ?+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 provided 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

<table>
<thead>
<tr>
<th></th>
<th>/<strong>C</strong></th>
<th>/labial__</th>
<th>/coronal__</th>
</tr>
</thead>
<tbody>
<tr>
<td>*c</td>
<td>—— 17</td>
<td>ps</td>
<td>ts</td>
</tr>
<tr>
<td>*y</td>
<td>—— 18</td>
<td>?y, Ci, vy</td>
<td>ts</td>
</tr>
<tr>
<td>*ð</td>
<td>ṭ</td>
<td>pṛ, (vy)</td>
<td>?ṛ, (ṛṛ)</td>
</tr>
</tbody>
</table>

*ð generally became /ṛ/ 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 (/v/ and /r/) 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 realized as [xx, ʃʃ], [xs], [χχ], and [χs] respectively. For example, PI *makcaq sing a baby to sleep became ma[ʃʃ]aq- or ma[xx]aq- sing a lullaby (23.a).

23) Reflexes of PE *kc *rc, *qc
a. PI *makcaq sing a baby to sleep (Fortescue et al. 1994:284-5)
   Utku ma[ʃʃ]aq- sing a lullaby
   Utku ma[xx]aiṛuq I sing a lullaby to a small child
b. PI *akcut hard or with effort (Fortescue et al. 1994:10)
   Utku a[ʃʃ]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 *arcar grab (Fortescue et al. 1994:41)
   Utku a[xx]\_\]aaq, a[xx]\_\]aaq grab

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

e. PI *iqci be afraid (Fortescue et al. 1994:142)
   WCI iqsi-, i\_\]i- be afraid
   Utku i[\_\]i\_\]rq s/he’s afraid

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

a. PI *k\_\]ky\_\]a\_\]y, k\_\]ky\_\]ar nail (Fortescue et al. 1994:167)
   WCI kikiak
   Utku kikiak

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

c. PE *p\_\]ky\_\]a\_\]y, p\_\]ky\_\]a\_\]y fly off (Fortescue et al. 1994:254)
   WCI piksik jump; bounce
   Utku piksik\_\]tuq it jumped, bounced

d. PE *an\_\]rya(C)ar take a breath (Fortescue et al. 1994:28)
   WCI ani\_\]a\_\]aq breathe
   Utku ani[\_\]x\_\]a\_\]aq, ani[\_\]x\_\]a\_\]aq pant
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5.3.3 Dorsals plus *D

Dorsal+* clusters display two types of reflexes, /s/ after proto-plosives (k, q) and /t/ after proto-continuants (γ, ω). PE *kό became /ks/ (25.a,b), and *qό 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], [Ś], [s’], or [c].

25) Reflexes of PE *kό, *qό

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

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

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.
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26) Reflexes of PE *γð

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

b. PE  *taȳd̄ar come up on shore (waves) (Fortescue et al. 1994:324)
   NAI  taȳzaq go up river
   Sig  taȳyaq go upstream
   Utku tak̄a-ū-γ̄ugut we travel away from water (i.e., away from the lake, sea, river)

c. PE  *uȳūuy bearded seal (Fortescue et al. 1994:360)
   WCI  uȳuyuk bearded seal
   Utku uk̄r̄uk bearded seal

Similarly, PE clusters with uvular continuants — PE *rð and r̄z — became /q̄/, with the proto-

27) Reflexes of PE *rð

a. PE  *ār̄ð̄a ash (Fortescue et al. 1994:41-2)
   NAI  ar̄za ash; gunpowder
   WCI  arīa ash
   Utku aq̄̄r̄āq gunpowder; ash
b. PI  *aržuk little (Fortescue et al. 1994:394)
   WCI    aryuk, +(r)yuk dear little
   Utku  qir-aqřuk (person’s name) from qiruk wood -aqřuk little

c. PE  *urður moss (Fortescue et al. 1994:381)
   Utku  uqrůq reindeer moss

As for pronunciation, in synchronic clusters with a plosive plus /r/, the plosive is generally voiced; as well, there is a lenis release between the plosive and the /r/, so that /kř/ is pronounced as [ɡr], and /qř/ as [ɡr].

### 5.4 Summary of the development of *D *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

<table>
<thead>
<tr>
<th>Intervocalic position /V___V</th>
<th>Post-consonantal (onset) position / C___</th>
</tr>
</thead>
<tbody>
<tr>
<td>*c /h/  *D/r#/ *y /y/</td>
<td>/labial +</td>
</tr>
<tr>
<td>Pre-consonantal (coda) position /___C</td>
<td>*c /ps/</td>
</tr>
<tr>
<td>*D+c         /r#/C/</td>
<td>*D/pr#/y/</td>
</tr>
<tr>
<td>Post-consonantal (onset) position / C___</td>
<td>*y /y, labial+y, vy/</td>
</tr>
<tr>
<td></td>
<td>/coronal +</td>
</tr>
<tr>
<td></td>
<td>*c or *y /ts/</td>
</tr>
<tr>
<td></td>
<td>*D//r#/q##</td>
</tr>
</tbody>
</table>

/dorsal plosive (k,q)+

* c /kh, ks, qh, qs/

* y /ki, qi/

* D/ks, qs/

/dorsal fricative (/y,r/)+

* c /kh, ks, qh, qs/

* y /ks, kh, qs, qh, Vi, Ri/

* D/kř#qř#
PE *c became /h/ intervocally, and it became /h/, s-like, or /s/ after consonants; PE *ð became /r#/ 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 allophonic 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 innovations, morphological restructuring, and reanalysis, “…different affixes with the same original 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 languages and dialects or one affix may split both semantically and morphophonemically in the same language.” (Fortescue 1992: 18; emphasis added). Synchronously, then, Eskimoan languages 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 *δ or *c often developed in the same (transparent) manner as in bases, *δ became /r/ and *c became /h/. In contrast, PE *y did not develop in a transparent manner in postbases at all.

Cases of transparent allomorphy involving *δ in postbases are illustrated in (30) and (31).

PE *δ often became /r/ in postbases; for example, the PI postbase *ližaq *have along with one* became /-lĩ̱raq/ *wear, be covered with* (the initial syllable can truncate) (30.a):

30) PE *δ-initial postbases develop into [r].

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 lĩ̱šar *have with one*; lĩ̱šaar *be wearing*  
   Utku -lĩ̱raq *wear, be covered with*  
   Utku apuʔ-raq-tuq *it’s buried in deep snow*

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

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

31) /rv/ clusters

a. PE *δviŋ or *viŋ place or time of* (Fortescue et al. 1994:398)  
   WCI +vik *place or time of*  
   Net +vik (preceding t becomes ź) *place or time of*
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with PE *aqva run (Fortescue et al. 1994:41)
Net aqpaaq *fetch
Utku aqpā- *race; run
Utku aqpār̲v̲ik; aqpav̲r̲ik a place to which people race; a base (in baseball)

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

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

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

a. PE *car 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 kappa-haari-tuq s/he causes someone to fear
   Utku ʁʁi-q-haari-tuq s/he causes someone to worry

b. PE *car go to get (Fortescue et al 1994.:394)
   WCI +hi- get, buy, find
   Utku -haq
   Utku qimatu-ha-r̲uma-nnaq I want to get the backfat, hide! (with qimatut backfat (raw
or cooked), or hide left behind)
   Utku piruq-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 ait−t−q-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, y] and [r]-initial allomorphs: PE *yuknaR probably became /-yuña/ (after vowels), /-yuñaq/ (after k), /-ruñaq/ (after q) and /-suñaq/ (after t).

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

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

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

Meanwhile, as example (34) illustrates, PE *y also became /s/ — rather than /ʃ/ or /r/ — after /k,q/:  

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

PE *yuy want or tend to (Fortescue et al. 1994:436)
   Sig +suq want to
   Net +huq, +yuq (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 *miq- compel to (Fortescue et al. 1994:412)
   CSY + miq- 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.\textsuperscript{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 *\delta also sometimes developed in a non-transparent manner. As shown in (35), several postbases with initial PE *\delta now have /s/-initial and /h/-initial allomorphs.

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

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

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

c. Utku ïri[xx]ïruq < ïriq-hi-\textit{ruq he is hiding something}

d. PE *tað-uv-\deltau \textit{that one (non-absolutive singular)} (Fortescue et al. 1994:451)
   NAI taav\textsuperscript{z}uma, taaf\textsuperscript{s}uma, taaptuma (Fortescue et al. 1994:480, 483)
   Utku taaps\textsuperscript{u}uma \textit{that (one, batch)}\textsuperscript{21}

\textsuperscript{20} An interesting alternative, however, is whether such apparently irregular historical changes can be explained by reference to the \textit{type} of postbase to which the *y-initial morpheme attached (and similarly for *\delta-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.

\textsuperscript{21} Isolated *labial-\delta clusters, notably some *v\delta clusters, became a /ps/ cluster with a \textit{rhotacized} /sl/ cluster in Utkuhiksalingmiutut. In such clusters, the /sl/ is consistently pronounced with a distinct rhotic quality as [ps\textsuperscript{r}] or [p\textsuperscript{r}].
In contrast, some *ð-initial postbases now have allomorphs beginning with /y/ or /t/ instead (36), while yet others have allomorphs beginning with /r/ or /t/ (37).

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

   PE  *ðar, *ðaq\textsuperscript{22} habitually or repeatedly (Fortescue et al. 1994: 396)
   WCI  +taq repeatedly
   Utku  -yaq (after vowels and deleting k), -raq (after deleting q), -taq (after non-deleting k, q) repeatedly
   Utku  qima-ga-i-\textsuperscript{22}unga I have left several (objects) behind; (from qimak leave several objects behind)
   Utku  qirgiq-taq-tuq he jumps repeatedly
   Utku  titi-raq-tuq he makes repeated marks; (from titiq mark; write)

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

   a. PE  *tu\textsuperscript{r}, ður intransitive participial (Fortescue et al. 1994: 397)
   WCI  -yuq, -tuq (after consonants)
   Utku  -ruq, -tuq (after consonants)
   Utku  ani-\textsuperscript{r}uq he went out
   Utku  ihiq-tuq he came in

   b. PE  *ðar passive participial (Fortescue et al. 1994:395-6)
   WCI  +yau transitive indicative passive
   Utku  \textsuperscript{r}aq (after vowels), taq (after consonants) transitive indicative passive
   Utku  aqpiu/-\textsuperscript{r}a-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) postbases.

\textsuperscript{22} This postbase probably had the alternants /tar-, taq-/ 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 summarized in (38).

38) PE *c, *ð, *y

<table>
<thead>
<tr>
<th>Environment</th>
<th>*D</th>
<th>*c</th>
<th>*y</th>
</tr>
</thead>
<tbody>
<tr>
<td>/V__V</td>
<td>ř</td>
<td>h, (hy, ts)</td>
<td>y (ts)</td>
</tr>
<tr>
<td>/__C</td>
<td>ř</td>
<td>——23 ——</td>
<td>—— ——</td>
</tr>
<tr>
<td>/ labial __</td>
<td>př, (vy)</td>
<td>ps</td>
<td>?y, Ci, vy</td>
</tr>
<tr>
<td>/ coronal __</td>
<td>?ř, (řř)</td>
<td>ts</td>
<td>ts</td>
</tr>
<tr>
<td></td>
<td>fricatives *yð, *rð —&gt; kř, qř (and intermediate sounds)</td>
<td>(and intermediate sounds)</td>
<td>fricatives *yγ, *rγ —&gt; [γγ], [χχ] also [ri]</td>
</tr>
</tbody>
</table>

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 /ɾ/, 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 /ɾ/ and /ɾ/, or /s/ and /ɾ/.

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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 /ɾ/ has more features than /s/: specifically, in addition to having [+continuant] which is shared by both /ɾ/ and /s/, /ɾ/ has the feature [-lateral] in order to distinguish it from /ɾ/ and /ɾ/. The change from /ɾ/ to /ɾ/ then, could be an example of lenition occurring in an environment where /k, q/ could not otherwise govern /ɾ/. (See Harris 1990, Rice 1992 for the relevant concepts of government.)
Third, PE *y has many reflexes in Utkuhiksalik, including /t, s, y, r, h/, and /i/. The /y/ reflex generally occurs only intervocally (but a /γ/ reflex also occurs postvocally). Otherwise, the /γ/ and /r/ reflexes tend occur after dorsals. Finally, a /t/ reflex typically occurs post-consonantly, 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, γ, and r). 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 /h/) 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, [v], rather than as a fricative (Maddieson and Ladefoged 322-326). (Variants of the marginal phonemes /s/ and /h/ are shown in square brackets in 39.)

In this context, it is interesting to note that there is always a lenis release between a plosive and a following /r/ 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 /r/ could not otherwise be governed by the preceding segment. In other words, it could be that /r/ is not generally governable by consonants in Utkuhiksalingmiutut, nor was it historically. The historical lenition of /r/ to /s/, and the synchronic, lenis release between plosives and /r/ could both be consequences of this property of /r/.
39) Utkuhiksalik phoneme inventory

<table>
<thead>
<tr>
<th>Obstruent</th>
<th>Plosive</th>
<th>Obstruent</th>
<th>Plosive</th>
<th>Obstruent</th>
<th>Plosive</th>
<th>Obstruent</th>
<th>Plosive</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>p</td>
<td>t</td>
<td>k</td>
<td>q</td>
<td>?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fricative</td>
<td>Y</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vl fricative</td>
<td></td>
<td>l</td>
<td>h</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>[s, ʃ, ʃ’, ç, ʃ’]</td>
<td>[h’, x, ɣ, x̂]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 /r/ 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 /r/ versus /y/ contrast, the presence of /s/ and [s]-like sounds appears to be unique to Utkuhiksalik.

8 References


Historical developments in Utkuhiksalik phonology
Carrie J. Dyck and Jean L. Briggs

Abstract

Utkuhiksalik is a Western Canadian Inuktun dialect closely related to Natsilik. In this paper, we examine the historical reflexes of Proto-Eskimoan (PE) *δ, *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 *δ and *y. In general, *δ has developed into /r/, a voiced rhotic that sounds similar to the /δ/ or /z/; in contrast, one of the main reflexes of *y is /y/. For example, intervocalic [ɾi] can be heard in Utkuhiksalik words such as [iɾi] 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 Utkuhiksalik, we demonstrate that PE *c developed into /s/ after consonants in Utkuhiksalik. It also developed into ‘s-like’ (fronted dorsal) sounds such as [x̌, ʃ], as well as into /h/ postconsonantally. 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.