2.0 THE HAISLA PHONEMIC SYSTEM

2.1 KITLOPE HAISLA AND KITIMAAT HAISLA

The brief description of the Haisla phonemic system which the present writers gave in an earlier publication (Lincoln and Rath, 1980: 25ff.) covers only Kitimaat Haisla and is to be replaced by the description to follow which, although primarily concerned with Kitlope Haisla, can be made to cover Kitimaat Haisla too through the system of rules set forth in section 2.7 below.

2.2 INVENTORY OF PHONEMES, PRELIMINARY PHONETIC DESCRIPTION OF THE PHONEMES, AND PRELIMINARY PHONOTACTIC DATA

The phonemes of Kitlope Haisla are as follows:

	obstruents				resonants	
	plosives			fricatives		
	plain	asp.	glott.		plain	glott.
labial	b	p	p̓		m	m̓
alveolar	d	t	t̓		n	n̓
alveolar affricate	z	c	c̓	s		
alveolar lateral	λ	λ̣	λ̓	ɬ	l	l̓
palato-velar	g	k	k̓	x	y	y̓
velar (rounded)	gʷ	kʷ	k̓ʷ	xʷ	w	w̓
uvular (rounded)	ǧʷ	qʷ	q̓ʷ	x̌ʷ		
uvular	ǧ	q	q̓	x̌		
laryngeal					h	h̓

other elements	
schwa	ə
reduplication boundary	:
juncture	.
glottalizing juncture	ʔ
accent	`

/sms/	/sm̥s/	/ṅt:ṅλyɫ/	/ṅt:ṅλiɫ/
/nyḣlh/	/niàla/	/chwỳlək̇ʷ/	/cawìlək̇ʷ/
/ṅyḣlh/	/ṅiàla/	/ṗhṗyẇḣ/	/ṗaṗiwà/
/mxh/	/mxa/	/bḣgʷhṅx̌ʷ/	/bàgʷaṅx̌ʷ/
/my:mxḣ/	/mi:mxà/	/lḣhwẏs/	/làawis/
/nẇym/	/nùym̥/	/x̌ḣlənhkʷlh/	/x̌àlənakʷla/
/tpwyḣlh/	/tpuyàla/	/bk̇ʷs.ṁnyx̌ʷ/	/bk̇ʷs.ṁṇix̌ʷ/
/dhlynỳx̌ʷ/	/dalinìx̌ʷ/	/bk̇ʷs.ḣḣnhɫ/	/bk̇ʷs.ḣànaɫ/
/cymḣnynwkʷ/	/cimàninukʷ/	/lḣqzwd.ẇs/	/làqzud.ẇs/
/dnm/	/dṇm̥/	/λhxλẇs/	/λaxλẇs/
/dnẇyhlh/	/dṇùyala/	/λhẇs/	/λaẇs/
/k̇yghwlmmhlḣs/	/k̇igaulm̥malàs/	/wỳ:wĺx.ḣyd/	/wì:wĺx.ḣid/
/ɫmhy/	/ɫṃai/	/wỳlx.ḣyd/	/wìlx.ḣid/
/myḣynyx̌ʷ/	/miàinix̌ʷ/	/ṅlzẇs/	/ṅḷzẇs/
/ḣnwwḣy/	/ḣṇuwài/	/hhx̌gẇs/	/hax̌gẇs/
/ṫṗynhy/	/ṫṗinài/	/ẇhcẇs/	/ẇacẇs/
/whwynḣwẏwh/	/wawinàuẏua/	/pẇh/	/pùa/
/cynhwḣwlm/	/cinawàulm̥/	/ẇṅys/	/ẇṇis/
/ćwćwəzwḣ/	/ćućuəzuà/	/zhzwṅḣ/	/zazúṇà/
/cwyək̇ʷ/	/cuyək̇ʷ/	/wĺylḣs/	/wḻilàs/
/k̇hglỳlək̇ʷ/	/k̇agḻilək̇ʷ/	/wy:wĺylḣs/	/wi:wḻilàs/

2.3 PRONUNCIATION RULES FOR OBSTRUENTS

2.3.1 General Articulatory Details. Phonetic Notation for Obstruents.

The plain plosives /b, d, z, λ, g, gʷ, ǧʷ, ǧ/ (see the inventory of phonemes in 2.2) are pronounced as lenis stops and affricates. They can be voiceless, in which case they correspond phonetically to [p, t, tˢ, tˡ, kʸ, kʷ, qʷ, q]. More usually, however, they have a slightly voiced quality; phonetically [p̬, t̬, t̬ˢ, etc.]. Thus, for instance, whereas the voiceless allophone [p] of Haisla /b/ is similar to the initial obstruent in French "pas", "pain" or the second obstruent in English "spring", the more frequent voiced allophone of /b/ is intermediate between the initial obstruents in French "pas" and "bas", "pain" and "bain". A peculiarity of /z/ is that before /i/ it can have a slightly palatal quality reminiscent of the initial obstruent of English "gin". Also somewhat special are /ǧʷ/ and /ǧ/ because they are occasionally articulated with a slight degree of affrication.

The aspirated and glottalized plosives are voiceless. The aspiration of the aspirated plosives gives the impression of voiceless lenis laryngeal friction in the case of /p, t, c/ (so that phonetically one has [pʰ, tʰ, tˢʰ]) and of lenis affrication in the case of /λ, k, kʷ, qʷ, q/ (phonetically [tˡ, kˣʸ, kˣʷ, qˣʷ, qˣ]). Glottalized plosives give the impression of lenis stops and affricates that are released with (mildly) explosive force due to keeping the glottis closed during

implosion to build up air pressure. They will be rendered phonetically as [p̓, t̓, t̓ˢ, t̓ˡ, k̓ʸ, k̓ʷ, ...]. It is a peculiarity of Haisla as opposed to the other North-Wakashan languages that an ...er has to be careful not to confuse an aspirated plosive and its glottalized counterpart, ...than a plain plosive and its glottalized counterpart. After an accented vocalic plain ...ant a glottal stop may precede an aspirated or glottalized plosive, and very occasionally ... fricative. Phonetically one thus has [ʔpʰ], [ʔtʰ], and so on. The release of this glottal stop ...ultaneous with the release of the plosive or fricative.

Just like the aspirated and glottalized plosives, the fricatives are all voiceless.

When releasing a palato-velar plosive or fricative, its palatal component can be audible ...short y-glide before vocalic resonants other than /i/ and /í/, particularly before /u, ú, a, ...The palatal component is not released before /i/ and /í/.

The rounded velars are articulated further back than the palato-velars, which makes ... difficult to distinguish from rounded uvulars. When releasing a rounded velar or a ...ded uvular, the rounding can be audible as a short w-glide before vocalic resonants other ... /u/ and /ú/, particularly before /i, í, a, á/. The rounding is not released before /u/ and

Consecutive obstruents and word-final ones can have variants not covered by the ...eding description, as will be set forth next.

...2 Consecutive Obstruents

Word-initial obstruents of any kind are always separated phonetically from a following ...truent by an anaptyctic vowel the timbre of which depends on the place of articulation of the ...truents it separates. The different timbres are listed in 2.4.3. For instance, between /t/ and ... of the word /tk̓s/ one hears the timbres [ə], [ɪ], and [ʌ];

With non-initial obstruents followed by another obstruent three types of case have to be ...tinguished:

a. Non-initial plain and glottalized plosives are separated phonetically from a ...lowing obstruent in the same way as their word-initial occurrences. For example, between /k̓/ ...d /s/ of the above-mentioned example /tk̓s/ one hears the same anaptyctic vowel [ɪ] as ...tween initial /k̓/ and /s/ of the word /k̓sg̓as/;

b. A non-initial aspirated plosive can be separated phonetically from a following ...struent by an anaptyctic vowel in the same way as a word-initial one. However, this vowel ...ay also reduce to a murmur or, occasionally, a brief pause or zero. These reductions of the ...aptyctic vowel can occur even if the aspirated plosive is morphophonemically speaking an ...serted replica of the word-initial phoneme (cf. /p̃apɬa/, which is the plural of /pàɬa/) or if, ...versely, the aspirated plosive is an original word-initial phoneme which has reduplicated itself ...rlier in the word (cf. /k̃iktà/, plural of /kta/). Furthermore, partial phonetic merger can

occur between a non-initial aspirated plosive and a following homorganic obstruent. For instance, the sequence /pb/ in /x̣ịpbtud/ and the sequence /td/ in /kàtdṃa/ can be pronounced as the voiceless implosive part of, respectively, a lenis bilabial stop and a lenis alveolar stop, which part is released with the degree of voicing that is the usual characteristic of plain plosives (see 2.2). Special cases are the (non-initial) sequences /ts/ and /ƛs/, and (non-initial) sequences consisting of any one of /k, kʷ, qʷ, q/ followed by /s/. They are detailed in 2.3.2.1;

c. Non-initial fricatives are in close phonetic contact with a directly following obstruent except when preceded by the reduplication boundary /:/ in which case they are pronounced with an anaptyctic vowel as word-initially. Thus, there is close transition from /s/ to /p̓/ in /pùspala/, for example, whereas in /si:spà/ an anaptyctic vowel [ə] occurs between /s/ and /p̓/ (see the chart in 2.4.3). Special cases are the (non-initial) sequences /ss/ and /ɫs/, and (non-initial) sequences consisting of any one of /x, xʷ, x̌ʷ, x̌/ followed by /s/; details in 2.3.2.1.

Since thus, basically, only non-initial fricatives not preceded by /:/ cluster phonetically with a following obstruent, the reader may wonder if it does not make better sense to posit as a general rule that *any* obstruent is separated phonetically from a following one by an anaptyctic vowel (allowing for some special cases), and to indicate the distinctive absence of such a vowel in the transcription by means of a juncture. For instance, /si:spà/ would become */sispà/ but, using the juncture /./, /pùspala/ would become */pùs.pala/. The problem then is, unfortunately, that not all the newly-created occurrences of /./ would convincingly be correlated with the boundary of a morpheme, at least not at the present state of our knowledge of North-Wakashan morphophonemics. Prudence therefore commands not to posit the rule in question.

2.3.2.1 *Special Sequences of Obstruents*

The aspirated plosive /t/ in the sequence /ts/, when neither word-initial nor preceded by /:/ (cf. /mtsduàla/, /q̓ùtsdúiɫ/) is occasionally separated phonetically from /s/ by a murmur (thus, [tʰₔs]), but usually it clusters phonetically with /s/ so that one hears [tʰs] while, in addition, the aspiration of /t/ can become inaudible to the effect that one hears a sequence [ts] or an affricate [tˢ]. (Phonetic note: in [ts] the release of [t] is not simultaneous with the friction of [s], while in [tˢ] it is; also, in [ts] the friction has greater duration than in [tˢ].) Note further that [tˢ] is also the voiceless variant of /z/, as explained above.

In the sequence /d.s/ the juncture /./ indicates the distinctive absence of an anaptyctic vowel (see 2.5.3). The sequence is pronounced [t̬s], [ts], [t̬ˢ], and [tˢ]; in practice it can be hard to tell which variant occurs. Note that the variants of /d.s/ include the variants of /z/.

The sequence /ss/, when neither word-initial nor preceded by /:/, is phonetically indistinguishable from /d.s/ and the transcriptional difference is morphophonemic. For instance, /gugʷàd.su/ "you have a house" features /d.s/ rather than /ss/ because it results from joining the 2nd person subject clitic /su/ to /gugʷàd/. Conversely /kʷịssu/ features /ss/ rather than /d.s/ because this same clitic /su/ has been joined to /kʷịs/.

In a sequence /ɬs/ that is neither word-initial nor preceded by /:/, the element /s/ is also ...en for morphophonemic reasons only. Phonetically this /s/ is indistinguishable from /d.s/ ...ss/. An example is /ǧʷàɬsu/ which results from joining the same clitic /su/ to /ǧʷaɬ/. The ...nts of /ɬs/ include (but are not coextensive with) the variants of /ɬz/ [ɬƛ']. The latter occurs ...instance in /mùziɬzis dunt/ ((roughly) "It is a name belonging to a chieftainess"), in which ...is an enclitic meaning "typical of, belonging to". The example was in fact dictated with a ... pause after /ɬ/.

The sequence /ƛs/, when neither word-initial nor preceded by /:/, can be pronounced ...as [t's], (b) in the same way as a sequence /ɬs/ (see above), or (c) in a way of which one ...ld not tell if it is (a) or (b). An example is /ǧʷàƛsu/ "you are going to finish".

Directly before /s/ there is no opposition between the aspirated plosives /k, kʷ, qʷ, q/ ... their respective homorganic fricatives /x, xʷ, x̌ʷ, x̌/, to the effect that one hears four ...ruents that are neither completely affricates nor completely fricatives, and that cluster ...netically with /s/. These four neutralization products are transcribed respectively as /k, kʷ, ...x̌/ because in the case of the velars the plosive element is (usually) dominant phonetically ...ereas with the uvulars it is the friction that is (usually) dominant. Thus,

/ks/ and /xs/	→	/ks/
/kʷs/ and /xʷs/	→	/kʷs/
/qʷs/ and /x̌ʷs/	→	/x̌ʷs/
/qs/ and /x̌s/	→	/x̌s/

...a few words, however, /xs/ is written instead of /ks/ because Gordon Robertson pronounced ...sistently with dominance of the palato-velar friction. The cases concerned are derivates from ... same root (no. 1415 in the Root List), for example /k̓ɫxsdus/, /k̓ɫxsmd/. A further ...culiarity of /ks/ is that in a sequence /mks/ (cf. /dmks/) the palatal component of the ...tralization product /k/ can be reduced so that one could easily mistake the latter for its ...nded counterpart. Aside from this case of /mks/, there can be a slight carry-over of the ...atal component of /k/ to the /s/ due to the coinciding of the release of the former and the ...et of the latter.

3.3 Word-final Obstruents

Word-final obstruents are never pronounced with any following phonetic vowel. They ...ve the following peculiarities:

1. Word-finally, plain plosives other than /d/ are usually voiceless and may in addition have ...nis aspiration. In other words, in this position their range of variation includes variants of ...pirated plosives. Examples, of which there are not many, are /ĥịz/, /c̓àyasλ/, /gig/, /c̓aǧ/. ...here are no attested cases of word-final /b, gʷ, ǧʷ/; on the absence of word-final /b/ in ...rticular see point 2b. below. Word-final /d/, on the other hand, occurs very frequently and ...hibits free variation between variants with and without voicing, and with and without lenis ...piration.

2a. Word-finally the aspirated plosives /c, ƛ, k, kʷ, qʷ, q/ are pronounced [s, ł, xʸ, xʷ, x̌ʷ, x̌] that is, as their respective homorganic fricatives, and writing an aspirated plosive rather than a fricative is a matter of morphophonemics. For instance, final /qʷ/ is written in /m̓ṇcqʷ/ but final /x̌ʷ/ in /łṃdx̌ʷ/ because joining certain diagnostic enclitics to the examples, for example th 3rd person subject clitic /i/, results in /m̓ṇcqʷi/ (with /qʷ/) and /łṃdx̌ʷi/ (with /x̌ʷ/). "Diagnostic", in this connection, means "occurring after any kind of obstruent". Note that there is an exception to the "fricativization" of word-final aspirated plosives, namely non-lexica words ending in a clitic /ƛ/ that (broadly) refers to the future, cf. /hṃsaƛ/ "going to eat". Thi particular instance of final /ƛ/ is pronounced [tⁱ] as in word-initial and word-medial positions.

2b. The aspirated plosives /p/ and /t/ lack a homorganic fricative in the system of phoneme (see the inventory in 2.2). Their word-final occurrences (cf. /x̌ʷłap/, /yuut/) can be similar phonetically to word-initial and word-medial ones (thus [pʰ], [tʰ]) but the aspiration can also be weak to the point that one hears [p, t], which are also voiceless variants of /b/ and /t/ respectively. In view of the absence of word-final /b/ (see point 1) it is worth pointing out that none of the cases of word-final /p/ can be a mis-recorded /b/ because the test with a diagnosti clitic such as /i/ (see 2a) reveals final /p/ and not /b/ in all the words ending in a bilabial non-glottalized plosive (cf. /x̌ʷłap/ - /x̌ʷłàpi/).

3. Word-final glottalized plosives are relatively rare. They call for no special comment. Examples are /ẃac̓/ and /łuq̓ʷ/, in which /c̓/ is pronounced [t̓ⁱ, ʔt̓ⁱ] and /q̓ʷ/ is pronounced [q̓ʷ, ʔq̓ʷ] (on the variants with [ʔ] see 2.3.1).

2.3.4 Other Details Concerning Obstruents

2.3.4.1 *Progressive Liprounding*

Directly after a rounded obstruent or consonantal /ẃ/, an unrounded uvular can optionally be pronounced with a slight degree of rounding. Examples are /ǧux̌ʷq̓s/, /ǧʷìǧʷx̌ṃ/ (pl. of /ǧʷìx̌ṃ/), /k̓ùk̓ʷx̌ƛala/, /kʷaẃx̌d/. Occasionally, this same progressive rounding affects palato-velars, in which case the dictionary gives two transcriptions; cf. /ẃaẃx̌ʷkawà/ and /ẃaẃx̌ʷk̓ʷawà/.

2.3.4.2 /s/ *Preceded by Accented* /ṇ/

If /s/ is preceded by accented /ṇ/ the release of the latter can cause a lenis plosive [t] t(be heard before /s/. This [t] always alternates with [ʔ] (post-accentual glottal stops are otherwise very rare before fricatives; see 2.3.1). For instance, /hṇs/ (with automatically accented /ṇ/) was recorded with [s], [ts], and [ʔs].