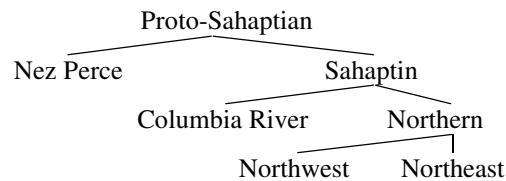# Reconstructing Proto-Sahaptian Sounds

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Sahaptin and the mutually unintelligible Nez Perce comprise the Sahaptian language family. This paper attempts to reconstruct the sound system of the parent language of that family. There is little dialect variation in the available data for Nez Perce, whereas Sahaptin divides into three definable dialect clusters: *Columbia River* (Umatilla, Tenino, Celilo, etc.); *Northwest* (Klickitat, Upper Cowlitz, Yakima, etc.); *Northeast* (Priest Rapids, Walla Walla, Palouse, etc.). Various features distinguish the dialects, e.g., long vowels derived from certain VCV sequences are more common in the Northern dialects and in Nez Perce, the Northeast dialects and Nez Perce are more likely to preserve the glottal stop, and the palatalization of *k is most extensive in the Columbia River dialects. The reconstructions proposed here are, as always, more or less tentative. Unless otherwise indicated the examples labeled Sahaptin (S) are from Umatilla.[1]

Figure 1. The Sahaptian language family

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1 Vowels

1.1 Basic vowel inventory

Proto-Sahaptian *i and *u survive intact in both Nez Perce and Sahaptin. Stressed vowels are lengthened in Nez Perce (though with some phonological caveats). Because of the complexity of Nez Perce phonology Nez Perce examples will be provided in underlying form between slashes.

Table 1. Proto-Sahaptian vowels

	Front	Central	Back
High	i	ɨ	u
Mid			o
Low	æ		ɑ

(1)   NP kíi /kí/ 'this'; S čí; PS *kí

(2)   NP kúut /kut/ 'going, doing'; S kút; PS *kút

Nez Perce contrasts two low vowels, /æ/ and /ɑ/, represented orthographically as /e/ and /a/.

(3)   NP táhay /tahay/ 'hardened snow'

(4)   NP téhey /tehey/ 'fur'

Sahaptin blurs the /æ/ - /ɑ/ contrast with one low vowel, /a/. Evidence for the contrast in Proto-Sahaptian is supplied by palatalization in Sahaptin (see §3.1).

(5)   S pčá 'mother'; NP píke /pke/; PS *pké

(6)   S skáwn 'fear'; NP cikáawn /ckáwn/; PS *skáwn

Nez Perce contrasts /u/ and /o/. There may be no test, however, that could prove that this distinction obtained (or didn't obtain) in Proto-Sahaptian. The reconstructions given in this paper assume that it did.

(7)   NP póhos, pohós- /pohos/ 'mountain mahogany, *Cercocarpus ledifolius*'; S púuš 'juniper, *Juniperus occidentalis*'; NE puʔúš; PS *pohóš

(8)   NP púhs , puhús- /puhs/ 'inner side of hide'; S púuš; NE puʔúš; PS *puhúš

PS *ɨ is assumed to have been epenthetic (see §1.4).

1.2   Long vowels

1.2.1   Lengthening under stress

Stressed vowels are lengthened in Nez Perce.

(9)   NP núusnu, nusnúu- /nusnu/ 'nose'; S núšnu; PS *núšnu

(10)   NP táaṁam, taṁáam- /<u>taṁam</u>/ 'egg'; S tamám; PS *taṁám

Lengthening does not occur in the environment /VʔV/ or /VhV/ (V = vowel).

(11)   NP súʔum, suʔúm- /suʔum/ 'master, pet'

(12)   NP tóhon, tohón- /tohon/ 'leggings'

High vowels (/i/ and /u/) do not lengthen before a morpheme boundary plus /y/ (or [y]).

(13)   NP kúy /ku-y/ 'go!' or 'do!'; cf. kúuse /ku-sen-s/ 'I am going'

(14)   NP hiʔníye /hi-ʔni-e/ 'he gave'; cf. ʔiníise /ʔni-sen-s/ 'I am giving'

1.2.2   Compensatory lengthening

An unstressed vowel lengthens in Nez Perce when a deleted /h/ follows after a morpheme boundary.

(15)   NP hiinúʔ /hi-hn-úʔ/ 'he will say'

(16)   NP peepúʔ /pe-hp-úʔ/ 'we shall eat'

1.2.3   Loss of medial consonant

Proto-Sahaptian *ewe becomes /uu/ in NP and sporadically so in Sahaptin (least common in CR and most commonly in NE). In Nez Perce *awa becomes /oo/.

(17)   NP kúus 'water'; NE & CR čúuš; K čáwaš; PS *kéweš

(18)   NP miyóoχat 'chief'; NE & CR miyúuχ; NW miyáwaχ;
       PS *miyáwaχ(ato)

Proto-Sahaptian *ene/*ele and *ana/*ala variously mutate to /aa/ in the Sahaptin dialects.

(19)   NW ƙ^waalí 'dangerous being'; CR ƙ^walalí; PS *ƙ^walalí

(20)   NE -twaa; CR -twana 'together with'; PS *-twenen

The sequence *eye or *aya variously simplifies to /aa/ in the Sahaptin dialects, and regularly to [ee] or [aa] in Nez Perce when unstressed.

(21)   S ččáa 'serviceberry'; Y ččáya; NP kikéeye /kkeye/; PS *kkéye

(22)   CR x̱^waamá 'golden eagle'; WS & N x̱^wayamá; PS *x̱^wayamá

(23)   NP weecéeye /weyece-e/ 'I danced'; weyéeces /weyece-s/ 'I have danced'

A medial glottal stop variously deletes in Sahaptin depending on position and dialect.

(24)   CR náamn 'wear out, fade away'; NE naˀámn; NP /laˀámn/; PS *naˀámn

(25)   CR kúuš 'thusly'; NE kuˀúš; NP kuˀús /kuˀús/; PS *kuˀúš

(26)   S yáamaš 'mule deer doe'; NP yeˀémes /yeˀemes/ 'black-tailed doe'; PS *yeˀémeš

A medial /h/ regularly deletes in Nez Perce when both vowels are unstressed.

(27)   NP ˀeexnúˀ /ˀe-hekn-úˀ/ 'I will see it'; ˀehékin /ˀe-hekn-s/ 'I have seen it'

(28)   NP hitoosíca /hi-<u>tohosn</u>-sen-s/ 'the fire is dying down'; hitohósin /hi-<u>tohosn</u>-s/ 'the fire has died down'

Proto-Sahaptian *VhV typically shortens to V (V = vowel) in Sahaptin (see §3.7).

(29)   S páp 'man's daughter'; NP páhap /<u>pahap</u>/; PS *páhap

(30)   S pínapam 'four times'; NP pilepéhem /pilepehem/; PS *pínepehem

In the NW dialects Proto-Sahaptian *eRe (R = resonant or glottal) variously becomes /ii/.

(31)   NW tíin 'person'; CR tanán; PS *tenén

(32)   Y číiš 'water'; K čáwaš; PS *kéweš

(33)   NW x̣ʷíimi 'up, above, high, up high'; CR x̣ʷáami; NE also x̣ʷayám;
         PS *x̣ʷeyémi

(34)   Y wásiis 'canoe'; CR wásas; PS *wéseʔes (< *wése 'ride' + purpose
         nominalizer *-ʔes)

Table 2. Ablaut in Sahaptin

Zero	Long Vowel
aa-ablaut	

Zero	Long Vowel
ɨwátn 'vanish'	áawat 'vanished'
p̓ɨx̣n 'remember'	p̓áax̣ 'remembered'
sc̓át 'night'	sáac̓at 'very dark'

ii-ablaut	
k̓pɨt 'bead'	k̓píit 'ball'
łk̓ʷí 'day'	łíik̓ʷi 'all day'
p̓ɨx̣n 'remember'	p̓íix̣ 'sober'

uu-ablaut	
kʷɨł 'that many/much'	kúułn 'be full, satiated'
k̓ʷɨln 'be soft'	k̓úul 'pounded fine'
mɨł 'how many/much?'	múuł 'a little, a few'

1.2.4   Ablaut

A long vowel might be inserted between consonants (or in substitution
for *ɨ) as a derivational process. In Sahaptin the long vowel is /aa/, /ii/, or /uu/,
as in Table 2. The process is fairly productive, the rarest being the uu-ablaut
and probably the most frequent the aa-ablaut. The uu-ablaut seems to occur
only next to a labiovelar or /m/. Often the zero form is a verb and the ablaut
form has an adverbial or adjectival force. There are instances, however, where
verbs are derived by ablaut (such as kúułn 'be full, satiated'). The oblique forms
of the independent pronouns variously fit these ablaut patterns—see Table 4 for
examples with the distal demonstrative (the absolute singular is a suppletive *kʷá*
'that'). An earlier *úk has been reanalyzed as /ɨkʷ/ in order to derive the first
example below (see §3.4). The second example provides an instance where /á/
has been reconceived as /ɨ/.

(35)   S čmáakʷ 'very black' (čmɨkʷ < čmúk 'black'); cf. NP símux /smuk/
         'charcoal'

(36)   S šáatɨm 'all summer' (šɨ́tɨm < šátɨm 'summer')

Table 3. Ablaut in Nez Perce

Zero	Long Vowel
aa-ablaut	
/c̣´kn/ 'be split, cut' (Aoki 1994:58); cf. S č̣íx̣n 'be cut, cracked, split'	hič̣áax̣ca /hi-č̣áax̣n-sen-s/ 'it is splitting' (Aoki 1994:61)
/k̓ppn/ 'be round' (Aoki 1994:266)	k̓apáap 'in a round manner' (Aoki 1994:265)
táyam /t´yam/ 'summer' (Aoki 1994:697)	táayamima /táayamima/ 'from in the summer' (Aoki 1994:697)
t̓átniṅ /t´tni'ns/ 'torn' (Aoki 1994:809)	t̓áat /t̓áat/ 'torn' (Aoki 1994:810)
/waqlp/ 'put the arms around' (Aoki 1994:384)	/waqláaptan/ 'hold in arms' (Aoki 1994:343)
wáẏat /wẏat/ 'far' (Aoki 1994:839); cf. S wíyat	/wáaẏatn/ 'go on guardian spirit quest' (Aoki 1994:839)
/x̣l´p/ 'open' (Aoki 1994:914) ; cf. S x̣lɨ́p 'open' (vi.)	x̣aláap /x̣láap/ 'slowly opened' (Aoki 1994:914)
ee-ablaut	
/'np/ 'get, take, hold' (Aoki 1994:1045); cf. S nɨ́p (bound)	/'néepten/ 'hold, keep, dominate' (Aoki 1994:1032)
ii-ablaut	
/tlqn/ 'stop' (Aoki 1994:673) (Aoki 1994:673)	talíix̣ /tlíiq/ 'still, quiet' (Aoki 1994:677)
/tpípi/ 'foam, be sudsy' (Aoki 1994:753)	tíipip /tíipip/ 'foam' (Aoki 1994:753)
oo-ablaut	
/q̇ʷł/ bound in /nkáq̇ʷłk/ 'remove' (Aoki 1994:611)	q̇óoł /q̇óoł/ 'slippingly' (Aoki 1994:611)
uu-ablaut	
/p´qʷn/ 'go separate ways' (Aoki 1994:560)	púux̣ /púuq/ 'scatteringly' (Aoki 1994:560)
qúx̣ /qʷ´q/ 'loose dirt' (Aoki 1994:598)	qúux̣ /qúuq/ 'powdery' (Aoki 1994:598)
/qʷ´qn/ 'raise dust, powdery snow' (Aoki 1994:598)	/qúux̣n/ 'be gray (of cloud)' (Aoki 1994:598)

The process is rarer in Nez Perce and harder to detect because vowels are lengthened under stress in that language. Included in the process are at least the examples in Table 3. There are also examples in Nez Perce where the second vowel in the sequence VhV is lengthened.

(37)   NP tehéem 'dark, empty (of a house)'; cf. /tehémn/ 'be dark (from smoke, fog)'

(38)   NP tohóos 'dim, dimming (of fire)'; cf. /tohosn/ 'be extinguished (of fire)'

A similar process lengthens a vowel in the sequence VʔV or VhV:

(39)   S qaʔáan (NP /<u>qaʔáṅis</u>/) 'respectful, well behaved'; cf. S qaʔánn (NP /<u>qaʔánn</u>/) 'respect, treat respectfully'

(40)   NP /tehéem/ 'dark, empty (of a house)'; cf. NP /tehémn/ 'be cloudy'.

(41)   S x̣ʷiʔíiɬ 'slippery'; cf. S x̣ʷíiɬn (NE x̣ʷiʔíɬn) 'slip on the ice'; NP x̣uysx̣úys /x̣ʷysx̣ʷ´ys/ 'slippery'; NP /x̣ʷysn/ 'slip on the ice'

(42)   NP /<u>tohóos</u>/ 'dim'; cf. NP /<u>tohosn</u>/ 'die out (of fire)'.

(43)   S puʔúuɬ 'blind'; cf. S púuɬn (NE puʔúɬn) 'be blind'

For some words, such as Sahaptin tílaaki 'woman' and Nez Perce x̣áx̣aac 'grizzly bear', though the reason for the long vowel may not be clear, it is likely the result of one of the above four sources for long vowels. If, for example, x̣áx̣aac /x̣´x̣aac/ is related to x̣éx̣es /x̣´x̣es/ 'greedy, grabby', it is likely the result of diminutive sound symbolism and ablaut (cf. S x̣áaš 'greedy'). Compare Crook (1996).

Table 4. Ablaut patterns in the distal demonstrative

	zero-ablaut	aa-ablaut	ii-ablaut	uu-ablaut
Absolute	kʷɨma 'those'		kʷiiní 'those two'	
Accusative		kʷaaná 'that' kʷaamanáy 'those'	kʷíinaman 'those two'	NW kuunák 'that' NW kuumanák 'those'
Genitive	kʷɨnmí 'of that'	kʷaamíin 'of those'	kʷiinamí 'of those two'	NW kuumínk 'of those'
Ergative Allative	kʷɨnɨm 'that' íkʷɨn 'to that'			
Versative		kʷáan 'toward that'		NW kuuník 'toward that'
Ablative Locative Instrumental	kʷɨni 'from that' kʷná 'in that' kʷɨnki 'with that'			
Distance		kʷáal 'that long/far'		
Quantity	kʷɨɬ 'that many/-much'			
Lateral	kʷníin 'on that side'			

1.3 Vowel harmony

Though only Nez Perce has vowel harmony, there is evidence that the phenomenon existed in Proto-Sahaptian. There are in Nez Perce two sets of vowels, a weak set and a strong set, as in Table 5. The vowel /i/ occurs in both sets.

Table 5. Vowel Harmony Sets

Weak		Strong	
i	u	i	o
e			a

Morphemes are inherently weak or strong (in this paper the underlying forms of Nez Perce strong morphemes are underlined). The process works forward and backward—any morpheme inherently strong causes all other morphemes in a word to be strong. See Aoki (1966), Rigsby & Silverstein (1969), and Rude (1996, 2006).

(44)   NP péeʔniye /pé-ʔni-e/ 'he gave it to him'; hiʔníyuʔ /hi-ʔni-uʔ/ 'he will give it'

(45)   NP páamčiya /pé-m̓či-e/ 'he heard him'; himčíyoʔ /hi-m̓či-uʔ/ 'he will hear'

Vowel harmony is related to the sound symbolism common to both languages. The following two examples share the same sounds except for the palatalization in the one and the switch of /n/ to /l/ the other. The one where palatalization was blocked is an example of diminutive sound symbolism.[2]

(46)   S wáaličanwi 'run downhill' < *weyélikenwi

(47)   S wáalikalwi 'sled downhill' < *wayálikanwi

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[2] The Sahaptian m ~ w contrast is not very productive. Most examples are cross dialectal, e.g., CR & NW ámtḵʷin 'overtake' versus NE áwtḵʷin and NP /hewtḵʷi/ (Aoki 1994:123); WS & Y tamaláw 'gravel' over against U & NE tamalám (NP /tamalam/) 'rocky bar in river'; Nez Perce méeywi ~ méeymi 'morning' and wéetmet ~ méetmet 'do not'; NP wíiteĺuu and NE mítalu 'mourning dove, *Zenaida macroura*'; NP cemíitx 'huckleberry, *Vaccinium membranaceum*' and the NP diminutive cawíitx 'Indian carrot, *Perideridia gairdneri*'. The NP cognate of S amúyn 'wave' is /héẇyn/ (hehéẇiine 'it was a wave' - Aoki 1994:124), cf. also NP ham̓óoyham̓oy 'flexible' (Aoki 1994:95). And then there is the Nez Perce exclusive núun 'we' which suggests *newen < *nemen (cf. CR & NE náma; NW namák). The Nez Perce gentilic -puu suggests earlier *-pewe < *-peme (cf. N -pam).

Table 6. Sahaptian Sound Symbolism

Nez Perce		Sahaptin		
Plain	*Diminutive*	*Plain*	*Diminutive*	*Augmentative*
m	w	m	w	
n	l	n	l	
s	c	š	s	ł
		č	c	λ̓
k	q	q	k	
x	x̣	x̣	x	
C	Ċ	C	Ċ	
e	a			
u	o	Note that C = consonant		

1.4   Epenthetic vowels

Barred i is epenthetic in Sahaptin—see Hargus & Beavert (2002a; 2002b; 2005). Unlike the other Sahaptin vowels, it does not have a long equivalent, occurs variously in the dialects (almost missing in Warm Springs) and is more or less predictable. It might carry morpheme inherent stress, but unlike the regular vowels it will delete when the stress comes off.

(48)   CR & NW łamtíx̣ 'head'; łamtx̣mí 'of the head'

(49)   NE ʔɨníkaaš 'I put it away'; paʔníka 'they put it away'

In Nez Perce the epenthetic vowel is phonetically [i]. Word initial consonant clusters are disallowed, and a vowel [i] which does not lengthen under stress is inserted.

(50)   NP píley /pley/ 'pestle'; S pnáy; PS *pnéy

(51)   NP síwe /swe/ 'forehead'; S šwá; PS *šwé

In words marked for strong vowel harmony the epenthetic vowel is [a]:

(52)   NP ʔáma /ʔma/ 'island'; S ɨmá; PS *ʔɨmá

(53)   NP páyos /pyos/ 'snake'; S pyúš; PS *pyóš

Next to a uvular consonant the vowel is [e] ([a] if marked for strong vowels).

(54)   NP méqeʔ /mqeʔ/ 'paternal uncle!' ; S míx̣a; NE míx̣aʔ; PS *mɨ́qeʔ

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(55)   NP qápqap /q̓pq̓p/ 'cottonwood'; S x̣px̣íp; PS *q̓ɨpq̓íp

Next to an underlying labio-velar or labio-uvular the epenthetic vowel is [u] (or [o] if marked for strong vowels).

(56)   NP núkt /nk̓ʷt/ 'meat'; S nɨk̓ʷít

(57)   NP súqu /squ/ 'river bank'; S šx̣ú

(58)   NP k̓ócac /k̓ʷcc/ 'pointed'; S k̓ʷsɨs

(59)   NP tók̓o /tk̓o/ 'tule'; S tk̓ú

Table 7. Nez Perce diphthongs

Weak Vowel Harmony	Strong Vowel Harmony
péews /pews/ 'tongue'	háawn /háwn/ 'rapids'
péeykt /péykt/ 'pipe stem'	máayx /mayk/ 'sand'
qíiwn /qíwn/ 'old man'	
múuyn /múyn/ 'steam, vapor'	póoy /póoy/ 'niece!'

1.5   Diphthongs

Sahaptin has four diphthongs: /aw/, /ay/, /iw/, /uy/. Nez Perce has the seven diphthongs illustrated in Table 7 which can be viewed as representative of Proto-Sahaptian.

(60)   PS *skáwn 'fear, be afraid'; S skáwn; NP cikáawn /ckáwn/

(61)   PS *k̓ỳéwnu 'gill, salmon gill'; S čyáwnu; NP kiỳéewnu /k̓ỳewnu/

(62)   PS *pawáy 'niece!' ('woman's brother's daughter'); S pawáy; NP póoy /póoy/

(63)   PS *ʔéyq 'white salmon'; NE áyx̣; NP ʔéeyx̣ /ʔeyq/

(64)   PS *ʔíwš 'urine'; S íwš; NP ʔíiws /ʔíws/

(65)   PS *tɨmšóy/*tamšóy 'ant'; S tamšúy; NP támsoy, tamsóoy- /tmsoy/

(66)   PS *ʔúykṅik 'further, yet more'; N úyknik; CR úykni; NP ʔúykiṅix /ʔúykṅik/

1.6 Breaking

There are some diphthongs in Nez Perce that do not lengthen under stress as expected, and which are reflected in Sahaptin cognates by a simple vowel. These Nez Perce diphthongs are assumed to reflect a vowel breaking, e.g., *u/*i to *ɨu/*ɨi to *ɨw/*ɨy to [iw]/[iy] and [aw]/[ay]. They are here represented underlyingly as /w/ and /y/ between consonants (or between a consonant and the end of a word). Some examples are provided in Table 8. Note that *yiḱíwn* / *ičún* and *ťáwn* / *ƛún* are imperfect matches, perhaps due to sound symbolic changes. Also NP *laymíwt* is marked for strong vowels yet has [iw] and not [aw].

Table 8. Breaking in Nez Perce

	Nez Perce	Sahaptin
ɨw ~ u	líwn 'burn'	lún 'burn'
	ḱíwn 'split apart'	ḱún 'be gathered'
	yiḱíwn 'shine (sun)'	ičún 'shine (sun)'
	laymíwt 'youngest'	láymut 'youngest'
ɨw ~ u	q̓ílawn 'turn head, look back'	q̓ínun 'see'
	q̓aláwn 'bead'	q̓lún 'be bald'
	sáwn 'be quiet'	súsun 'whisper'
	ťáwn 'guess in stick game'	ƛún 'guess in stick game'
ɨy ~ i	ciklíyn 'turn over, turn back'	sklín 'turn over, turn back'
	liklíyn 'go around'	nknín 'go around'
	ḱillíyn 'be bent, bend'	ḱlín 'bend (elbow, knee)'
ɨy ~ i	taḱáyn 'watch'	tḱín 'watch'
	takláyn 'exchange'	tknín 'twist (dogbane)'
	ḱassáyno 'elbow'	ḱášinu 'elbow'
	toláyn 'go upstream'	tunín 'go upstream'
	p̓áyn 'drain, ooze'	p̓ín 'drain, ooze'
	ʔástay 'needle, awl, metal'	ɨstí 'needle, awl, metal'
	ʔáys 'cow-parsnip'	íiš 'cow-parsnip'
	ʔayq (bound) 'wash'	íix̣n 'wash'
	sáyx̣sayx̣ '*Equisetum* spp.'	siikʷsíikʷ '*Equisetum* spp.'

2 Stress

Nez Perce and Sahaptin are syllable timed languages with three levels of stress. The orthographic traditions of both languages mark only primary stress with a secondary stress being considered more or less predictable. In Sahaptin all lexical morphemes have morpheme inherent stress. Some Nez

Perce words also have morpheme inherent stress, which generally is the same as for the Sahaptin cognate.

(67)　　NP tuẏé, tuẏée- /tuẏé/ 'blue grouse, *Dendragapus obscurus*'; CR & NE tuyá; PS *tuẏé

(68)　　NP yáakaʔ, yáakaʔ- /yákaʔ/ 'black bear, *Ursus americanus*'; S yáka; PS *yákaʔ

　　　　For Nez Perce words without inherent stress, the stress is on the penultimate vowel if the word ends in a vowel or single consonant.

(69)　　NP núusnu, nusnúu- /nusnu/ 'nose'; S núšnu; PS *núšnu

(70)　　NP táaṁam, taṁáam- /taṁam/ 'egg'; S tamám; PS *taṁám

Nez Perce penultimate stress can be borne by an epenthetic vowel. This might be the vowel that breaks up word initial consonant clusters.

(71)　　NP páyos, payóos- /pyos/ 'snake'; S pyúš; PS *pyóš

(72)　　NP x̣éx̣us, x̣ex̣úus- /x̣x̣us/ 'green'; S x̣íx̣uš; PS *x̣íx̣uš

(73)　　NP tíwe, tiwée- /twe/ 'tepee pole'; S twá; PS *twé

(74)　　NP tók̇o, tok̇óo- /tk̇o/ 'tule, *Schoenoplectus acutus*'; S tk̇ú; PS *tk̇ó

(75)　　NP súqu, suqúu- /squ/ 'river bank'; S šx̣ú; PS *šqú

Penultimate stress might also be born by an epenthetic vowel in a medial cluster of sonorant and/or ejective obstruents.

(76)　　NP ʔaláwa, ʔalwáa- /ʔalwa/ 'bison yearling'

(77)　　NP siléq̇is, silq̇íis- /silq̇is/ 'wet'

(78)　　NP himíyu, himyúu- /himyu/ 'relative'

(79)　　NP hatók̇ic, hatk̇íic- /hatk̇ʷic/ 'difficult'; S aťúk; PS *haťík̇ʷ(-ʔic)

(80)　　NP ʔistúk̇es, ʔistuk̇ées- /ʔistk̇ʷes/ 'guest, visitor'

There is no epenthesis with /ʔ + n/ or with a sonorant and /s/.

(81)   NP qúˀnes, quˀnées- /quˀnes/ 'condor'

(82)   NP háaslam, hasláam- /haslam/ 'flea'

Stem final clusters are likewise broken up to carry penultimate stress.

(83)   NP páaps, papás- /paps/ 'Douglas fir'; S pápš; PS *pápš

(84)   NP téeqt, teqét- /teqt/ 'northern flicker'; S táx̱t; PS *téqt

(85)   NP píips, pipís- /pips/ 'bone'; S pípš; PS *pípš

(86)   NP tátx, tatóx- /ttkʷ/ 'spotted fawn'

(87)   NP púhs, puhús- /puhs/ 'meaty side of hide'; S púuš; NE puˀúš;
         PS *puhúš

Words without inherent stress that end in a consonant cluster stress the final
vowel.

(88)   NP qiláasx̱, qilasáx̱- /qilasq/ 'otter'

(89)   NP kikéˀt, kikeˀét- /kikeˀt/ 'blood'

(90)   NP tewlíikt, tewlikít- /tewlikt/ 'tree'

(91)   NP nacóˀx̱, nacoˀóx̱- /nacoˀq/ 'salmon'

(92)   NP silúuqs, siluqús- /siluqs/ 'saliva'

         Morphemes with inherent stress follow a stress hierarchy (suffix ⊂
prefix ⊂ root):

(93)   S itkʷáta /i-tkʷáta/ 'he has eaten'

(94)   S pátkʷata /pá-tkʷáta/ 'he has eaten it'

(95)   S patkʷatałá /pá-tkʷáta-łá/ 'cannibal'

(96)   NP hipáayna /hi-páyn-e/ 'he arrived'

(97)   NP hiˀnáhpayka /hi-ˀnék-páy-k-e/ 'he brought (it)'

(98)   NP paˀnahpaykóoya /pé-ˀnék-páy-k-úu-e/ 'he brought it to him'

Many Nez Perce verbs lack morpheme inherent stress, though probably not as large a percentage as nouns. An epenthetic vowel may carry penultimate stress. This may be the vowel that breaks up an initial consonant cluster.

(99)   NP máċis /mċi-s/ 'I have heard'; himċíya /hi-mċi-e/ 'he heard'

(100)   NP wíċes /wċe-s/ 'I have become'; hiwċéeye /hi-wċe-e/ 'he became'

It may be word internal.

(101)   NP lamális /lamli-s/ 'it (snow) has melted'; lamlíisa /lamli-sen-s/ 'it (snow) is melting'

(102)   NP teṅíwes /teṅwe-s/ 'I have spoken'; teṅwéese /teṅwe-sen-s/ 'I am speaking'

(103)   NP hewtúk̓is /hewtk̓ʷi-s/ 'I have overtaken'; hewtuk̓íise /hewtk̓ʷi-sen-s/ 'I am overtaking'

With nouns (as we have seen above) stem final penultimate epenthesis occurs in the environment C_C+CV; with verbs it is in the environment C_+CV.

(104)   NP nekíse /nek-sen-s/ 'I am thinking'; néeke /nek-e/ 'I thought'

(105)   NP misemíse /msem-sen-s/ 'I am lying'; miséeme /msem-e/ 'I lied'

Unlike with nouns, verb stem final penultimate epenthesis is never with [a], nor is an unstressed epenthetic vowel that breaks up an initial consonant cluster ever [a].

(106)   NP watikíse /watik-sen-s/ 'I am stepping'; watíika /watik-e/ 'I stepped'

(107)   NP miċíise /mċi-sen-s/ 'I hear'; cf. máċis /mċi-s/ 'I have heard'

3   Consonants

The consonants in Table 9 are phonemic either in Nez Perce or in Sahaptin and (perhaps with the exception of the glottalized resonants m̓, n̓, l̓, w̓, y̓ and perhaps the č – c distinction) represent the consonant system of Proto-Sahaptian.

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Table 9. Sahaptian consonants

p	t	ƛ	c	č	k	kʷ	q	qʷ	ʔ
ṗ	ť	ƛ̓	c̓	č̓	k̓	k̓ʷ	q̓	q̓ʷ	
		ł	s	š	x	xʷ	x̣	x̣ʷ	h
m	n	l							
m̓	n̓	l̓							
w			y						
w̓			ẏ						

3.1   Palatalization

In Sahaptin, PS *k and *k̓ are palatalized before a front vowel. The front vowel may be obscured by further sound changes.

(108)   S čí 'this'; NP kíi /kí/; PS *k̓í

(109)   S pčá 'mother'; NP píke /pke/; PS *pɨké

(110)   S ččáa 'serviceberry, *Amelanchier utahensis*'; Y ččáya; NP kikéeye /kkeye/; PS *kkéye

(111)   S čanúwit 'weaving'; NP ken̓íwit /ken̓wit/; PS *ken̓ɨwit

(112)   S čúuš 'water'; K čáwaš; Y číiš; NP kúus /kúus/; PS *kéweš

(113)   S ánča 'again'; NW ánač̓a; NP héenek̓e /hének̓e/; PS *hének̓e

(114)   S ł̓čápa 'rose hip'; cf. S šk̓apášway 'rose bush' (PS *ł̓k̓épe; *šk̓apášway)

In some Sahaptin examples there is both palatalization and diminutive sound symbolism.

(115)   S sc̓átn 'be dark, be night'; NP cik̓éetin /ck̓étn/; PS *sk̓étn

(116)   S c̓swín 'curve around, turn back'; NP k̓icwíin /k̓cwín/; PS *k̓ɨswín

It is possible that the following does not indicate the recent inception of palatalization, but rather represents an analogical change based on čá- 'with the teeth, etc.'

(117)   S čalámat 'pipe' (from Canadian French *calumet*); NP keléemet /kelemet/

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PS *k and *ḱ are preserved before a back vowel.

(118)   S yáka 'bear'; NP yáakaʾ /<u>yákaʾ</u>/; PS *yákaʾ

(119)   S kúmkum 'salmon head or jaw cartilage'; NP kúumkum /kumkum/

(120)   S ḱášinu 'elbow'; NP ḱassáyno /<u>ḱassyno</u>/; PS *<u>ḱášširyno</u>

(121)   S ḱuštáyn 'guess wrong (in bone game)'; NP ḱúuxsteyn /ḱúxsteyn/;
         PS *ḱúxsteyn

Progressive palatalization occurs in the CR dialects.

(122)   CR anwíčt 'year'; N anwíkt

(123)   CR ɨwíč 'cut up for drying'; N ɨwík; NP /hwik/

(124)   CR tináynačt 'sunset, moonset'; N tináynakt; NP tiṅeynéekt /tiṅeynékt/

(125)   CR waníčt 'name'; N waníkt; NP weʾníikt /weʾnikt/

(126)   CR wáyč 'cross'; N wáyk; NP /wéyik/

(127)   CR wapsíc 'braid (rope)'; Y wapsík

There is palatalization before the epenthetic vowel except when the morpheme is marked for strong vowel harmony (as indicated in Nez Perce cognates).

(128)   S číımti 'new'; NP kímti /kmti/; PS *kíimti

(129)   S ɨščíit 'trail, road'; NP ʾískit /ʾskt/; PS *ʾiškíit

(130)   S kkíim 'full'; NP kakmám /<u>kkm´m</u>/; PS *<u>kɨkíim</u>, *<u>kɨkmíim</u>

(131)   S ḱíiplač 'war club'; NP ḱáplac /<u>ḱplac</u>/; PS *<u>ḱíiplač</u>

3.2   Palatals and sibilants

Though most examples of Sahaptin č results from palatalization, PS *č seems to have survived in a few Sahaptin words where it was weakened to /s/ in Nez Perce.

(132)   S čmúk 'black'; NP símux /smuk/ 'charcoal'; PS *čmúk 'charcoal'

(133) S qčáqn 'open the mouth'; NP /qseqn/; PS *qčéqn

(134) S ččúu 'quiet, still'; NP /sʼwn/ 'be silent, absent'; PS *(č)čɨ́w(n)

There are also a few examples where Sahaptin č corresponds to Nez Perce c̓.

(135) S čč̓áal 'noisy'; NP cic̓ál /cc̓ɨ́l/; PS *čč̓ɨl/*čč̓áal

(136) NE čáyn 'jump'; NP /weyec̓éyn/; PS *č̓éyn

(137) S čx̣íix̣ 'curly, kinki'; NP cax̣ax̣c̓áx̣ax̣ /c̓x̣x̣c̓´x̣x̣/; PS *č̓ɨ́x̣ɨx̣/*č̓x̣íix̣

Table 10. Sahaptian sibilants

Nez Perce	Sahaptin	Proto-Sahaptian
s	č	*č
c̓	č̓	*č̓
s	š	*š
c	s	*s
s	ƛ	*ƛ
c̓	ƛ̓	*ƛ̓
s	ł	*ł

The diminutive of /č/ is /c/ in Sahaptin, whereas in Nez Perce /c/ is the diminutive of /s/.

(138) S cɨ́mti 'brand new'; cf. čɨ́mti 'new'

(139) NP cimúuxcimux /cmuk-cmuk/ 'black'; cf. símux /smuk/ 'charcoal'

Nez Perce does not distinguish /š/ from /s/ (rather the upriver dialect has only /s/ and the downriver dialect has only /š/). The following examples point to PS *š.

(140) S šíš 'mush'; NP síis /sís/; PS *šíš

(141) S šɨ́šaa 'freeze'; NP /s´c̓e/; PS *šɨ́šeʔe

(142) S šɨ́šaaš 'porcupine, *Erethizon dorsatum*'; NP sác̓as /sc̓as/; PS *šɨ́šaʔaš

(143) S šíki 'badger, *Taxidea taxus*'; NP síiki̓ /síkiʔ/; PS *šíkiʔ

(144) S šq̓íiš 'shade'; NP sáq̓is /sq̓is/; PS *šq̓íš/*šq̓íiš

(145) S šwá 'forehead'; NP síwe /swe/; PS *šɨ́šeʔe

(146) S šwáťaš 'cloud'; NP siẇéetsiẇet /sẇetsẇet/ 'dark, twilight'; PS *šẇét-

In some instances Sahaptin /š/ corresponds to Nez Perce /c/. Diminutive sound symbolism may be involved in Nez Perce.

(147)　S šúkʷa 'know'; NP /cúkwen/; PS *šúkwen (cf. S šúk & NP /suk/ 'recognize')

(148)　S šwáx̣ 'opposite sex cross-generational in-law'; NP ciwáaqo /cwáqo/; PS *šwáqo

(149)　S áš 'enter'; NP /ʔác/; PS *ʔáš

Mostly Sahaptin /s/ corresponds to Nez Perce /c/.

(150)　S sawítk 'yampah, *Perideridia gairdneri*'; NP cawíitx /cawitk/; PS *sawítk

(151)　S síwsiw 'Lewis' woodpecker, *Melanerpes lewis*'; NP cíiwciw /ciwciw/; PS *síwsiw

(152)　S sɨ́may 'whitefish, *Prosopium williamsoni*'; NP címey /cmey/; PS *sɨ́mey

(153)　S sċát 'night'; NP cik̓éetin /ck̓étn/; PS *sk̓ét-

(154)　S skáwn 'fear'; NP /ckáwn/; PS *skáwn

(155)　S sklín 'turn, return'; NE sclín; NP /ckl´yn/; PS *sklín

　　　Sahaptin /ł/ corresponds to Nez Perce /s/. This may represent a Proto-Sahaptian *ł.

(156)　S łayłáy 'impetigo, boil'; NP sáhay /sahay/ 'sore, measles'; PS *łáhay

(157)　S łíitk 'nasal mucus'; NE łiʔítk; Y łíiťk; NP síit /síit/; PS *łiʔítk

(158)　S łłáwn 'leak, srip'; NP /sséwn/; PS *łłéwn

(159)　S łṗúł 'tears'; NP síṗus /sṗus/; PS *łṗúł

(160)　NE íł 'your mother'; NP ʔiṁíis /ʔṁ-ʔís/; PS *ʔɨṁʔíł

(161)　S -wáakuł 'similar to'; NP -wéekuʔs /-wéekuʔs/; PS *-wéekuʔł

(162)　S łáyłayit 'sores, measles, pox, small pox'; NP saháywit /saháywit/ 'smallpox'

Sometimes Sahaptin /ł/ corresponds to a Nez Perce diminutive /c/.

(163) S łayłáy 'impetigo, boil'; NP cahaycáhay /cahaycáhay/ 'measles'; PS
       *łahayłáhay

(164) S míł 'how many/much?'; NP mác /mʹc/; PS *míł

(165) S x̣ʷíłx̣ʷł 'meadowlark, *Sturnella neglecta*'; NP qócqoc /qʷcqʷc/;
       PS *qʷiłqʷíł

(166) S łk̓ʷí 'day'; NP /ck̓w/ 'day or night' (bound); PS *łk̓íw/*łk̓ʷí

(167) S łq̓úp 'move about, wriggle' (Jacobs 1937:31.32.3, pg. 77); NP /cʹq̓op/
       'cling' (Aoki 1994:51); PS *łq̓óp

(168) NE íła 'mother!'; NP ʔíice /ʔíce/; PS *ʔíłe

Nez Perce /ł/ is somewhat rare. It is possible that PS *ł disappeared in Nez
Perce only to be borrowed back.

(169) NP łéepłep /łepłep/ 'butterfly'

(170) NP łíik̓is /łik̓is/ 'dirty'

(171) NP łiťáan 'bitterroot, *Lewisia rediviva*'

(172) NP łiťeʔłíťe /łťeʔłʹťeʔ/ 'flat'

(173) NP łiłípłiłip /łiłʹpłiłp/ 'ribbon'; U łiłípłiłip

(174) NP q̓ełq̓éł /q̓łq̓ʹł/; k̓ałk̓áł /k̓łk̓ʹł/; S q̓iłq̓íł 'crackers'

(175) NP táaqmaał /táqmaał/; S táqmaał 'hat'; Klamath daqmil (Barker
       1963); from Jargon

       The lateral affricate /λ/ does not occur in Nez Perce and is rare (as a
nonejective) in Sahaptin. It is found word initially in λqʷítn 'catch, grab', λúpn
'jump', λx̣áat 'tame, domesticated', and in a few more examples. Sahaptin /λ/
and /ł/ are augmentative variants of the Sahaptin palatals and might also
substitute for one another.

(176) S pλík 'spicy, hot'; płíx̣ 'medicine'; ṗísx 'sour'; NP pisák̓is /psk̓is/
       'spicy, hot'; písqu /psqu/ 'leaf'; písx̣ /psq/ 'deer tick'

(177)   S ƛayƛáy 'jingling, ringing'; cáycay (sound of rattlesnake);
        NP caycayálas /caycayĺas/ 'rattlesnake rattles'

(178)   S łmáma 'old woman'; NE šmaawíš; asmaawitúma (plural)

(179)   S q̓úx̣ł 'knee'; k̓uxsk̓úxs 'ankle'

(180)   S ƛamáy 'hidden, covert' (Jacobs 1937:16.9.4, pg. 30); łáamay 'lost,
        disappeared, vanished'; łamáyn 'be lost, disappear'

Sahaptin /ƛ̓/ is not as rare as /ƛ/. In a few examples it corresponds to Nez Perce
/c̓/ (there are not as many cognates as might be expected).

(181)   S ƛ̓íkn 'be cut, split, cracked'; NP /c̓´kn/ (Aoki 1994:58); PS *ƛ̓íkn

(182)   S ƛ̓wáyn 'be stiff, rigid'; NP /c̓wéyn/ (Aoki 1994:75); PS *ƛ̓wéyn

(183)   S ƛ̓ín 'fall dead or unconscious'; NP /c̓ill´yn/; PS *ƛ̓ín

Sahaptin /ƛ̓/ appears to result from /ƛ + ʔ/ in the following.

(184)   S ƛ̓iyáwi 'die'; NP /caʔyáwi/ 'die' (Aoki 1994:13);
        PS *ƛaʔyáwi/*ƛʔayáwi

In at least one instance Sahaptin /ƛ̓/ corresponds to Nez Perce /t̓/.

(185)   S ƛ̓ún 'guess right in stick game'; NP /t̓´wn/

3.3   The velar-uvular distinction

Both languages distinguish /k/ from /q/, the latter being more common
in Nez Perce than in Sahaptin.

(186)   S kú 'do'; cf. S qú 'heavy'

(187)   NP kikéʔt /kkeʔt/ 'blood'; cf. NP qeqéʔt /qqeʔt/ 'comb'

(188)   NP kahál /kahál/ 'that long'; cf. NP qáhas /qahas/ 'milk'

(189)   NP kéetis /ketis/ 'leister spear'; cf. NP qéetqet /qetqet/ 'duck'

(190)   NP kíi /kí/ 'this'; cf. NP qíiwn /qíiwn/ 'old man'

(191)   NP kóox̣ /ku-qa/ 'I do'; cf. NP qóotqot /qotqot/ 'short feather, down'

(192)   NP kúus /kúus/ 'water'; cf. NP quusqúus /quusqúus/ 'blue gray'

Word final *k was spirantized in Nez Perce.

(193)   NP símux /smuk/ 'charcoal'; S čmúk 'black'; PS *čmúk

(194)   NP ʔíitx /ʔítk/ 'woman's sister's son'; N ítk; CR ítt; PS *ʔítk

Word final *q and *x̱ were merged in both Nez Perce and Sahaptin and it is thus mostly impossible to determine where they may have contrasted.

(195)   NP ʔéeyx̱ /ʔeyq/ 'chum, dog or white salmon, *Oncorhynchus keta*; post-spawning salmon' (cf. NP ʔeyqíin /ʔeyq-iins/ 'having chum salmon'); NE áyx̱; PS *ʔéyq ~ *ʔéyx̱

(196)   NP sáṁx̱ /sṁq/ 'shirt, clothing' (cf. NP saṁqíin /sṁq-iins/ 'having a shirt'); S šɨ́mx̱ 'shirt, shell dress, buckskin dress'; PS *šɨ́mq ~ *šɨ́ṁx̱

Spirantization also occurs before a resonant.

(197)   NP héexne /hekn-e/ 'I saw'; héekin /hekn-s/ 'I have seen'

(198)   NP číix̱ne /číqn-e/ 'I spoke'; číiqin /číqn-s/ 'I have spoken'

Nez Perce /q/ can be assumed to represent PS *q, which was mostly merged with /x̱/ in Sahaptin.

(199)   NP qéetqet /qetqet/ 'generic duck, mallard, *Anas platyrhynchos*'; S x̱átx̱at; PS *qétqet

(200)   NP qóoqox̱ /qoqoq/ 'raven, *Corvus corax*'; S x̱úx̱ux̱; PS qóqoq

(201)   NP ʔísqi /ʔsqi/ 'pine pitch'; S ɨšx̱í; PS *ʔɨšqí

(202)   NP súqu /squ/ 'river bank'; S šx̱ú; PS *šqú

Proto-Sahaptian *x̱, though less common than *q, seems to be preserved in the following.

(203)   NP x̱aláp /x̱lˊp/ 'open'; S x̱lɨ́p; PS *x̱lɨ́p

(204)   NP x̱éx̱us /x̱x̱us/ 'green'; S x̱ɨ́x̱uš; PS *x̱ɨ́x̱uš

(205)   NP x̣éx̣es /x̣´x̣es/ 'greedy'; S x̣áaš; PS *x̣ɨ́x̣eš/*x̣éeš (perhaps these
         relate to one another via ablaut and reanalysis)

(206)   NP x̣émt̓uy /x̣mt̓uy/ 'caddisfly larva (Trichoptera)'; S x̣ɨmt̓úy;
         PS *x̣ɨmt̓úy

(207)   NP wéex̣pus /wex̣pus/ 'rattlesnake'; S wáx̣puš; PS *wéx̣puš

(208)   NP páax̣at /páx̣at/ 'five' (cf. NP paqáham /paqáham/ 'five times');
         S páx̣at; PS *páx̣at

Exceptions are likely due to borrowing—e.g., the following appear to have been
borrowed into Sahaptin.

(209)   S qaʔánn 'respect'; cf. NP /qaʔánn/

(210)   S qaʔáx̣n 'have a sore throat, laryngitis'; cf. NP /qaʔáqn/

(211)   S qalámqalam 'lodgepole pine, *Pinus contorta*'; cf. NP qalámqalam
         /ql´mqlm/

(212)   NE qáap 'wild cat, bobcat, *Lynx rufus*'; cf. NP qéhep /qehep/

(213)   U qúʔiš 'wealthy'; cf. NP qúuy̓s /qúʔis/

         In sound symbolism (see Table 6), Sahaptin /k/ and /k̓/ are diminutive
variants of /q/ and /q̓/, whereas in Nez Perce /q/ and /q̓/ are diminutive variants
of /k/ and /k̓/.

(214)   S káł 'maternal grandmother'; cf. NP /qác/

(215)   S lákas 'mouse'; cf. NP láaqac /laqac/

(216)   S lak̓isá 'out on the end'; cf. S náq̓i 'finish, complete' (bound root)

(217)   NP ciq̓áamqal /cq̓ám-qal/ 'dog'; cf. NP sík̓em /sk̓em/ 'horse'

The velar [x̣] (as opposed to the uvular [x̣]) is rare in Sahaptian; that is, except
for the spirantization of /k/ in Nez Perce (see above). The velar spirant as a
diminutive equivalent of the uvular was more or less productive in the speech of
Inez Spino Reves, primary Umatilla informant of the author. Perhaps the same
could be said for Y *xyáaw* 'dry' (Beavert and Hargus 2009).

3.4   Laviovelars/uvulars

Sahaptin has a full set of labiovelar/uvular obstruents, namely: kʷ, qʷ, ḵʷ, q̓ʷ, xʷ, x̱ʷ.

(218)   S kʷáy 'in that direction'

(219)   CR ḵʷáy 'that'

(220)   S qʷɨ́tni 'stuck'

(221)   S q̓ʷáaš 'obstinate, bull headed'

(222)   S xʷɨ́saat 'old man'

(223)   S x̱ʷáami 'above'

These might also stand before another consonant or at the end of a word.

(224)   S sayáykʷ 'sand'

(225)   S ḵʷmɨ́l 'too late'

(226)   S qʷninqʷninɬá 'peddler'

(227)   S q̓ʷɬtɨ́p 'strong'

(228)   S sɨ́t̓xʷs 'wild hyacinth, *Triteleia hyacinthina*'

(229)   S ƛ̓áax̱ʷ 'all'

There are no surface labiovelar/uvulars in most Nez Perce dialects. But that they are there underlyingly or were there historically is evident in the following contrasts.

(230)   NP tukelíixne /tkʷelíkn-e/ 'I hunted (big game)'; hitkulíixne /hi-tkʷelíkn-e/ 'he hunted'

(231)   NP tukéeyiye /tkʷéyi-e/ 'mine lay there'; hitkúuyiye /hi-tkʷéyi-e/ 'it lay there'; S tkʷáyi

(232)   NP tukepelikéeceye /tkʷepelikéce-e/ 'I signed/voted'; hitkupelikéeceye /hi-tkʷepelikéce-e/ 'he signed/voted'; S tkʷapaničáša

(233)   NP tuk̓méene /tk̓ʷmén-e/ 'mine lay inert'; hitk̓uméene /hi-tk̓ʷmén-e/ 'it lay inert'

(234)   NP ʔiyóoxoʔya /<u>ʔyáx̣ʷaʔa</u>-e/ 'I waited'; náac̓yaxoʔya /nés-<u>ʔyáx̣ʷaʔa</u>-e/ 'I waited for you (plural)'; CR yáx̣ʷa; NE iyáx̣ʷa

(235)   NP cam̓óqam /<u>cam̓qʷam</u>/ 'corner'; cam̓oqáampa /<u>cam̓qʷam</u>-pe/ 'in the corner'

(236)   NP tiṅúxne /tṅkʷn-e/ 'I died'; tiṅkíce /tṅkʷn-sen-s/ 'I am dying'

Next to an underlying labiovelar/uvular the epenthetic vowel is [u] (or [o] if marked for strong vowels—see §1.3) in Nez Perce.

(237)   NP súqt, suqút- /sqʷt/ 'stump'

(238)   NP tátx, tatóx- /<u>ttkʷ</u>/ 'spotted fawn'

Next to a labiovelar/uvular the diphthong *ɨy is realized as [uy] ([oy] with strong vowels). See §1.3 above.

(239)   NP suk̓úysuk̓uy /sk̓ʷ´ysk̓ʷy/ 'dark complexioned, dark horse'; S šk̓ʷíšk̓ʷi

(240)   NP cóqoy, coqóy- /<u>cqʷy</u>/ 'tepee top'

(241)   NP q̓óyn /q̓ʷ´yn/ 'have diarrhea'; S q̓úy 'colon'

(242)   NP xuysxúys /xʷysxʷ´ys/ 'slippery'

        There seems to be no phonemic distinction in Sahaptin between [ɨ] or [u] in the environment of a labiovelar (or labiouvular).

(243)   S kʷɨma ~ kúma 'those'

(244)   S k̓ʷɨnč ~ k̓únč 'black pine lichen'

(245)   NW qʷɨ- ~ qú- 'with a pack' (Jacobs 1931:169)

(246)   S taxʷɨs ~ taxús 'dogbane'

(247)   S x̣ʷɨtutay ~ x̣útutay 'pillow'

That the contrast was phonemic in Proto-Sahaptian is suggested by Nez Perce cognates where the vowel does not lengthen when the vowel was epenthetic.

(248)   S čɨ́kʷš ~ čúkš 'obsidian'; NP súxs /sˊkʷs/; PS *čɨ́kʷš

(249)   S ƙʷsɨ́s ~ ƙusɨ́s 'pointed'; ƙócac /ƙ̲ʷcc/ 'pointed'; S ƙʷsɨ́s

(250)   NE xʷɨ́sanat ~ xúsanat 'old man'; NP qósalat /q̲ʷˊsalat/ 'male mountain goat'; PS *qʷɨ́salat

(251)   S x̣ʷɨ́łx̣ʷł ~ x̣úłx̣uł 'meadowlark, *Sturnella neglecta*'; NP qócqoc, qocqóc- /q̲ʷcq̲ʷc/; PS *qʷɨ́łqʷł

The Nez Perce vowel does lengthen when it is an underlying /u/.

(252)   S áykʷs ~ áyuks 'cottontail rabbit'; NP héẏuxc, heẏúuxc- /heẏuxc/; PS *héẏuks

(253)   S čmɨ́kʷ ~ čmúk 'black'; NP símux, simúux- /smuk/; PS *čmúk

(254)   S ƙʷštáyn ~ ƙuštáyn 'guess wrong (in stick game)'; NP ƙúuxsteyn /ƙúxsteyn/; PS *ƙúxsteyn

(255)   S šáqʷɨnkt ~ šáqunkt 'decapitating'; NP ʔiseqúulkt /ʔseqúlkt/; PS *(ʔɨ)šéqunkt

3.5   Ejectives and glottalization

Both Sahaptian languages contrast a plain and an ejective series of stops—though not word finally (which suggests an origin /C + ʔ/). In Nez Perce an obstruent plus glottal stop becomes an ejective. Note that /s + ʔ/ becomes [c̓].

(256)   NP ʔééƙex /ʔeƙek/ 'magpie, *Pica pica*'; N ác̓ak; CR ác̓ay; PS *ʔéƙek < ʔek-ʔek

(257)   NP /sˊc̓e/ 'freeze'; S šɨ́šaa; PS *šɨ́šeʔe

(258)   NP téép̓es /tep̓es/ < /tep-ʔes/ 'night fishing torch'; S táp̓aš 'Ponderosa pine'; cf. NP /tep/ & S táp 'spear fish by torchlight' (purpose nominalizer is *-ʔeš)

The process is productive in Nez Perce.

(259)   NP ʔenéec̓niye /ʔe-nés-ʔni-e/ 'I gave it to them'; cf. NP /ʔni/ 'give'

(260)   NP qoq̓áalq̓ayn /qoq̓álq-ʔayn/ 'for bison' (Aoki 1994:595); cf.
        NP qoq̓áalx̣ /qoq̓álq/ 'bison'

Glottalization across word boundaries sometimes occurs in rapid speech.

(261)   NP kex ʔíin ~ keǩíin /ke-k ʔín/ 'I who…'

Glottalization is generally not productive in Sahaptin. In the following,
however, the sequence /q + ʔ/ leads historically to an ejective in Sahaptin.

(262)   S q̓ayík 'calf, elk calf, colt'; cf. NP qeʔéyix /qeʔeyik/; PS *qeʔeyík

(263)   S áq̓paš 'stomach, tripe'; cf. NP qoʔópas /qoʔopas/; PS *(ʔá/há)qoʔopaš

In the following the process appears to have occurred in Nez Perce but not in
Sahaptin.

(264)   NP /ǩésn/ 'admire, envy'; cf. NE čaʔášwi 'flirt'; PS *keʔéšn/*keʔéšwi

        Nez Perce has glottalized resonants (l̓, m̓, n̓, w̓, y̓) which never occur
word initially.[3]

(265)   NP héwsil̓iks /héwsl̓iks/ 'throw down mat or bedding'; N áwšnikš; PS
        *héwšl̓ikš

(266)   NP tim̓íne /tm̓ne/ 'heart, seed'; S tɨmná; PS *tɨm̓né

(267)   NP ken̓íwit /ken̓wit/ 'weaving'; NE čanúwit; PS *ken̓ɨwit

(268)   NP waw̓áałam /waw̓ałam/ 'cutthroat trout'; S wawałám 'rainbow
        trout'; PS *waw̓ałám

(269)   NP tiy̓é /tiy̓é/ 'blue grouse, *Dendragapus obscurus*'; NE tuyá; PS *tuy̓é

Glottalization may result from a resonant plus glottal stop /R + ʔ/.

(270)   NP /kál̓amk/ < /ké-laʔámn-k/ 'eat up, devour'; /ké-/ 'in eating';
        /laʔámn/ 'be used up'

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[3] A recording by native speaker Eugene John of Nez Perce words with glottalized
resonants was sent to phonologist Sharon Hargus. She reported (personal
communication) that Nez Perce has true glottalized resonants.

(271)   NP qéṁes /qṁes/ 'camas, *Camassia quamash*'; S x̣máaš; PS *qmeʔeš

(272)   NP tiṅúun, tiṅunín- /tṅunn/ 'male bighorn, *Ovis canadensis*'; S tnúun 'bighorn sheep'; PS *tnuʔunn

(273)   NP ʔeẇníy /ʔew-ʔni-i/ 'give it to him'; NP /ʔew-/ 'him'; /ʔni/ 'give'; /-i/ imperative

(274)   NP mamáẏac /m-myaʔac/ 'children'; cf. NP miyáʔc /myaʔac/ 'child'

(275)   NP /qẏáwn/ 'be dry' (Aoki 1994:591); cf. /qʔyáwn/ 'be thirsty' (Aoki 1994:593); Y xyáaw 'dry' (reflecting an earlier *qyáʔaw; NP /qẏáwn/ < /qʔyáwn/ < /qyáʔawn/)

The adverbial /-ʔ/ and attributives /-ʔew/ and /-ʔis/ glottalize a preceding sonorant. The verbalizer /-n/ is in complementary distribution with these suffixes.

(276)   NP lamťáẏ /lamť´y-ʔ/ 'last, final'; cf. /lamť´yn/ 'be the last'

(277)   NP ʔikúuytiṁew /ʔikúuytm-ʔew/ 'truthful, honest'; cf. /ʔkúuytm/ 'speak the truth'

(278)   NP cikáaẇaw /ckáw-ʔew/ 'easily scared'; cf. /ckáwn/ 'fear'

(279)   NP cikáaẇis /ckáw-ʔis/ 'fierce, ferocious'; cf. /ckáwn/ 'fear'

(280)   NP hamóol̀ic /hamol-ʔic/ 'cute'; cf. /hamóln/ 'consider cute (such as a baby)'

(281)   NP qaʔáṅis /qaʔán-ʔis/ 'modest, respectable'; cf. /qaʔánn/ 'honor, respect'

The resonant is preserved before /-ʔál/ 'season of' and the purpose nominalizer /-ʔes/.

(282)   NP hóopl̀al /hópl̀al/ 'October'; /húpn/ 'fall (of conifer needles)'

(283)   NP hekíṅes /hekn-t-ʔes/ 'in order to see'; /hekn/ 'see'

The past participle /-iʔins/ provides some examples of progressive glottalization. On an unstressed root it is pronounced *-íin* (*-íis-* before another suffix).

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(284)   NP hanyíin, hanyíis- /hani-iˀins/ 'made'

On a stressed root /-iˀins/ is pronounced -iṅ (-iˀs- before another suffix).

(285)   NP cúukweniṅ, cúukweniˀs- /cúkwen-iˀins/ 'known, spirited'

Glottalization likely has two sources in Sahaptian, the most common being a resonant plus glottal stop, the other being diminutive sound symbolism. The following appear to be examples of the latter.

(286)   NP k̓oẏaṁá /k̓ʷaẏaṁá/ 'cougar, *Felix concolor*'; CR & NW k̓ʷayawí; NE k̓ʷayamá

(287)   NP tiṁáaẏ /tṁáẏ/ 'maiden'; S tmáy

Ejectives too might be derived via diminutive sound symbolism.

(288)   S ṗísx 'sour'; cf. pλ́ɨk 'spicy, hot'; pɫɨx̣ 'medicine'

(289)   NP q̓iṁúuyn /q̓ṁúyn-t/ 'copulating'; cf. kiṁúuyniṅ /kṁúyn-iˀns/ 'humped'

3.6   The glottal stop

Nez Perce and NE Sahaptin are more likely to preserve the glottal stop. Convention dictates an orthographic /ˀ/ word initially in Nez Perce but not in Sahaptin.

(290)   NP ˀáawit /ˀawit/ 'levirate in-law after relating kin is dead'; S awít; PS *ˀawít

(291)   NP ˀíitx /ˀítk/ 'woman's sister's son'; N ítk; CR ítt; PS *ˀítk

(292)   NP ˀískit /ˀskt/ 'road, path'; S ɨščɨ́t; PS *ˀɨškɨ́t

(293)   NP ˀúyit /ˀúyit/ 'beginning, first'; S úyit; PS *ˀúyit

The root initial glottal stop is written when not word initial.

(294)   S ášša 'he is entering'; paˀášša 'they are entering'; NP /ˀac/ 'enter'

A root medial /ˀ/ variously survives depending on position and dialect—mostly in the sequence VˀV when the second vowel is stressed.

(295)   NE naʔámn; 'wear out, fade away'; CR náamn; NP /laʔámn/;
         PS *naʔámn

(296)   NE kuʔúš 'thusly'; CR kúuš; NP kuʔús /kuʔús/; PS *kuʔúš

A word final *ʔ was lost in Sahaptin

(297)   S šíki 'badger'; NP síiki^ʔ /síkiʔ/

(298)   S tlípa 'fox'; NP tilípe^ʔ /tl´peʔ/

(299)   S x̱ípa 'cornhusk storage bag'; NP qeqépe^ʔ /qq´peʔ/

(300)   S yáka 'bear'; NP yáaka^ʔ /yákaʔ/

Exceptions are the clause final interrogative enclitic -ʔ and the senior vocative
-aʔ in the NE dialects.

(301)   S čná iwačáʔ 'was he here?'

(302)   NE tútaʔ 'father!' (vocative); S túta; NP tóotaʔ /tótaʔ/

3.7   Loss of PS *h

Proto-Sahaptian *h was retained in Nez Perce and generally lost in
Sahaptin. Word initially *h merged with *ʔ (though not represented in the
orthography), as indicated in the cognate sets in Table 11. In NE Sahaptin *h
survives between vowels as ʔ when the second vowel is stressed.

(303)   NE maʔál 'how long? how tall?'; S máal; NP mahál /mahál/;
         PS *mahál

(304)   NE puʔúy; S púuy 'snow'; NP póhoy /pohoy/ 'fine snow'; PS *pohóy

Otherwise PS *VhV shortens to V and *VhC to VC in Sahaptin.

(305)   S páp 'man's daughter'; NP páhap /pahap/; PS *páhap

(306)   S saysáy 'worms, maggots'; NP cahaycáhay /cahaycáhay/;
         PS *sahaysáhay

(307)   S wína 'go'; NP /wíhnen/; PS *wíhnen

Table 11. Some examples of word initial *h

	Nez Perce	Sahaptin
'wing'	/helqhelq/	alíxalx
'back'	/hélek/	N ának
'nit, louse egg'	/hasas/	asás
'boy'	/hácwal/	áswan
'flea'	/haslam/	ášnam
'slave'	/haswal´ya/	ašwaníya
'bitter cherry'	/hesl´ps/	ašnípš
'valuable'	/heté'ew/	átaw
'rainbow trout'	/heyey/	ayáy
'cottontail'	/heẏuxc/	áykʷs
'eye matter'	/hqs/	ɨqɨš
'chest'	/hni/	ɨní
'mouth'	/hm̀/	ɨm
'pregnant'	/hiyék/	N iyák
'make'	/hani/	aní
'be clear'	/haykáatn/	aykáatn
'scratch'	/háẏa/	áya
'spawn'	/héẏe/	áya
'win'	/hísn/	íšn
'dream'	/hwékt/	NW ɨwákt
'say, tell'	/hn/	ɨnn

Nez Perce /h/ disappears after a consonant.

(308)   NP héeyey, heyéey- /hey-hey/ 'rainbow trout'

(309)   NP hóopop, hopóop- /hop-hop/ 'edible pine lichen, *Bryoria fremontii*'

In those instances where Sahaptin has /h/, it can be assumed that these represent borrowing.

(310)   S háašn 'breathe'; NE ha'ášn; NP /hésn/; S may be a reduplication borrowed from NP (e.g., /hehéšn/)

(311)   S hahán 'root top'; NP héhen /héhen/

(312)   S hawláak 'invisibility, empty space, the spirit realm, air, thin air'; NP /héwlekn/

(313)   S hawɬɨpáwlɨp 'energetic, spry, lively, willing, eager'; NP hawlapáwlap
/hawlph´wlap/

(314)   S hawɨ́liš 'mean, ornery'; NP hawáɬis /hawɬis/ < /hawl + -ʔis/

(315)   S háwtn 'be a landslide'; NP /héwtn/

(316)   S haywáni 'peaceful'; NP haywáaniṅ /haywáni'ns/

(317)   S hutuhútu 'kinnikinnick, *Arctostaphylos nevadensis*'; NP hotóoto
/hotohoto/

(318)   S ɨsťiyahá 'Sasquatch'; NP ʔicťiyehé /ʔcťiyehé/

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