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Topics in Nivkh phonology

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Chapter 2

The Basic Phonology of the West-Sakhalin Dialect

2.1 The Vowels

Like other dialects of Nivkh, WSN has the following six vowels.

- (1)
- | | | |
|---|---|---|
| i | i | u |
| e | | o |
| | a | |

2.1.1 Vowel Length

Vowel length is not phonologically contrastive. Phonetically, long vowels arise due to i) sentence prosody, ii) compensatory lengthening, and iii) in songs. Sentence prosody lengthens the vowel when emphasis is put on a constituent (2a-d), in exclamations (2e), or in vocatives (2f). Vowel lengthening targets vowels independently of stress, which usually falls on the first syllable (section 2.2.3).^{1,2}

- (2) a. 'to:lkar ha-r (SL2: 5)
fat do-CV
'(it became) very fat'

¹ Examples with the credits FN are from my unpublished field notes. Examples with the credits SL (1, 2, 3) are from Shiraishi and Lok (2002, 2003, 2004). The latter publications are downloadable with sound files (WAV) from the following website: <http://ext-web.edu.sgu.ac.jp/hidetos/>.

Examples with the credit S&T are from the Nivkh-Russian dictionary of Savel'eva and Taksami (1970).

² With zero tense marker, Nivkh verbs are aorist (= non-future) forms and can be used to denote either present or past tense.

- b. 'ikiki: p^h-riw-yit-ya (SL3: 64)
almost REF-teach-COMP-when
'When he had almost finished his study,'
- c. 'tili: ha-t (SL3: 66)
swing do-CV
'(I) swung'
- d. 'pati:kur (SL1: 13)
'slowly'
- e. 'ajka:, 'ajka:, haḡ qoju-c (SL2: 19)
ai ai COMP scream-IND
'She screamed "ai, ai!"'
- f. 'itik-a: (SL1: 7)
father-VOC
'father!'

Compensatory lengthening occurs when postvocalic fricatives are deleted. In such a case the preceding vowel is lengthened. The deletion of the fricative is a fast speech rule. In careful speech the fricative is pronounced.

- (3) a. oɾla > o:la 'child'
b. mayr vo > ma:r vo 'the place name Magr' (SL3: 10)
c. urla > u:la 'good'

2.1.2 /a/-Raising

When sentence prosody lengthens /a/, it raises to /i/ in some cases.³

³ This process is also reported in Panfilov (1962: 22) for the speech of the Continental Amur dialect speakers.

- (4) a. η ala- > η ali- ‘like’ (SL1: 33)
 b. namakur > nami:kur ‘well (adverb)’(SL1: 39, 42)
 c. erʁala > erʁali: ‘many’ (SL2: 2, 3)
 d. paṛk > pi:ṛk⁴ ‘only’ (SL2: 69) (SL3: 62)
 e. oṽra > oṽri: ‘back of the head’ (SL2: 66)

2.1.3 Palatalization of Consonants by /i/, /e/

Some of the relatively young speakers (VI, GY) tend to palatalize consonants which are followed by /i, e/, especially when the vowel is stressed.

- (5) a. p^hi- ‘dwell’ (SL1: 7)
 b. m^jevsq ‘two half pieces of dried fish’ (SL3: 70)
 c. p^her- ‘to be tired’ (SL1: 16)
 d. k^heq ‘fox’ (SL2: 14)
 e. t^hes-t^hes-t^hes ‘jumping and hopping (onomatopoeic)’(SL1: 42)
 f. ŋ^jex-ŋ^jex-ŋ^jex- ‘oink, oink (onomatopoeic)’ (SL2: 51)

The palatalization is weak or not audible when the consonant is followed by an unstressed vowel.

- (6) a. nane ‘soon’ (SL2: 25)
 b. laʁe ‘nearby’
 c. vin-te ‘let’s go’ (SL2: 59)

The oldest speaker ON does not palatalize in contexts where the younger speakers do, e.g. [p^h-eftaŋr-] ‘REF-quick’ (SL3: 52).⁵ The difference among speakers with respect to palatalization is clearly contrasted in conversation when speaker VI repeated the word /ves/ ‘crow’ after ON (SL2: 23). While ON did not palatalize at all, VI did.⁶

⁴ This form is occasionally contracted to [pi:k] (SL1: 15, SL2: 36).

⁵ Tangiku (2006: 136, p.c.) reports that such a variation is observed among the speakers of the East-Sakhalin dialect as well.

⁶ The influence of Russian is conceivable, but the correlation with stress remains to be explained.

- (6) VI: (Asking in Russian) *Voroni, voroni, kak kak?*
‘How do you say crows (in Nivkh)?’
ON: ves, ves. ‘*Ves, ves.*’
VI: v^jes-ku la? ‘*Ves, right?*’

Unless necessary, I omit palatalization from the transcription in this thesis.

2.2 The Consonants

WSN has the following consonants.

(8) Aspirated plosives	p ^h	t ^h	c ^h	k ^h	q ^h
Non-aspirated plosives	p	t	c	k	q
Voiceless fricatives	f	ɸ	s	x	χ
Voiced fricatives	v	r	z	ɣ	ʁ
Nasals	m	n	ɲ	ŋ	
Lateral		l			
Glides	w		j		h

2.2.1 Obstruents

There is inconsistency in the literature as to whether /c^h, c/ are described as (pre-)palatal plosives or affricates ([tʃ^h, tʃ]). The Russian phonetician Rushchakov observed a strong and long frication noise after the closure of these sounds and concluded that these sounds are phonetically close to affricates (Rushchakov 1980: 179-180, 1981: 8).⁷ In Consonant Mutation (Chapter 4) these sounds will be seen to undergo Spirantization and become strident fricatives /s/ and /z/, respectively.

A laryngeal contrast exists in both plosives and fricatives, but only in initial positions.

⁷ Rushchakov’s observation is based on data from the East-Sakhalin dialect.

- (9) a. p^haχ ‘window’ vs. paχ ‘stone, rock’
 b. ra- ‘bake’ vs. ra- ‘drink’

In all other positions, the laryngeal contrast is suspended and obstruents surface as voiced or voiceless (or somewhere in between) depending on the neighboring sounds and position (see Chapter 3 for details). The non-aspirated plosives have the allophonic variants [b], [d], [dʒ], [g] and [G] which surface in post-sonorant (notably post-nasal) context: /anci/ [anci]~[andʒi] ‘again’ (SL1: 41), /ɲiŋ tif/ [ɲiŋ dif] ‘our house’ (Chapter 3, section 3.2, section 3.3.1).

The frication of fricatives is weak, especially so in voiced fricatives. Rushchakov (1981) reports that the spectra of Nivkh voiced fricatives resemble those of sonorants. The labial fricatives /f/ and /v/ are pronounced bilabial ([ϕ], [β]) in the speech of the older WSN speakers (cf. Chapter 4, section 4.8.5). In the literature some authors describe these sounds as bilabial (Kreinovich 1937, Hattori 1962, 1988, Austerlitz 1990), others as labio-dental (Panfilov 1962, Savel’eva and Taksami 1970, Gruzdeva 1997).

The distribution of the velar (/k^h, k, x, ɣ/) and the uvular (/q^h, q, χ, ʁ/) obstruents is nearly allophonic. The distribution of the uvular obstruents is restricted to syllables which are headed by the vowels /a, o/.

- (10) a. raq ‘rice’ (SL2: 23)
 b. q^ha ‘name’
 c. p^haχ ‘window’
 d. oq ‘coat’
 e. q^hotr ‘bear’

The co-occurrence of uvular obstruents and low vowels can also be observed in the process which I will call ‘/e/ lowering’. In this process, some speakers (VI, GY) lower /e/ to /a/ when the former precedes a uvular plosive.

- (11) a. peq ~ pɛq ~ paq ‘chicken’
 b. k^heq ~ k^hɛq ~ k^haq ‘fox’
 c. nineq ~ ninɛq ~ ninaq ‘a little’

A phonemic contrast between velar and uvular obstruents is marginally found by those lexical items which have velar obstruents adjacent to /a, o/.⁸

- | | | | | |
|------|----|-------|----------------|-------------------|
| (12) | a. | nanak | ‘older sister’ | (SL2: 40) |
| | b. | ɲrak | ‘always’ | (SL2: 2, SL3: 50) |
| | c. | popok | ‘accessory’ | (SL2: 37) |

2.2.2 Rhotics

A unique segment in the Nivkh consonantal inventory is /r̥/, the voiceless counterpart of the rhotic /r/. Ladefoged and Maddieson describe this sound as “an apical trill which contains portions without vocal cord vibration.” (1996: 236). Impressionistically, it sounds as if it contained a palatal articulation, and sounds similar to [rʃ] or [ʃ].⁹ However, this is only impressionistically so. There is phonological evidence which shows that /r̥/ is dental and not palatal. Firstly, /r̥/ alternates with /tʰ/ in Consonant Mutation but crucially, not with the palatal /cʰ/ (Chapter 4). Another bit of evidence comes from loanword phonology. The palatal fricative /ʃ/ of Russian is pronounced with /s/ but not with /r̥/ by Nivkh speakers. For instance, the name of the Russian poet Pushkin [puʃkin] is pronounced as [puskin] and not as *[purkin].

- | | | | | |
|------|----|------------------------|---------------------------------|------------|
| (13) | a. | c ^h astuska | (from Russian [tʃastuʃka]) | |
| | | | ‘two- or four-line rhymed poem’ | (SL2: 68) |
| | b. | kriska | (from Russian [kriʃka]) | ‘lid’ (FN) |

These facts indicate that /r̥/ has no palatal articulation of any kind, although it may sound so to the ear of the outsider.

Another remarkable characteristic of the Nivkh rhotics is that they pattern with fricatives and not with sonorants (Trubetzkoy 1939). Characteristics which indicate that rhotics are not sonorants are: 1) like fricatives, Nivkh rhotics include a voiced and a voiceless segment, while no Nivkh sonorant has a voiceless counterpart; 2) rhotics participate in Consonant Mutation (Chapter 4) while no sonorant does so; 3) rhotics

⁸ Austerlitz (1956: 262) points out that many of such items are loanwords or special terms for ceremonies, as in /kaskazi-/ ‘to be plain’ (from Nanai /kas/ ‘straight’).

⁹ In the Russian transcriptions the symbol for /r̥/ is often the palatal fricative ‘ ʃ ’.

exhibit laryngeal phonology similar to fricatives (Chapter 3); 4) rhotics drop and cause compensatory lengthening of the preceding vowel in contexts where fricatives do so, too (section 2.1.1); 5) in different dialectal forms rhotics often correspond to [s]: [liʏr̥]~[liʏs] ‘wolf’. These facts strongly indicate that in Nivkh rhotics should be classified as fricatives and not as sonorants.

2.2.3 Nasals

Nasals contrast four places of articulation which can be contrasted in all positions. Notably, nasals do not place-assimilate to the following consonant (16).

- | | | | | |
|------|----|---------------------------|-----------------------|-----------|
| (14) | a. | ma | ‘dried fish’ | |
| | b. | naχ | ‘bed’ | (SL1: 27) |
| | c. | ɲo | ‘storehouse’ | |
| | d. | ɲa | ‘animal/game’ | (SL1: 29) |
| (15) | a. | c ^h am | ‘shaman’ | (SL2: 28) |
| | b. | men | ‘two (people)’ | (SL2: 40) |
| | c. | ɲiɲ | ‘one (dog)’ | (SL3: 61) |
| | d. | aŋ | ‘who’ | (SL1: 27) |
| (16) | a. | ɲiɲk | ‘face’ | (SL1: 13) |
| | b. | tiɲk | ‘hand’ | |
| | c. | ɲiɲf | ‘bone’ | (SL1: 17) |
| | d. | piɲavon q ^h al | ‘the clan of Pilavon’ | (SL1: 11) |
| | e. | nonk | ‘cub, puppy’ | |

As mentioned in section 2.1.4, some speakers palatalize consonants before the front vowels /i, e/. For nasals, this has the consequence that the contrast between /n/ and /ɲ/ is neutralized in this context.

- | | | | | |
|------|----|---------------------|----------------|-----------|
| (17) | a. | n ^j avar | ‘look like’ | (SL1: 20) |
| | b. | n ^j en | ‘one (person)’ | (SL3: 61) |

2.2.4 Lateral

In consonant clusters, /l/ has an allophonic variant which sounds similar to [r] (rhotacism). I could not figure out the conditions of this variation, and will leave it for future research.

- (18) a. k^hliz- (SL1: 27, SL2: 6) ~ k^hriz- ‘eat one’s fill’ (S&T 1970)
 b. elyala (SL1: 33, SL2: 2, 38) ~ eryala ‘many’ (SL1: 34, 39, SL2: 2, 72)

2.2.5 Glides

Of the three glides in the Amur dialect, only /j/ appears in all positions. /w/ appears only in non-initial positions, while /h/ appears only initially.

- (19) a. jeski- ‘sell’
 b. jaqo ‘which’
 c. lij- ‘kill (a bear)’
 d. ijf ‘always’ (SL3: 5)
 e. c^hingaj ‘the place name Chingai’ (SL3: 5)
 f. riw- ‘teach’
 g. vow- ‘chew’
 h. q^hawk ‘no’
 i. hays ‘clothes’
 j. hum- ‘live’

The Sakhalin dialect still has initial /w/. In the Amur dialect, this has historically merged with /v/, as in /vic/ (Amur) from /wat/ (Sakhalin) ‘iron, metal’. After this merger, /v/ and /w/ are no longer contrastive in initial position in Amur. In non-initial position, the two sounds are contrastive: /ɤav-/ ‘push’ (SL3: 66), /ɤaw-/ ‘gulp’ (SL3: 66). /h/ drops when preceded by a tautosyllabic consonant.

- (20) a. p^h-hays-ku [p^haysku] (SL2: 23)
 REF-clothe-PL
 ‘one’s own clothes’

- b. if-herq-ux [iverqux] (SL2: 52)
 3SG-side-LOC
 ‘as to him/her’

2.3 The Phonological Structure of Words

2.3.1 Syllable Structure

A typical Nivkh root is monosyllabic. Disyllabic roots are fewer but do exist. Trisyllabic roots (or more) appear only in loanwords, as in /estarik/ from Russian /starik/ ‘old man’.

- (21) a. e ‘comb’ (SL1: 32)
 b. ma ‘dried fish’
 c. nos ‘ear’
 d. puc ‘seaweed’
 e. hays ‘clothes’
 f. utku ‘man’
 g. morqa- ‘to live’
 h. caqo ‘knife’

Consonants may cluster up to two in word-initial position and up to three in word-final position.

- (22) a. c^hŋjɪr ‘grass’ (SL2:36)
 b. ɲlami ‘half’ (SL3: 70)
 c. t^hfisk ‘fir’ (SL2: 47)
 d. c^hxevrŋaj ‘worm’ (SL1: 28)
 f. hontq ‘sack’ (FN)
 g. antχ ‘guest’ (FN)

2.3.2 Syllable Phonotactics

In an initial cluster plosives may not occupy the second position. No native word has an initial cluster with a plosive as the second member. In loanword phonology such clusters are adjusted by either the deletion of the consonant or vowel epenthesis (epenthetic vowels are transcribed with outlined fonts as in $\textcircled{\text{o}}$).

	Nivkh	Russian		
(23) a.	kovorotk	skovorodka	‘frying-pan’	(Pukhta 2002: 58)
b.	$\textcircled{\text{o}}$ stol	stol	‘table’	(SL3: 71)
c.	$\textcircled{\text{e}}$ starik	starik	‘old man’	(SL3: 23)

These epenthetic vowels bear stress, unlike the epenthetic vowels which appear in clitics (section 2.6).

2.3.3 Stress

In WSN, stress is fixed on the first syllable in a polysyllabic stem.¹⁰ Phonetic correlates of stress are the assignment of high pitch in the citation form and for some speakers palatalization of the consonant before front vowels /i, e/ (see section 2.1.4).

(24) a.	¹ moṛqa-	‘to live’
b.	¹ caqo	‘knife’
c.	¹ oyla	‘child’
d.	¹ oyla-gu	‘children’

There are no special stress patterns which distinguish compounds (25a) from phrases (25b-e). In both structures it is the first constituent which receives primary stress in WSN.¹¹

¹⁰ Panfilov states that in the Amur dialect stress may fall on a non-initial syllable in some words and cite examples as [um¹gu] ‘woman’ and [ut¹ku] ‘man’ (Panfilov 1962: 22). In the speech of my informants, these forms are always initially stressed.

¹¹ Kreinovich reports that in the Sakhalin dialect the last constituent receives stress in compounds and noun phrases: [c^ho¹zoŋqr] ‘head of fish’ (Kreinovich 1979: 298).

- (25) a. 'ɲaɤ ajs (FN)
eye gold
'glasses'
- b. 'kins ɲiɲk (SL1: 13)
devil face
'devil's face'
- c. 'pilkar ɲiɲk (SL1: 13)
big face
'a big face'
- d. 'ral umgu (SL1: 31)
frog woman
'frog woman (an evil woman in a story)'
- e. 'cacɾ ɲojɣ-xu (SL2: 17)
tern egg-PL
'eggs of a tern'

2.4 Word Phonology

2.4.1 Geminate Spirantization of Coronal Plosives

/t/ and /c/ spirantize when followed by a homorganic plosive.

- (26) /it-/ 'say'
- a. it-ra highlighting marker (SL2: 35)
- b. iɾ-c indicative marker (SL3: 6)
- c. iɾ-t converb marker (SL2: 11)

- (27) /jocjoc-/ ‘ask’
- | | | | |
|----|------------|--------------------|-----------|
| a. | jocjoc-ɣar | subjunctive marker | (SL2: 29) |
| b. | jocjoc-ja | imperative marker | (SL3: 12) |
| c. | jocjos-c | indicative marker | (SL1: 33) |
- (28) /lit-/ ‘make’
- | | | | |
|--|--------|----------------|----------|
| | liɾ-ti | ‘even (focal)’ | (SL2: 9) |
|--|--------|----------------|----------|
- (29) /q^hat-/ ‘bald’
- | | | | |
|----|------------------------|--------------------------------|-----------|
| a. | q ^h at ɲivx | ‘bald man’ | (SL2: 67) |
| b. | oɣra ɣaɾ-t | ‘back of the head became bald’ | (SL2: 67) |
- (30) /-ɣit-/ completive marker
- | | | | |
|--|--------|----------------|-----------|
| | -ɣiɾ-t | converb marker | (SL3: 25) |
|--|--------|----------------|-----------|

Geminate spirantization applies in a very restricted morpho-syntactic context, namely in the morphological extensions of verbal roots. Across larger boundaries, Consonant Mutation (Spirantization), a separate process from the one exemplified above (for further, extensive discussion see Chapter 4), applies in preference to Geminate spirantization: /vic cif/ [vic zif], *[vis cif], ‘iron road’ (Kreinovich 1937: 40).

2.4.2 Elided Nasals

In the Amur dialect, final nasals of some words and suffixes were elided historically. Although these nasals never surface, they affect Consonant Mutation and induce voicing of the following non-aspirated plosive: /eɣa^N cus/ [eɣa^N dʒus] ‘cow meat’ (see Chapter 4, section 4.4.4 for details). When followed by other segments (vowels, aspirated plosives, sonorants), the elided nasal does not leave any significant phonological trace /j^N-acik/ [j-acik] ‘his/her younger sister’ (SL2: 40).

Elided nasals can be reconstructed by comparing the forms of the Amur dialect with those of the Sakhalin dialect.

(31)	Amur	Sakhalin	
a.	eʎa	eʎaŋ	‘cow’
b.	pityi	pityaŋ	‘book’
c.	oʎla	eʎlŋ	‘child’
d.	-gu/-ʎu	-gun/-ʎun	plural suffix

Not all speakers exhibit the effects of elided nasals. In the speech of the younger speakers, elided nasals no longer play any role. The effect of the elided nasal is visible only in the speech of the older speakers, in which it creates an instance of phonological opacity (Kiparsky 1973). This difference among generations is described in detail in Chapter 4. Unless necessary, elided nasals are omitted from the transcription in this thesis. When necessary, they are transcribed with /^N/.

2.5 Phrase-Level Phonology

2.5.1 Velar/Uvular Spirantization

Final velar and uvular plosives spirantize when followed by velar or uvular obstruents. This process was already described in one of the earliest descriptions of Kreinovich (1937: 40).

While in the literature it is often described that spirantization of /k/, /q/ occurs when they are followed by the fricatives /x/, /χ/ (Savel’eva and Taksami 1970: 511, Mattissen 2003: 52), speakers of WSN exhibit spirantization before a plosive as well (see example (34d) below).

(32)	a.	itix-xu	(< itik)	‘parents (lit. father-PL)’	(SL3: 5)
	b.	q ^h oχtolox-xu	(< q ^h oχtolok)	‘the family of Qokhtolok’	(SL3: 10)
	c.	estarix-xu	(< Rus. <i>starik</i>)	‘old people’	(SL3: 23)
	d.	bambux-xu	(< Rus. <i>bambuk</i>)	‘bamboos’	(SL1: 36)
	e.	burundux-xu	(< Rus. <i>burunduk</i>)	‘chipmunks’	(SL2: 14)
	f.	mecaχ-xun	(< mecaq)	‘ashberries’	(SL3: 35)
	g.	k ^h eχ-xu	(< k ^h eq)	‘foxes’	(SL3: 48)
	h.	nonoχ-xu	(< nonoq)	‘puppies’	(SL1:11)
	i.	zosχ-xit-	(< zosq)	‘broke’	(SL2: 22)

j.	t ^h visx-xir	(< t ^h visk)	‘with fir’	(SL2: 30)
k.	ma haqaχ-xit-	(< haqaq-)	‘cut dried fish’	(SL2: 34)
l.	laŋr ɲoχ moqmoχ-xit-	(< moqmoq-)	‘cut seal fat’	(SL2: 34)
m.	caχ-xiŋ	(< caq)	‘with a cradle’	(SL2: 51)

While Velar/vular spirantization is obligatory between the stem and suffixes, there is variation in other domains. Across larger boundaries (i.e. between words), spirantization does not apply consistently. While the examples below are all pronounced without an intervening pause, Velar/uvular spirantization does not apply in the examples in (35-36).

Application of Velar/uvular spirantization

(33) Object-predicate

a.	c ^h elmix xu-	(< c ^h elmik)		
	name kill			
	‘Killed Chelmik.’			(SL3: 22)
b.	p ^h -itix	xri-t	(< itik)	
	REF-father	be_together-CV		
	‘Together with our father.’			(SL3: 30)
c.	timx χavu-	(< timk)		
	hand warm			
	‘(He) warmed (his) hands.’			(SL1: 12)
d.	hi k ^h isx ye-	(< k ^h isk)		
	that cat catch			
	‘Caught that cat.’			(SL2: 4)
e.	k ^h isx ɪaw -	(< k ^h isk)		
	cat gulp			
	‘Gulped the cat.’			(SL2: 5)
f.	t ^h fisx xu-	(< t ^h fisk)		
	fir cut			
	‘Cut fir.’			(SL2: 27)

- g. hi ɲif litinix ye- (< litinik)
that heart thing_which_was_made take
'Took that thing which was made as one's heart.'¹² (SL2: 28)
- h. j-acix ye- (< acik)
3SG-younger_sister take
'Kidnapped her younger sister.' (SL2: 40)
- i. hi ɲajɣ xez- (< ɲajq)
that puppy talk
'Talked to that puppy.' (SL2: 55, 60)
- j. micix ɤav- (< micik)
breast squeeze
'(She) squeezed her breast.' (SL2: 57)
- k. mulx ye- (< mulk)
basket take
'Took the basket.' (SL2: 60)
- (34) Subject-predicate
- a. c^helmix ye-jni umgu (< c^helmik)
name marry-INT woman
'The woman whom Chelmik is to marry.' (SL3: 21)
- b. aɲakɪɣ ɤavr- (< aɲakɪɣk)
somebody not_existent
'There was nobody.' (SL1: 12, 45) (SL2: 41)
- c. sidʒakɪɣ ɤavr- (< sidʒakɪɣk)
something not_existent
'There was nothing.' (SL2: 32)

¹² In shamanism one cuts parts of a fir in order to cure diseases.

- d. k^hisx qoju- (< k^hisk)
 cat cry
 ‘A cat cried.’ (SL2: 3)

Non-application of Velar/uvular spirantization

(35) Subject-predicate

- sidzakirk̆ ɛavr-
 somebody not_existent
 ‘There was nobody.’ (SL1: 41)

(36) Object-predicate

- a. verex χaw- ~ verex χaw-
 name was_called
 ‘She was called Verex.’ (SL3: 10, 11)
- b. nenhakirk̆ ye-
 nobody take
 ‘Took nobody.’ (SL1: 32)
- c. q^hoxtolok χaw-
 name was_called
 ‘He was called Qokhtolok.’ (SL3: 9)
- d. ena k^hisk ye-
 different cat catch
 ‘Caught a different cat.’ (SL2: 5)
- e. p^hi-oq ye-
 REF-coat take
 ‘Took his own coat.’ (SL2: 5)
- f. ɲajq ye-
 puppy take
 ‘Took the puppy.’ (SL2: 60)

(37) Subject-object

- a. pilkar timk k^huti rulku-
big hand hole come_into
'A big hand came inside from the hole.' (SL2: 26)
- b. k^heq k^he uy-
fox net get_into
'The fox got into the net.' (SL2: 16)

(38) Adverb-predicate

- a. jaŋgurpak q^ho-
how sleep
'How (she) fell asleep' (SL2: 22)
- b. iṛk qal-ʒal-
already becomes_bright (reduplication)
'(It) became already bright.' (SL2: 5)

It is still not clear to me what the decisive factor for the application of Velar/uvular spirantization in such larger domains is. It might be the case that it is a fast speech rule and that in such larger domains speech rate plays a decisive role. I will leave this issue for future research.

The interaction of Velar/uvular spirantization with the Spirantization of Consonant Mutation (Chapter 4) is interesting. When velar or uvular plosives are adjacent across morpheme boundaries, both Velar/uvular spirantization and Spirantization of Consonant Mutation may potentially apply. In fact, Kreinovich (1937: 40) cites examples in which both have applied.

- (39) a. p^hroχ xunʒ (< p^hroq k^hunʒ) 'the stomach of a mallard'
b. k^heχ ʒarqŋilx¹³ (< k^heq qarqŋilx) 'the kidney of a fox'
c. k^heχ χos (< k^heq q^hos) 'the neck of a fox'

¹³ An alternative pronunciation of this form in Kreinovich's description is [k^heχ χarqŋilx], in which the initial fricative of the second word is devoiced.

In my data, there is a single instance of Velar/uvular spirantization in a Spirantization context between words: [k^hisx kins-ku] ‘cat devils’ (SL2: 8). In this example, Spirantization does not apply. I leave it for the future to work out whether the differences with Kreinovich’s data are accidental or an indication of some fundamental difference in the phonology among speakers. It should be pointed out, however, that the domain of application of the Velar/uvular spirantization is larger than that of Spirantization. While the latter is strictly restricted to specifier-head domain in NP and complement-head domain in VP (Chapter 4), the former may also apply between the subject and predicate, as is demonstrated in the examples in (34). As we will see in Chapter 4 (section 4.3.4), Spirantization never applies between a subject and predicate, even in fast speech. This is a crucial difference which should be noted in considering the nature of the two processes.

2.6 Cliticization

2.6.1 Characteristics

Singular pronouns have phonologically weak forms which need a host to attach to. Most of them are contracted forms of the full forms and meet the criteria of being identified as ‘(pro)clitics’, as we will see below. Clitics of the 1st, 2nd and the reflexive form are formed by the deletion of the vowel from the full form. The 3rd person singular clitic consists of a single vowel which is augmented by the elided nasal /^N/ (section 2.4.2, Chapter 4, section 4.4.4).

(40)

	Full form	Clitic
1 st person	ji	j-
2 nd person	c ^h i	c ^h -
3 rd person	if	i ^N -
Reflexive	p ^h i	p ^h -

These pronominal clitics cliticize at the phrasal level and function either as i) complements (undergoer) of the verb, or ii) attributes (possessor) of the noun. When cliticized, clitics trigger Consonant Mutation of the following consonant. In addition,

/c^h-/ and /p^h-/ devoice the following fricative and neutralize the laryngeal contrast in this position.

- (41) a. p^h-q^hal [p^h-χal] ‘one’s own clan’ (SL1: 11)
 b. p^h-qan [p^h-χan-gu] ‘one’s own dogs’ (SL2: 6)
 c. p^h-vo [p^h-fo] ‘one’s own village’ (SL2: 8)
 d. p^h-ro- [p^h-r̥o-] ‘help oneself’ (SL1: 29)
 Cf. e. p^h-r̥o- [p^h-r̥o-] ‘betake oneself’ (SL3: 44)

The 3rd person clitic becomes a non-syllabic glide [j] when it cliticizes to a vowel-initial host (see 42d-e, 43l, 44d).

- (42) NP
 a. j-*imik* ‘my mother’ (SL3: 17)
 b. c^h-*itik* ‘your father’ (SL3: 19)
 c. i^N-q^ha [i-q^ha] ‘his/her name’ (SL3: 9)
 d. i^N-*acik* [j-*acik*] ‘his/her younger sister’ (SL2: 40)
 e. i^N-*imik* [j-*imik*] ‘his/her mother’ (SL2: 49)
 f. p^h-*χal* ‘one’s own clan’ (SL1: 11)

- (43) VP
 a. j-*ηarma* ‘wait for me’ (FN)
 b. j-*ɬaw-* ‘gulped me down’ (SL3: 67)
 c. j-*r̥o-* ‘took myself’ (SL3: 30)
 d. j-*ɣoc-* ‘pushed me’ (SL3: 49)
 e. j-*iyri-* ‘together with me’ (SL1: 7)
 f. c^h-*ηalagur* ‘like you’ (SL3: 38)
 g. c^h-*r̥o-* ‘took you’ (SL3: 42)
 h. c^h-*ir̥-* ‘talk about you’ (SL3: 63)
 i. c^h-*iyri-* ‘together with you’ (SL1: 7)
 j. i^N-*ηarma-* [i-*ηarma-*] ‘wait for him/her’ (FN)
 k. i^N-*ηaliku-* [i-*ηaliku-*] ‘like him/her’ (SL1: 14)
 l. i^N-*ar-* [j-*ar-*] ‘feed him/her’

- | | | | |
|----|------------------------|---|-----------|
| m. | p ^h -amxta- | ‘praise oneself’ | (FN) |
| n. | p ^h -saŋru- | ‘train oneself’ | (SL3: 51) |
| o. | p ^h -iy- | ‘commit suicide (<i>lit.</i> kill oneself) | (SL1: 34) |
- (44) PP
- | | | | |
|----|---------------------------|----------------------|-----------|
| a. | p ^h -erx | ‘to oneself’ | (SL2: 14) |
| b. | ɲ-erx | ‘to me’ | (SL3: 66) |
| c. | c ^h -ux | ‘from you’ | (SL3: 18) |
| d. | i ^N -ax [j-ax] | ‘causes him/her to~’ | (SL3: 23) |
- (45) Adverbial phrase
- | | | | |
|--|-------------------------------|-------------------------|-----------|
| | p ^h -sitṛ (< citṛ) | ‘by one’s own language’ | (SL3: 64) |
|--|-------------------------------|-------------------------|-----------|

The use of the clitic, instead of the full form, is obligatory in the contexts above. A pronominal complement should always be realized as a clitic.¹⁴ A sentence in which the pronominal complement appears in the full form is ill-formed and is rejected by most of my informants (Shiraishi 2004b).¹⁵ Note that in Nivkh there are no morphological case markers which provide case information for complements.

- (46) * itik if amxta-
 father 3SG praise
 ‘Father praised him.’ (Shiraishi 2004b: 182)

The consonantal clitics /ɲ-/ , /c^h-/, /p^h-/ are augmented with an epenthetic vowel when the host begins with a consonant cluster. While some of the previous literature regards the pronominal element in such a context as being a full pronoun (e.g. Panfilov 1968: 411), there is phonological evidence to reject this view (Shiraishi 2001). In the first place, these vowels are not stressed, unlike the vowels of the full pronoun.

¹⁴ Unless the pronominal complement is augmented with an emphatic particle, as in
 Galik c^hi park ŋarma- ‘Galik waits only for you.’ (FN)
 2SG only wait

¹⁵ Full pronouns and clitics are thus complementarily distributed and do not alternate by a phonological rule. These are ‘special clitics’ according to the classification of clitics by Zwicky (1977).

- (47) a. ɲi-^hzɲaj ‘my picture’ (FN)
 b. c^hi-^hzɲaj ‘your picture’ (FN)

Second, when the host contains a non-high vowel, the augmented vowel may exhibit vowel harmony and may lower to /e/.

- (48) a. ɲi-zɲaj ~ ɲe-zɲaj ‘my picture’ (FN)
 b. ɲe-zrovs ‘my nail’ (Kreinovich 1937: 94)
 c. p^he-sʁa ‘one’s own money’ (*ibid.*)

Vowels which undergo vowel harmony indicate recessive nuclei (Harris 1997). As is expected, vowels of the full pronominal forms do not exhibit vowel harmony.

- (49) c^hi ɾatx vi- (SL1: 21)
 2SG where go
 ‘Where do you go?’

2.6.2 Inalienable/Alienable Possession

With some clitic-host combinations, speaker VI inserts an epenthetic vowel even when the host does not begin with a consonant cluster. Since this vowel is never stressed and often also devoiced, I assume that it is an epenthetic vowel and not the vowel of the full pronominal form.

- (50) a. p^hi-^hmur-puks ‘one’s own reins (*lit.* horse belt)’ (SL1: 34)
 b. p^hi-^hnaχ ‘one’s own bed’ (SL1: 35)
 c. p^hi-^hsaqo ‘one’s own knife’ (SL1: 13)
 d. p^hi-^hcaqo ‘one’s own knife’ (SL2: 4)
 e. p^hi-^heɲ ‘one’s own skis’ (SL1: 19, SL2: 6)
 f. p^hi-^hoq ‘one’s own coat’ (SL2: 4)
 g. p^hi-^hɲo ‘one’s own storehouse’ (SL2: 8)
 h. p^hi-^hɾo-ɲni-x-xu ‘one’s own equipments’ (SL2: 40)
 i. c^hi-^hoɲoŋ oɲla-gu ‘your pig children’ (SL2: 51)

j. p^hi-'pilkar caqo 'one's own big knife' (SL1: 13)

Interestingly, there is no report of such forms of clitic-host combinations in the literature as far as I know. According to descriptions in previous literature (e.g. Austerlitz 1959), forms such as [p^hi-'eŋ] should surface as [p^h-eŋ], especially since the clitic attaches to a vowel-initial host.

On the other hand, there are also combinations in which speaker VI does not insert an epenthetic vowel.

- (51) a. ŋ-imik 'my mother' (SL2: 78)
 b. ŋ-itik 'my father' (SL2: 78)
 c. ŋ-oŋla-gu 'my children' (SL 2: 35, 54)
 d. p^h-umgu 'one's own wife (*lit.*woman)' (SL1: 35) (SL2:
 62)
- e. c^h-emar 'your husband' (SL2: 35)
 f. p^h-acik 'one's own younger sister' (SL2: 40)
 g. p^h-nanak 'one's own elder sister' (SL2: 40)
 h. p^h-umgu oŋla 'one's own daughter' (SL2: 45)
 i. p^h-emajax (< hemajax) 'one's own wife' (SL2: 62)
 j. c^h-oŋla-gu 'your children' (SL2: 51, 61)
 k. p^h-oŋla-gu 'one's own children' (SL2: 50, 52, 53, 60, 62)
 l. p^h-ŋax 'her own eyes' (SL2: 50)
 m. p^h-rot (< tot) 'one's arms' (SL2: 59)
 n. p^h-xan-gu (< qan) 'one's own dogs' (SL2: 6)
 o. p^h-ŋajx-xu 'one's own puppies' (SL2: 13, 32)
 p. p^h-raŋpaklu 'to oneself' (SL2: 13)
 q. ŋ-laŋa 'nearby myself' (SL1: 18)
 r. p^h-laŋa 'nearby oneself' (SL1: 34)
 s. p^h-fo (< vo) 'one's own village' (SL2: 8, 69)
 t. p^h-aŋs-ku (< haŋs) 'one's own clothes' (SL2: 23)
 u. p^h-naŋ-tox 'to her own bed' (SL2: 34)
 v. c^h-ux 'at yours' (SL2: 51)

- | | | | |
|----|---|------------------------|-----------|
| x. | p ^h -χal (< q ^h al) | ‘one’s own clan’ | (SL1: 11) |
| y. | p ^h -fivus (< vivus) | ‘one’s own belt (dog)’ | (SL2: 60) |
| z. | p ^h -rif (< tif) | ‘one’s own house’ | (SL2: 69) |

Whether a given clitic-host combination requires an epenthetic vowel does not seem to be an arbitrary choice. Those hosts which do not require such a vowel consist of kinship terms, body parts and culturally important items such as dogs and houses. In languages which distinguish alienable and inalienable possession by different possession strategies, these are typically items which are inalienably possessed (Nichols 1989). On the other hand, the hosts which require an epenthetic vowel manifest a type of possession which can be terminated and can therefore be regarded as alienable possession.¹⁶

Additional support for this hypothesis is the fact that the choice of the strategy of possession which this speaker exhibits is in agreement with the cross-linguistic tendency that alienable possession requires more morpho-syntactic material than inalienable possession (‘iconicity’. Cf. Payne 1997: 105). Crucially, speaker VI has epenthesis with alienable possession and no epenthesis with inalienable possession.¹⁷

The observation above is based on the data of speaker VI alone and this has possibly to do with the large quantity of her data in my sound archive. In the future I would like to check this hypothesis with other informants.

¹⁶ In my data, there is one item which undergoes both strategies: /to-rif/ ‘winter house’

[p^h-ro-rif] ‘one’s own winter house (*lit.* earth house)’ (inalienable possession. SL2: 46)

[p^h_j-to-rif] ‘one’s own winter house’ (alienable possession. SL2: 6, 11, 32)

[c^hi-to-rif] ‘your winter house’ (alienable possession. SL2: 29)

¹⁷ When the clitic and the initial segment of the host are (nearly) homorganic, an epenthetic vowel is inserted even with items which are usually inalienably possessed:

nɪ-nanak ‘my elder sister’ (compare with [p^h-nanak] ‘one’s own sister’)

