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VOWELS AND CONSONANTS IN NORTH SETU (SOUTH ESTONIAN)

In a previous article (Viitso 1990) we argued that in North Setu the three distinctive syllabic quantities **Q1**, **Q2**, and **Q3** can be described by means of two pairs of features, viz. (a) a short vs. a long syllable and (b) a syllable marked with a light vs. a heavy syllabic accent:

Q1	a short stressed syllable	marked with a light accent /' /
Q2	a long stressed syllable	
Q3		marked with a heavy accent /' /

The three syllabic quantities are exemplified in Tables 1—3. Table 1 contains examples of all mono- and disyllabic durationally different patterns that contain a prevocalic or a final monophthong + stop sequence. Table 2 contains examples of patterns that contain a prevocalic or final diphthong + stop sequence. Table 3 contains examples of patterns with prevocalic and final short monophthong + resonant + stop sequences.

Tables 1—3 demonstrate why the three distinctive quantities **Q1**, **Q2**, and **Q3** should not be treated as inherent properties of segments, e.g., as phonemic length. On the other hand, the tables point to several unsolved problems. Apparently, two syllabic accents are not sufficient to capture all durational distinctions that are present e.g. in Table 1 both for monophthongs of the 1st syllable and for intervocalic or final single or geminate stops.

Table 1. Monophthong and stop sequences.

Q1	<i>taçl</i> ¹	<i>pačk</i> ²	<i>pačkke</i> ³	<i>pačkke</i> ⁴	<i>pačk</i> ⁵	
Q2	<i>sáčl</i> ⁶	<i>mačkke</i> ⁷				
Q3	<i>sáčke</i> ⁸	<i>sáče</i> ⁹	<i>sáčke</i> ¹⁰	<i>sáčke</i> ¹¹	<i>sáč</i> ¹²	<i>sáč</i> ¹³

Glosses: ¹ 'ceiling', ² 'packet (genitive)', ³ 'packet (partitive)', ⁴ 'even a/the packet', ⁵ 'packet', ⁶ 'saw (genitive)', 'yield (genitive)', ⁷ 'sleep! (imperative 2pl)', ⁸ 'even a/the saw', ⁹ 'saw (partitive)', ¹⁰ 'yield (partitive)', ¹¹ 'even a/the yield', ¹² 'a/the saw', ¹³ 'a/the yield'.

Table 2. Diphthong and stop sequences

Q2	<i>aũgõ</i> ¹				
Q3	<i>haũg,ke</i> ² <i>haũgẽ</i> ³		<i>aukko</i> ⁴ <i>aũk,ke</i> ⁵		<i>haũg</i> ⁶ <i>aũk</i> ⁷

Glosses: ¹ 'hole (genitive)', ² 'even a/the pike', ³ 'pike (partitive)', ⁴ 'hole (partitive)', ⁵ 'even a/the hole', ⁶ 'pike', ⁷ 'hole'.

Table 3. Short monophthong and resonant sequences.

Q2	<i>kuřgũ</i> ¹				
Q3	<i>kuřg,ke</i> ² <i>kuřgẽ</i> ³		<i>kurkko</i> ⁴ <i>kuřk,ke</i> ⁵		<i>kuřg</i> ⁶ <i>kuřk</i> ⁷

Glosses: ¹ 'throat (genitive)', ² 'even a/the crane (bird)', ³ 'crane (partitive)', ⁴ 'throat (partitive)', ⁵ 'even a/the cucumber', ⁶ 'crane', ⁷ 'cucumber'.

1. **Vowels.** In South Estonian the Proto-Finnic long mid vowels **ō* **õ* **ē* have split into [ō ō ē] in Q2 and into [ū ü î] in Q3, cf. the following partial paradigms (the abbreviations nsg, gsg, psg, ilsg, npl, ppl below stand for nominative singular, genitive singular, partitive singular, illative singular, nominative plural, partitive plural):

nsg	gsg	psg	ilsg	npl	ppl	gloss
<i>tũm</i>	<i>tõmà</i>	<i>tũma</i>	<i>tũma</i>	<i>tõma</i> [?]	<i>tũme</i>	'seedling'
<i>pũr</i>	<i>põrà</i>	<i>pũrã</i>	<i>pũrã</i>	<i>põrã</i> [?]	<i>pũre</i>	'grindstone'
<i>kĩl</i>	<i>kēlè</i>	<i>kĩlt</i>	<i>kĩlve</i>	<i>kēle</i> [?]	<i>kĩle</i>	'tongue'

In addition, the long mid vowel **ē*, which results from an early split of the Proto-Finnic **ē* into **e* and **ē*, has split in Setu into [ē] in Q2 and into [ĩ] in Q3, cf.

vēraš vĩa vērast vĩahe vĩa? *vĩret* 'strange'

In negative aspect forms, [ē] occurs even in Q3, e.g. *tultēš* 'did not come', *u:mbtēš* 'did not sew'. Both originally allophonic height classes of vowels are phonemic: at least [ō] and [ē] occur also in syllables of Q3, cf.

nsg	gsg	psg	npl	ppl	gloss
<i>põlk</i>	<i>põlkko</i>	<i>põlkoĩ</i>	<i>põlkko?</i>	<i>põlkeĩ</i>	'half'
<i>tõtsk</i>	<i>tõtsko</i>	<i>tõtskoĩ</i>	<i>tõtsko?</i>	<i>tõtskeĩ</i>	'boat'
<i>ēstlane</i>	<i>ēstläze</i>	<i>ēstläst</i>	<i>ēstläze?</i>	<i>ēstläize</i>	'Estonian (n)'

Besides that, in syllables of Q3 the short mid vowel *e* has shifted to *ĩ* in some cases, cf.

<i>tĩug</i>	<i>tēšvã</i>	<i>tĩuga</i>	<i>tēšva?</i>	<i>tĩuge</i>	'jaw'
<i>pehĩ</i>	<i>pehã</i>	<i>pihja</i>	<i>pehã?</i>	<i>pihje</i>	'bottom'

while, on the other hand, there are

verk vėřou verkko vėřou? *verkka* 'net'

where *e* has been retained throughout the paradigm. In rare cases *ĩ* has even appeared in syllables of Q1, cf.

kijik kigẽ kikkẽ kũk keikke 'all'

Although there are no minimal pairs with [ĩ] and [ē] or [ĩ] and [ē], it is likely that the difference in quality has become phonemic in both cases.

1.1. The main problem concerning vowels is whether long monophthongs represent single phonemes or sequences of identical phonemes. The latter solution has been suggested by the similarity of behavior of long monophthongs and diphthongs (cf. Tables 1 and 2); long monophthongs are treated phonologically as a class of diphthongs. This solution results in the simplest vowel system of the 1st syllable which is then considered to contain 12 (short) vowel phonemes:

/	u	y	ü	i	
	ɥ		ÿ	ĩ	
	o	õ	ö	e	
	a		ä	/	

Nevertheless, this solution has several disadvantages. Firstly, there is no reasonable explanation of why an open monosyllabic stressed word must end in two identical vowel phonemes, e. g. /suu/ 'mouth', /suɥ/ 'marsh'. Secondly, the pairs /yy/, /ɥɥ/, /ÿÿ/, /ĩĩ/, /õõ/, /öö/ that result from this solution are the only examples of vowel sequences (diphthongs) ending in /y/, /ɥ/, /ÿ/, /ĩ/, /õ/, and /ö/, hence the solution contradicts certain distributional restrictions that are obviously present in North Setu. Thirdly, lowered high vowels occur only as long [ÿ ÿ ÿ]; therefore any attempt to treat them as pairs of identical phonemes /ɥ ÿ ÿ/ that never occur alone is obviously nonsensical. In addition, according to Ilse Lehiste (1967), in standard (North) Estonian both components of a diphthong of Q2 are shorter than the corresponding monophthongs of Q1 and both components of a diphthong of Q3 are longer than the corresponding components of a diphthong of Q2; South Estonian, probably, is not different from North Estonian in this respect.

Hence there are both short and long vowel phonemes in North Setu:

/	u	y	ü	i		ū	ȳ	ÿ	ĩ
						ÿ		ÿ	ĩ
	o	õ	ö	e		õ	õ	õ	e
	a		ä			ä		ä	/

1.2. In North Setu all the ten short vowels can occur as the initial components of diphthongs. There are seven vowels that can occur as the final components of diphthongs, cf. Table 4 where data on the existing diphthongs and their occurrence in syllables of Q2 and Q3 are presented.

According to Table 4 mid and low vowels never occur as final components of diphthongs except in syllables of Q3. This phenomenon is conditioned by the fact that all such diphthongs have appeared as a result of contraction that has occurred both after the loss of intervocalic single consonants at the beginning of posttonic closed syllables, cf. npl *rüä?* from the stem *rügä* 'rye' and *ma loè* 'I read' : *ta lucè* 'he reads', and after the loss of an intervocalic *j* before the vowel *e* (or *ɛ*), cf. *aettaš* 'one drives (impersonal voice)' and *ajaš* 'he drives'.

A back vowel /u o y õ a/ is never followed by a front vowel /ü ä/. Similarly, a front vowel /ü ö ä/ is never followed by a back vowel /u a/, except /ä/ that can be followed by /u/, e. g. *näügo?* 'to miaow' and *ma käü* 'I walk' (cf., however, *ta käüzè* 'he walks' and *kävvo?* 'to walk').

Table 4. North Setu diphthongs.

The indices ² and ₃, respectively, indicate the occurrence of a diphthong in a syllable of **Q2** or **Q3**.

	<i>u</i>	<i>o</i>	<i>a</i>	<i>ü</i>	<i>ä</i>	<i>i</i>	<i>e</i>
<i>u</i>			+ ₃			+ ² ₃	
<i>o</i>	+ ² ₃					+ ² ₃	+ ₃
<i>y</i>	+ ₃		+ ₃			+ ₃	
<i>õ</i>	+ ² ₃					+ ² ₃	
<i>a</i>	+ ² ₃	+ ₃				+ ² ₃	+ ₃
<i>ü</i>					+ ₃		
<i>ö</i>				+ ² ₃		+ ² ₃	+ ₃
<i>ä</i>	+ ² ₃			+ ² ₃		+ ² ₃	+ ₃
<i>i</i>	+ ² ₃				+ ₃		
<i>e</i>		+ ₃				+ ² ₃	

1.3. In North Setu the following nine vowels occur in unstressed syllables:

u *ü* *i*
o *ɛ* *ö* *e*
a *ä*

In the primarily stressed final syllables of negative imperfect forms these vowels can be transformed, respectively, into the following long vowels:

ū *ǖ* *ī*
ō *ē* *ȫ* *é*
ā *ǟ*

In addition, *ɛ* becomes *ɛ̄* in the primarily stressed final syllables of negative present forms. All short and long monophthongs of nonfirst syllables can thus be identified with certain short and long monophthongs of 1st syllables. Hence there are the following short and long vowel phonemes in North Setu nonfirst syllables:

/ *u* *ü* *i* *ū* *ǖ* *ī*
o *õ* *ö* *e* *ō* *ȭ* *ȫ* *é*
a *ä* *ā* *ǟ* /

1.4. Despite a deficiency of lexical data it is possible to present a preliminary description of the interrelations of the vowel phonemes of the 1st and the 2nd syllable, cf. Table 5, which, however, ignores the vowels of primarily stressed 2nd syllables of the negative aspect forms (cf. Viitso 1990, Table 4).

According to Table 5, a 1st syllable that contains a back vowel /*u o y õ a ü ŷ ö ŷ õ ä*/ is not followed by a 2nd syllable that contains a front vowel /*ü ö ä*/. The only known exception, *äštāk* 'year', represents the result of fusion of a former compound into one word.

Similarly, a 1st syllable that contains a front vowel /*ü ö ä ü ŷ ö ä*/ is, as a rule, not followed by a 2nd syllable that contains a back vowel /*u o a*/, except for (a) *-o* in deverbal nouns (e.g. *näçò* 'face' from the verb stem *näçe-* 'see'); (b) *-o* ~ *-u* in the derivational suffixes *-ik* : gsg

Table 5. Vowels of the 1st and the 2nd syllable.

For two co-occurrent vowels, the indices ¹, ², and ³, respectively, indicate the distinctive quantities **Q1**, **Q2**, and **Q3**, except for + that stands for ¹+²₃.

1st syll.	2nd syllable								
	/ u	o	ō	a	ü	ö	ä	i e /	
/u/	¹ + ²	+	+	+				+	+ ³
/ū/	+ ²	+ ³	+ ² ₃	+ ² ₃				+ ²	+ ³
/ū̄/		+ ³	+ ³	+ ³				+ ³	+ ³
/o/	¹ + ²	+	+	+				+ ²	+ ³
/ō/	+ ²	+ ³	+ ²	+ ²				+ ²	
/y/			+ ¹	+ ³					
/ȳ/		+ ³	+ ³						
/ō/	¹ + ²	+ ² ₃	+	+				+	+ ³
/ō̄/		+ ²	+ ²	+ ²					
/a/	¹ + ²	+	+	+				+	+ ³
/ā/	+ ²	+ ³	+ ² ₃	+ ² ₃			+ ³	+ ²	+ ³
/ü/		+ ³			¹ + ²	+ ³	+	+	+
/ū̄/		+ ³			+ ²	+ ³	+ ² ₃	+ ²	+ ² ₃
/ū̄̄/		+ ³				+ ³	+ ³		+ ³
/ö/		+ ³				+ ³	+ ² ₃	¹ + ²	+ ² ₃
/ō̄/	+ ²				+ ²		+	+ ²	+ ²
/ä/	+ ²	+		+ ² ₃	¹ + ²	+ ³	+	¹ + ²	+
/ā̄/		+ ³			+ ²	+ ³	+ ² ₃	+ ²	+ ² ₃
/i/	+ ²	+	+ ² ₃	+		+ ³	+	+	+
/ī/	¹ + ²	+ ² ₃	+ ³	+ ³		+ ³	+ ²	+ ²	+ ² ₃
/ī̄/		+ ³	+ ³			+ ³	+ ³	+ ³	+ ³
/e/		+		+	¹ + ²	+ ³	+	+	+
/ē/	+ ²				+ ²		+ ² ₃	+ ²	+ ² ₃

-*ikku* ~ -*igu* : psg -*ikko* (cf. 3.1.1); (c) *a* in the plural stems of *o*-stems of the types (a) and (b); (d) *o* in the plural stem of some nominal *ä*-stems (e. g. gpl, ppl *tühjo* from *tühil* 'empty', gsg *tühä*, psg *tühjä*; obviously on the analogy of such *a*-stems as *kiril* 'letter, writing', gsg *kirä*, psg *kirja*, gpl, ppl *kirjo*); (e) *u* ~ *o* in the imperative 3sg&pl suffix /*ku?*/ ~ /*ko?*/ ~ /*kko?*/ (cf. *sōgu?* 'let him/them eat', *aṅko?* 'let him/them give', *näḱko?* 'let him/them see'); (f) *a* in the comitative case suffix /*ka?*/ (cf. *pāga?* from *pā* 'head'). Hence there exists a kind of morphologically restricted vowel harmony in North Setu.

Note that there are also restrictions concerning the occurrence of high vowels /*u ü i*/: high vowels do not occur in a posttonic syllable that is preceded by a syllable of **Q3**, except *i* in nominal derivational suffixes -*lik*, -*mik*, -*nik*, -*line*/-*line* : -*lize*/-*lize*, -*mine*/-*mine* : -*mize*/-*mize*, which after a syllable of **Q3** always have a secondary stress (cf. Viitso 1990, sections 3.1.1 and 3.1.2), as well as in certain genitive plural forms (e. g. *taṁvide* from *taṁmaš* 'sheep').

2. **Consonants.** All Estonian dialects have prevocalic single and geminate consonants. North Setu shares with other Estonian dialects the general problem of the phonological role of geminates. In addition, it has specific problems concerning the gemination of *j*, the presence vs. degemination of geminates before voiceless high vowels, the classification of initial consonants of clusters preceded by a short monophthong in syllables of Q3, affricates, and palatalization.

2.1. Geminate consonants have often been interpreted as sequences of two identical phonemes on the basis of surface contrasts of single and geminate consonants, as in the following NS partial nominal paradigms:

nsg	gsg	psg	ilsg	npl	ppl	ilpl	gloss
<i>külä</i>	<i>külä</i>	<i>küllä</i>	<i>küllä</i>	<i>külä?</i>	<i>küllü</i>	<i>külle</i>	'village'
<i>rüoä</i>	<i>rüä</i>	<i>rükkä</i>	<i>rükkä</i>	<i>rüä?</i>	<i>rükkü</i>	<i>rükke</i>	'rye'

In the case of the geminate solution, the phonemic transcription reflects syllable boundaries, e. g. in both psg /*k'üllä*/ (Q2) and ilsg /*k'üllä*/ (Q3) the syllable boundary is between two /l/s. On morphophonological grounds, the geminate solution has been also extended to final long consonants like those in the nominative singular forms of the following paradigms:

<i>vil</i>	<i>villä</i>	<i>viita</i>	<i>viita</i>	<i>viita?</i>	<i>viito</i>	<i>viito</i>	'wool'
<i>pik</i>	<i>pikkä</i>	<i>pikka</i>	<i>pikka</i>	<i>pikkä?</i>	<i>pikke</i>	<i>pikke</i>	'long'

Note that in /*vill*/ and /*pikk*/ the syllable boundary is not between the two /l/s and the two /k/s, hence the transcription is, if not contradictory, then at least ambiguous. One must also ask whether there is any evidence that a speaker really analyzes all word-final long consonants as geminates, i. e. as clusters. As in most cases learning of nominals begins from nominative forms, the contrary should be expected.

Note that non-first final syllables never end in weak postvocalic obstruents which should be treated as representatives of single obstruent phonemes just as weak obstruents are treated elsewhere, cf. [*s̃-é*] = /*s̃-ä*/ 'saw (n.)', [*ku-řé*] = /*k'urk*/ 'crane', [*ta-tD*] = /*ta'tt*/ 'sole (n.)'; instead, they end in strong and long obstruents that are treated as representatives of geminate obstruents, cf. [*säk*] = /*s'akk*/ 'yield (n.)'; [*ku-řik*] = /*k'urkk*/ 'cucumber', [*a-tt*] = /*altt*/ 'from below' and [*tü-řri:k*] = /*t'üttr'ikk*/ 'girl', [*mę-řsni:k*] = /*m'öccn'ikk*/ 'forester', [*ku-řat*] = /*k'ura'tt*/ 'devil'. As word-final resonant consonants of non-first syllables are never long, one must then conclude that word-final obstruents, as opposed to final resonants, have the strange function of making the word-final syllable structure more complicated.

Moreover, morphophonological arguments for the geminate solution work in nonfirst syllables even more poorly than in the first syllables, cf. the paradigms of *tütrik* and *męřsni:k*:

{sg	<i>tü-řri:k</i>	<i>tü-řriou</i>	<i>tü-řri:kko</i>	'girl'
{pl	<i>tü-řriou?</i>	<i>tü-řri:kka</i>	<i>tü-řri:kka</i>	
{sg	<i>mę-řsni:k</i>	<i>mę-řsni:kku</i>	<i>mę-řsni:kko</i>	'forester'
{pl	<i>mę-řsni:ou?</i>	<i>mę-řsni:kka</i>	<i>mę-řsni:kka</i>	

The crucial case is that of the laryngeal stop [ʔ], which is a strong and long obstruent that occurs only in the word-final position both at the end of first and nonfirst syllables. The laryngeal stop cannot be treated differently from other strong obstruents; also, it cannot be treated as a

phoneme that occurs only in combination with another identical phoneme.

Hence, the NS prevocalic geminates and word-final long consonants must be treated as long consonant phonemes, e. g. the above four paradigms can be written phonologically as follows:

/	<i>k'ülä</i>	<i>k'ülä</i>	<i>k'ülä</i>	<i>k'ülä</i>	<i>k'ülä?</i>	<i>k'üili</i>	<i>k'üle</i>	/
/	<i>r'ükä</i>	<i>r'üä</i>	<i>r'ükä</i>	<i>r'ükä</i>	<i>r'üä?</i>	<i>r'üki</i>	<i>r'üke</i>	/
/	<i>v'il</i>	<i>v'ila</i>	<i>v'ila</i>	<i>v'ila</i>	<i>v'ila?</i>	<i>v'ilo</i>	<i>v'ilo</i>	/
/	<i>p'ik</i>	<i>p'ikä</i>	<i>p'ikä</i>	<i>p'ikä</i>	<i>p'ikä?</i>	<i>p'ike</i>	<i>p'ike</i>	/

Accordingly, the occurrence of strong and long obstruents in nonfirst syllables in the word-final position, and the absence of the corresponding weak obstruents, is not a problem of final syllable patterning but simply a case of distributional restriction of certain phoneme classes.

The solution of intervocalic geminates as long consonant phonemes has an interesting consequence. Namely, we must conclude that syllables are not obligatory frames in which phonemes are situated but rather that syllabification takes place on ready phoneme strings if necessary.

2.2. According to the principles of transcription of Estonian dialectological data, there occur no *j̃*, *ĵ*, and *ḡ* but *l̃*, *l̂*, and *ḷ* in the environments V—jV and V—#. Yet there are two cases in North Setu that render the point at least suspicious as long as there is no reliable data. Both cases are connected with changes that have lost their former phonetic motivation and now have the morphological motivation.

Firstly, in **Q2** the postvocalic sequence *lj* of the traditional transcription alternates with sequences *ld* in **Q3**. At the same time, the similar sequences *ud* and *ug* in **Q3** alternate with the geminate *vv* in **Q2**. Cf.

	nsg	gsg	psg	gloss
	<i>veļd</i>	<i>veļjū</i>	<i>veļdo</i>	'butter'
	<i>aļd</i>	<i>aļjā</i>	<i>aļda</i>	'garden'
and	<i>raūd</i>	<i>rašvā</i>	<i>raūda</i>	'iron'
	<i>haūc</i>	<i>hašvē</i>	<i>haūcē</i>	'pike'

Secondly, in disyllabic stems, originally of **Q1**, *j* participates in gemination just as all other single (phonemically: short) consonants, cf.

	pr 3sg	ipf 3sg	inf	gloss
	<i>ojoš</i>	<i>oļjo</i>	<i>oļjo?</i>	'swim'
and	<i>vaoš</i>	<i>vaļjo</i>	<i>vaļjo?</i>	'sink'
	<i>vāzšš</i>	<i>vāššō</i>	<i>vāzš?</i>	'tire'
	<i>kaoš</i>	<i>kaļte</i>	<i>kaļto?</i>	'get lost'

where *vāzš?* < **vāššō?* < Proto-Finnic **väsütäk* and *kaoš* < Proto-Finnic **katoksen*.

2.3. The voiceless high vowels *u*, *ü*, *i*, which result from the devoicing of high vowels in closed unstressed syllables that follow a (stressed) syllable of **Q1** or **Q2**, probably have caused the degemination of intervocalic geminate stops that have preceded the high vowels and, hence, also the neutralization of intervocalic single and geminate consonants before voiceless high vowels. Also, Pärja Keldrimägi (1970: 58, 97, 109) has claimed that only single obstruents occur before voiceless vowels in her native Raakva Setu subdialect (spoken near Petseri). In any case, the neutralization of single and geminate consonants needs an instrumental proof. Below, some examples of degemination are presented:

imp 2sg	ips ipf	inf	pr 1sg	gloss
<i>vali?</i>	<i>valitte</i>	<i>vali?</i>	<i>vali</i>	'choose'
<i>sali?</i>	<i>salitte</i>	<i>sali?</i>	<i>salli</i>	'tolerate'
<i>väzü?</i>	<i>väzütte</i>	<i>väzü?</i>	<i>väzü</i>	'get tired'
<i>pagu?</i>	<i>pagutte</i>	<i>pakko?</i>	<i>pakku</i>	'offer'
<i>kägi?</i>	<i>kägutte</i>	<i>käkke?</i>	<i>käkki</i>	'hide'
<i>ezü?</i>	<i>ezütte</i>	<i>eššöda?</i>	<i>eššü</i>	'get lost'
	~ <i>eššötte</i>			

Cf. also the following cases with obvious geminates (Q2) before non-high vowels which are never voiceless:

<i>elä?</i>	<i>elätte</i>	<i>ellä?</i>	<i>elä</i>	'live'
<i>añna?</i>	<i>añtte</i>	<i>añda?</i>	<i>añnä</i>	'give'
<i>liñda?</i>	<i>liñnatte</i>	<i>liñnada?</i>	<i>liñda</i>	'fly'
<i>peššä?</i>	<i>peššette</i>	<i>peššä?</i>	<i>peššä</i>	'beat'

2.4. The short vs. long consonant phoneme solution does not automatically solve the problem of how to treat the first consonant of a cluster preceded by a short monophthong in a syllable of Q3, cf. Table 3. The essence of the problem can be demonstrated by means of the following paradigms:

nsg	gsg	psg	ilsg	npl	ppl	gloss
<i>tüitar</i>	<i>tüire</i>	<i>tüttard</i>	<i>tütrehe</i>	<i>tütre?</i>	<i>tütret</i>	'daughter'
<i>kümmè</i>	<i>kümne</i>	<i>kümmend</i>	<i>kümnehe</i>	<i>kümne?</i>	<i>kümnet</i>	'ten'

As can be seen, intervocalic geminates alternate with preconsonantal long consonants because of vowel syncopation in the 2nd syllable after a syllable of Q3. Paul Ariste has proposed transcribing such preconsonantal long stops as geminates, e.g. *tüttre*, as the syllable boundary divides the stops into two; this has also been the way such stops have been treated in the geminate solution. Mati Hint, a phonologist of South Estonian origin, has expanded the geminate solution also to clusters which begin in long resonants in syllables of Q3, first for the Rõngu subdialect of Tartu South Estonian (Hint 1965) and later for standard (North) Estonian. In terms of the short vs. long consonant solution, that of Hint is the equivalent of treating the cluster-initial long resonants as long consonant phonemes. This idea may well be true for South Estonian where vowel syncopation is quite regular, taking place even for verbal *u-*, *o-*, and *ü-*stems.

2.5. The existence of affricate phonemes in North Setu is not self-evident.

The main argument for affricates is the non-occurrence of clusters of weak obstruents such as *DG*, *BZ*, *ZD* alongside *DZ* and *DŽ*. Besides, the latter seem to occur at the beginning of syllables. This, however, seems to be true also for weak obstruent + resonant clusters, e.g. *BR*, *DR*, *GR* etc., although all grammars of Estonian claim that all consonant clusters are divided among two syllables.

Another argument for affricates, i.e. for the monophonemicity of *DZ* and *DŽ*, is their behavior in morphological paradigms. Cf., first, paradigms with *DZ* and *DŽ*:

nsg	gsg	psg	ilsg	npl	ppl	gloss
<i>pudzù</i>	<i>pudzù</i>	<i>puṭsù</i>	<i>puṭso</i>	<i>pudzvʔ</i>	<i>puṭsà</i>	'down feather'
<i>hübóžl</i>	<i>hübóžè</i>	<i>hüst</i>	<i>hütse</i>	<i>hübóžeʔ</i>	<i>hüṭši</i>	'charcoal'
<i>kūbž</i>	<i>kūbžè</i>	<i>küst</i>	<i>kūbže</i>	<i>kūbžeʔ</i>	<i>kūbže</i>	'nail'
			~ <i>kūste</i>			
<i>kuṇdz</i>	<i>kuṇdza</i>	<i>kuṇdza</i>	<i>kuṇdza</i>	<i>kuṇdzaʔ</i>	<i>kuṇdžè</i>	'heel'

and, secondly, similar paradigms without *DZ* and *žz*:

<i>vitù</i>	<i>vitù</i>	<i>viṭtù</i>	<i>viṭto</i>	<i>vitvʔ</i>	<i>viṭtā</i>	'cool (ness)'
<i>tullì</i>	<i>tulè</i>	<i>tuṭṭ</i>	<i>tuṭte</i>	<i>tutèʔ</i>	<i>tullì</i>	'fire'
<i>pezà</i>	<i>pezà</i>	<i>peššà</i>	<i>peššà</i>	<i>pezāʔ</i>	<i>peššì</i>	'nest'
<i>kāž</i>	<i>kāžè</i>	<i>kāst</i>	<i>kāžè</i>	<i>kāžèʔ</i>	<i>kāžè</i>	'lid'
<i>važz</i>	<i>važžà</i>	<i>važza</i>	<i>važza</i>	<i>važžaʔ</i>	<i>važzo</i>	'foal'

Clusters which begin in a weak obstruent in the paradigms behave in a different way:

<i>adèr</i>	<i>adrà</i>	<i>atra</i>	<i>atra</i>	<i>adraʔ</i>	<i>at̃ro</i>	'plow'
<i>razèv</i>	<i>razvā</i>	<i>rašva</i>	<i>rašva</i>	<i>razvaʔ</i>	<i>rašvo</i>	'fat'
<i>nābre</i>	<i>nābre</i>	<i>nābreṭ</i>	<i>nābrehe</i>	<i>nābreʔ</i>	<i>nābreṭ</i>	'neighbor'

If *DZ* and *žz* were clusters then we would have **pudžš* and **hübžš* instead of *pudzù* and *hübóžl* in nominative sg, **puṭso* in partitive sg and **puṭsa* and **hütse* in partitive pl. Note that the partitive forms would then be of **Q3** and not of **Q2**.

Similarly, paradigmatic alternation of *ts* and *DZ* in the following cases is more like to that of obstruents than that of stop + sibilant clusters, cf. on the one hand,

nsg	gsg	psg	ilsg	npl	ppl	gloss
<i>suits</i>	<i>suṭdzù</i>	<i>suitso</i>	<i>suitso</i>	<i>suṭdzvʔ</i>	<i>suit̃sa</i>	'smoke'
<i>kiñts</i>	<i>kiṭṭdzò</i>	<i>kiñtso</i>	<i>kiñtso</i>	<i>kiṭṭdzvʔ</i>	<i>kiñt̃sa</i>	'haunch'

and

<i>veṛk</i>	<i>veṛgù</i>	<i>veṛkko</i>	<i>veṛkko</i>	<i>veṛgvʔ</i>	<i>veṛkka</i>	'net'
<i>ait̃</i>	<i>aivā</i>	<i>aitta</i>	<i>aitta</i>	<i>aivāʔ</i>	<i>aitto</i>	'storage'
<i>taih̃</i>	<i>taiha</i>	<i>taihha</i>	<i>taihha</i>	<i>taihaʔ</i>	<i>taihho</i>	'lean'

and, on the other,

<i>kom̃ps</i>	<i>koṃp̃so</i>	<i>kom̃pso</i>	<i>kom̃pso</i>	<i>koṃp̃soʔ</i>	<i>kom̃psa</i>	'bundle'
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On the basis of such evidence as the above, paradigms with *DZ* and *žz* can be phonologically transcribed as follows:

/ p'ucu	p'ucu	p'uṭcu	p'uṭco	p'ucuʔ	p'uṭca /
/ h'üci	h'üce	h'üst	h'üce	h'üceʔ	h'üci /
/ k'üç	k'üce	k'üst	k'üce ~	k'üceʔ	k'üce /
			k'üste		
/ k'unç	k'unca	k'unca	k'unca	k'uncaʔ	k'unçõ /
/ s'uic̃	s'uicu	s'uic̃o	s'uic̃o	s'uicuʔ	s'uic̃a /
/ k'inç	k'inco	k'inçõ	k'inçõ	k'incoʔ	k'inçã /

Because of such forms as /p'u \bar{u} / (Q2) and /p'u \bar{o} / (Q3) one must apply a similar solution also to $\bar{t}s$: $\bar{t}s$ and $\bar{t}\bar{s}$: $\bar{t}\bar{s}$ in such paradigms as

<i>mēts</i>	<i>mētsà</i>	<i>mētsa</i>	<i>mētsa</i>	<i>mētsa?</i>	<i>mētso</i>	'forest'
<i>tātš</i>	<i>tātšə</i>	<i>tāšt</i>	<i>tātšə</i>	<i>tātšə?</i>	<i>tātše</i>	'child'

although there is at least one similar paradigm with $\bar{k}s$ and $\bar{k}s$, borrowed from North Estonian, cf.

<i>pāks</i>	<i>pākso</i>	<i>pākso</i>	<i>pākso</i>	<i>pākso?</i>	<i>pāksa</i>	'thick'
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Yet the distribution of / \bar{c} / and / \bar{c} / in that position is also similar to that of long consonant phonemes, cf.

/ m'ō \bar{c}	m'ō $\bar{c}a$	m'ō $\bar{c}a$	m'ō $\bar{c}a$	m'ō $\bar{c}a?$	m'ō $\bar{c}o$	'forest'
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and

/ 'o \bar{s}	'o $\bar{s}a$	'o $\bar{s}a$	'o $\bar{s}a$	'o $\bar{s}a?$	'o $\bar{s}o$	'branch'
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which is realized as

<i>o\bar{s}</i>	<i>o$\bar{s}à$</i>	<i>o$\bar{s}sa$</i>	<i>o$\bar{s}sa$</i>	<i>o$\bar{s}sa?$</i>	<i>o$\bar{s}šə$</i>
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2.6. In North Setu all consonants, except the laryngeal stop ? and the palatal semivowel *j*, can be palatalized.

As elsewhere in the Võru dialect area, in some cases consonants are palatalized even in the word-initial position, e.g. *tāk* 'stallion', *tšurà* 'boy' and (*ma*) *käü* 'I walk', cf. also *kävvo* 'to walk (infinitive)', and *kävzè* 'he walks'; differently from other Võru subdialects, in North Setu the vowel *ä* after a word-initial palatalized consonant either has not been velarized or has been restored.

All palatalized consonants can occur in the prevocalic position and most palatalized consonants occur in the wordfinal position. As in most cases, palatalization has taken place under the influence of the former *i* or *j* that now can be lost; consonant clusters exhibit several combinations of palatalized and unpalatalized consonants, cf. *kašk* 'fur coat', *vašk* (< South Estonian **vazik*) 'calf', *vašk* (< **vaski*) 'copper'. Note that, as a rule, palatalization in Võru South Estonian included all consonants that occurred before *i*. For *j* the situation is more complicated, probably because of later developments, cf.

nsg	gsg	psg	npl	ppl	gloss
<i>pa\bar{v}</i>	<i>pa$\bar{v}à$</i>	<i>pa$\bar{t}ja$</i>	<i>pa$\bar{v}a?$</i>	<i>pa$\bar{t}jo$</i>	'pillow'
<i>ta$\bar{c}à$</i>	<i>ta$\bar{c}à$</i>	<i>ta$\bar{k}ka$</i>	<i>ta$\bar{c}a?$</i>	<i>ta$\bar{k}ko$</i>	'broad'
<i>a\bar{h}</i>	<i>a$\bar{h}o$</i>	<i>a$\bar{h}jo$</i>	<i>a$\bar{h}o?$</i>	<i>a$\bar{h}ja$</i>	'stove'
<i>ka\bar{h}</i>	<i>ka$\bar{h}o$</i>	<i>ka$\bar{h}ho$</i>	<i>ka$\bar{h}o?$</i>	<i>ka$\bar{h}ha$</i>	'damage'
<i>ku\bar{r}</i>	<i>ku$\bar{r}à$</i>	<i>ku$\bar{r}ja$</i>	<i>ku$\bar{r}a?$</i>	<i>ku$\bar{r}jo$</i>	'evil'
<i>ki\bar{r}</i>	<i>ki$\bar{r}à$</i>	<i>ki$\bar{r}ja$</i>	<i>ki$\bar{r}a?$</i>	<i>ki$\bar{r}jo$</i>	'script'

Alternation of palatalized and unpalatalized consonants has a significant role in North Setu morphology, especially in verb inflection, cf., firstly, in nominal *i*-stems:

ngs	gsg	psg	ilsg	npl	ppl	gloss
<i>hu\bar{s}</i>	<i>hu$\bar{s}ši$</i>	<i>hu$\bar{s}še$</i>	<i>hu$\bar{s}še$</i>	<i>hu$\bar{z}i?$</i>	<i>hu$\bar{s}šə$</i>	'snake'

secondly, in nominal \bar{o} -stems:

<i>u\bar{s}</i>	<i>u$\bar{s}šə$</i>	<i>u$\bar{s}t$</i>	<i>u$\bar{s}šə$</i>	<i>u$\bar{s}šə?$</i>	<i>u$\bar{s}še$</i>	'door'
<i>sa$\bar{r}o$</i>	<i>sa$\bar{r}oə$</i>	<i>sa$\bar{r}oə$</i>	<i>sa$\bar{r}oə$</i>	<i>sa$\bar{r}oə?$</i>	<i>sa$\bar{r}oə?$</i>	'horn'

thirdly, alternation in verbal *i*-stems:

pr1	pr3	ipf1	ipf3	gloss
<i>nuózi</i>	<i>nuózi</i>	<i>nudze</i>	<i>nudze</i>	'suck'
<i>pühi</i>	<i>pühk</i>	<i>pühè</i>	<i>pühke</i>	'sweep; wipe'
<i>sallì</i>	<i>sal</i>	<i>sallè</i>	<i>sallè</i>	'tolerate'
<i>käkkì</i>	<i>käk</i>	<i>käkkè</i>	<i>käkke</i>	'hide (tV)'
<i>tohi</i>	<i>toht</i>	<i>tohtse</i>	<i>tohtse</i>	'be allowed'

and, fourthly, in verbal non-*i*-stems:

<i>tahò</i>	<i>tahk</i>	<i>tahì</i>	<i>tahk</i>	'break; split (tV)'
<i>puže</i>	<i>pušk</i>	<i>puzì</i>	<i>pušk</i>	'butt'
<i>añnà</i>	<i>añD</i>	<i>aññì</i>	<i>añD</i>	'give'
<i>köüdü</i>	<i>köüt</i>	<i>köüdü</i>	<i>köüt</i>	'rope'
<i>ütle</i>	<i>ütles</i>	<i>ütte</i>	<i>ütte</i>	'say'
<i>kenèle</i>	<i>kenèles</i>	<i>kenèli</i>	<i>kenèl</i>	'speak'
<i>avida</i>	<i>avttas</i>	<i>avide</i>	<i>avt</i>	
~ <i>avtta</i>		~ <i>avtte</i>		'help'
<i>kumàrda</i>	<i>kumàrdaš</i>	<i>kumàrde</i>	<i>kumàrD</i>	'bow'
<i>kazù</i>	<i>kazuš</i>	<i>kašve</i>	<i>kašve</i>	'grow (iV)'
<i>kūzù</i>	<i>kūzūš</i>	<i>kūšše</i>	<i>kūšše</i>	'ask'
<i>peġgà</i>	<i>peġgāš</i>	<i>peġkse</i>	<i>peġš</i>	'be afraid'
<i>kuġvā</i>	<i>kuġvaš</i>	<i>kuġve</i>	<i>kuġvaš</i>	'dry (iV)'

Due to the scope of palatalization, it is possible to speak about a specific subsystem of palatalized and palatal consonants in North Setu, cf.

/	<i>v</i>		<i>v̄</i>	
	<i>s</i>	<i>h</i>	<i>s̄</i>	<i>h̄</i>
<i>p</i>	<i>c</i>	<i>k</i>	<i>p̄</i>	<i>k̄</i>
<i>m</i>	<i>t</i>	<i>ŋ</i>	<i>m̄</i>	<i>ŋ̄</i>
	<i>n</i>			
	<i>l</i>			
	<i>r</i>			
	<i>ó</i>		<i>v̄'</i>	
	<i>ś</i>	<i>h'</i>	<i>ś̄</i>	<i>h̄'</i>
	<i>ć</i>			
<i>p̄</i>	<i>t'</i>	<i>k̄</i>	<i>p̄</i>	<i>k̄</i>
<i>m̄</i>	<i>ń̄</i>	<i>ŋ̄</i>	<i>m̄</i>	<i>ŋ̄</i>
	<i>l'</i>			
	<i>ř</i>			
	<i>j</i>		<i>ĵ</i>	<i>l</i>

7. Conclusions. North Setu phoneme system has the distinction short vs. long both for vowels and consonants. There are 9 short and 12 long vowels in the vocalism of 1st syllables and 9 short vowels in the vocalism of non-first syllables that are not primarily stressed. If the initial consonants of clusters preceded by a short monophthong in syllables of Q3 are long consonant phonemes, then there are in North Setu 12 short unpalatalized, 13 short palatalized, 13 long unpalatalized, and 13 long palatalized consonants.

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ТИИТ-РЕЙН ВИЙТСО (Таллинн—Хельсинки)

**ГЛАСНЫЕ И СОГЛАСНЫЕ В СЕВЕРНОСЕТУСКОМ
ГОВОРЕ ЮЖНОЭСТОНСКОГО НАРЕЧИЯ**

Северносетуская фонемная система имеет противопоставление краткий : долгий как в области вокализма, так и в области консонантизма. В вокализме первого слога возможны девять кратких и 12 долгих гласных фонем, в вокализме непервых слогов без главного ударения — девять кратких гласных фонем. В вокализме непервых (конечных) слогов с главным ударением, кроме того, имеются девять долгих гласных фонем. Если интерпретировать начальные компоненты сочетаний согласных, следующих после краткого монофтонга слогов третьей степени долготы (O3), как долгие согласные фонемы, то в северносетуском говоре следует признать 12 кратких непалатализованных, 13 кратких палатализованных, 13 долгих непалатализованных и 13 долгих палатализованных согласных фонем.