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Saterland Frisian (Sfrs. *Seeltersk*) is the only living remnant of Old East Frisian. It is an endangered language, with an estimated number of 2250 speakers (Stellmacher 1998: 27) and is spoken in the municipality of the Saterland (Sfrs. *Seelterlound*), which is located in the federal state of Lower Saxony in northwestern Germany.

The municipality of the Saterland consists of the four communities Ramsloh (Sfrs. *Romelse*), Strücklingen (Sfrs. *Strukelje*), Scharrel (Sfrs. *Skäddel*), and Sedelsberg (Sfrs. *Sedelsbierig*). Saterland Frisian comprises three local dialects spoken in Ramsloh, in Strücklingen, and in Scharrel and Sedelsberg (Sjölin 1969, Fort 2015); there is no standard variety. The dialect of Ramsloh is the most conservative of the three dialects and has maintained several features of Old East Frisian which are lacking in the dialects of Strücklingen and Scharrel. Most, if not all, native speakers of Saterland Frisian born before the 1970s are trilingual, with a hybrid mixture of Münsterland and Emsland Low German as their second language and Northern Standard German as their third language (Fort 2004). Most younger speakers of Saterland Frisian are bilingual with Northern Standard German as their second language. General descriptions of Saterland Frisian are available from Siebs (1889, 1901), Sjölin (1969), Kramer (1982), and Fort (2015) (for an overview of older contributions see Fort 1980: 16ff.). Comprehensive dictionaries are Kramer (1961) and Fort (2015).

The present description is based on the speech of three middle-class trilingual speakers in their 70s and 80s, two female speakers from Ramsloh and Scharrel, and one male speaker from Strücklingen. The description of the vowels is enhanced by acoustical analyses of 13 male middle-class trilingual speakers from Ramsloh aged between 52 and 70 years (see Schoormann, Heeringa & Peters 2017). The recording of the narrative as well as the recordings of the examples in the wordlists and in the running text are taken from the female speaker from Ramsloh. The orthographic conventions used throughout the text are adopted from Fort (2015).

Consonants

	Bilabial	Labio-dental	Alveolar	Post-alveolar	Palatal	Velar	Glottal
Plosive	p b		t d			k g	(ʔ)
Nasal		m		n		(ŋ)	
Trill				r			
Fricative		f v	s z	(ʃ)		x (χ)	h
Approximant		(β)			j		
Lateral approximant			l				

Note: Symbols in brackets indicate allophonic variants.

p	'pukjə	'to knock'	b	'bukjə	'to bow'
t	'taʊjə	'to rush'	d	'dajjə	'to dew'
k	'kɑ:ɣtə	'card'	g	'gɑ:ɣtə	'groats'
m	'mɛɪdə	'meadows'	n	'nɛɪdə	'grace'
			r	'rɑ:gə	'rye'
f	'filə	'rasp'	v	'vilə	'while'
s	'sɑ:gə	'saw'	z	'zɑ:gə	'myth'
x	'ʔɑ:xtə	'eight'	h	'hɑ:gə	'dunghill'
j	'jukjə	'to itch'	l	'lukjə	'to succeed'

Younger speakers tend to devoice voiced (lenis) obstruents in syllable-final position and before voiceless obstruents. Some older speakers realize /g/ as a velar fricative, which is voiced in all positions except before voiceless consonants and in word-final position. [ʔ] is restricted to the beginning of stressed syllables without an onset consonant and often is missing from connected speech.

Postvocalic /n/ is velarized before tautomorphic /g/ and /k/ (compare monomorphemic [ˈsɪŋl] *Singel* 'fencing', [ˈslɛŋkə] *Slänke* 'rut', and [slɑ:ŋk] *sloank* 'slim' with bimorphemic [ˈmɛnkən] *Mänken* 'man DIM').

In onset position /r/ is an alveolar trill. Younger speakers tend to replace the alveolar trill with the voiced uvular fricative [ʀ]. Prevocalic /r/ may be preceded by /p/, /b/, /t/, /d/, /k/, /g/, /f/, and /v/. After a vowel in word-final position and before a consonant it is [ɐ] ([bɑ:ɣ] *boar* 'cash ADJ', [bɑ:ɣst] *Boarst* 'fissure').

The labiodental fricative /v/ tends to become devoiced in word-final position and before voiceless consonants. It may be preceded by /d/, /t/, /k/, and /s/ in the onset ([dvo:] 'to do', [tvo:] 'two', [kvo:t] 'bad', [ˈsvɑ:də] 'crust'). The voiced bilabial approximant [β] is an allophonic variant of /v/, which occurs in intervocalic position after [u] (see section 'Diphthongs' below).

The alveolar fricative /s/ becomes voiced word-medially before /j/, after /l/ and /r/, and in intervocalic position if the preceding vowel is long. Before /p/, /m/, /n/, /l/, /t/, and /v/, /s/ tends to become palatalized in younger speakers, resulting in [sʲ] or [ʃ] (e.g. [ˈsʲpitə] 'spades', [ˈʃmi:də] 'smithy', [ˈʃnidə] 'to cut', [ˈʃlitə] 'to wear out', [ˈʃte:tə] 'to push', [ˈʃvitə] 'to sweat'). The phoneme sequence /sj/ likewise tends to become reduced to [sʲ] or [ʃ] (e.g. /sjo:də/ [ˈsʲo:də] 'to boil', /sjɔŋgə/ [ˈʃɔŋə] 'to sing'). Word-initially, /sk/ is realized as [sk], [sx], [ʃk], [ʃx], or [ʃ] (see Tröster 1997: 17). Word-finally, [sk] is in free variation with [ʃk].

The voiced alveolar fricative /z/ is rare and tends to become devoiced in word-final position. Some speakers do not use the voiced alveolar fricative in any position. The fricative /x/ is restricted to word-medial and word-final position. It is usually a velar fricative but in some speakers palatal variants can be observed after front vowels and uvular variants after low back vowels, as in Northern Standard German (see Kohler 1990). The glottal fricative /h/ is restricted to morpheme-initial prevocalic position.

The palatal approximant /j/ is restricted to prevocalic position, where it may be preceded intra-morphemically by /b/, /t/, /d/, /k/, /g/, /f/, /s/, /m/, /n/, and /l/ (e.g. [ˈbjɑ:də] 'to offer', [tjo:] 'to pull', [ˈdju:vəl] 'devil', [ˈkjo:zə] 'to choose', [ˈgju:xtə] 'direction', [ˈfju:ɣ] 'fire', [mjuks] 'dung', [ˈnju:ɣən] 'nine', [ˈlju:də] 'people'; for /sj/ see the previous comments on /s/). Prevocalic /l/ may be preceded by /p/, /b/, /k/, /g/, /f/, and /s/ (e.g. [ˈplɑ:tə] 'disk', [bloʊt] 'blood', [klo:t] 'dress', [glik] 'equal', [flʊks] 'instantly', [slɔt] 'lock').

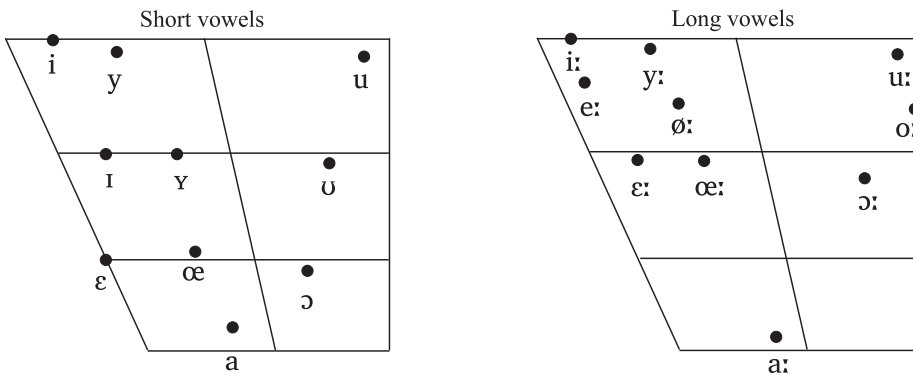
Saterland Frisian allows complex onsets with up to three consonants /klj/, /flj/, /spr/, /spl/, /str/, /stj/, /skr/, /skj/, /skl/, /slj/, e.g. [kljɔʊn] 'clew', [ˈfljo:tə] 'to flow', [ˈʃprɑ:kə] 'language', [ˈʃpli:tə] 'to split', [ˈʃtrɑ:ljə] 'to shine', [ˈstjɔŋkə] 'to stink', [ˈskriuβə] 'to write', [ˈskjo:tə] 'to shoot', [ˈsklɑ:və] 'slave', and [ˈʃljoxt] 'bad'. The consonant clusters /trj/ and /krj/ are often realized as [tj] and [kj], respectively (e.g. [ˈtjɑ:xtə] 'funnel', [ˈkjo:pə] 'to creep'). Inflected verb forms may contain codas with up to four consonants after a short vowel and after /ɑ:/ (/mpst/, /ndst/, /nkst/, /lpst/, /ldst/, /lkst/, e.g. [vrɪmpst] 'writhe 2SG.PRS',

[bɪndʒst] ‘bind 2SG.PRS’, [stjɔːŋkst] ‘stink 2SG.PST’, [hɛlpst] ‘help 2SG.PRS’, [jɛldʒst] ‘hold for 2SG.PRS’, [mɛlkst] ‘milk 2SG.PRS’).

Vowels

Monophthongs

Saterland Frisian has 10 short and 10 long monophthongs. In addition, the vowel system of Saterland Frisian includes [ə], which is restricted to unstressed syllables, such as the weak form *ze* ‘they’ included in the examples below.



The close vowels can be divided into three classes: short lax vowels (/ɪ ʏ ʊ/), short tense vowels (/i y u/), and long tense vowels (/i: y: u:/). The mid vowels comprise short lax vowels (/ɛ œ ɔ/), long lax vowels (/ɛ: œ: ɔ:/), and long tense vowels (/e: ø: o:/). The open vowels /a/ and /a:/ differ mainly in duration. Scharrel speakers replace /a:/ with /a/ before tautosyllabic alveolar plosives.

ɪ	'lɪnən	'linen ADJ'	i	'lɪnə	'string'	i:	'li:nə	'backrest'
ʏ	'jɔptə	'depth'	y	'pytə	'bags'	y:	'dy:vəl	'devil'
ʊ	fʊl	'full'	u	ful	'foul ADJ'	u:	fu:l	'many'
ɛ	'dɛkə	'to cover'	ɛ:	'dɛ:kə	'cover'	e:	'brɛ:kə	'breaks'
œ	'mœlkə	'to milk'	œ:	'mœ:gə	'taste'	ø:	'sø:gjə	'to lactate'
ɔ	'lɔdɛjə	'to laze'	ɔ:	'lɔ:də	'drawer'	o:	'klo:də	'dresses'
a	'takə	'branch'	a:	'ta:gjə	'to annoy'	ə	zə	'they'

The close front rounded vowel /y:/ is largely restricted to loans from Low German. The close tense vowels /i y u/ are shorter than /i: y: u:/ but usually a bit longer and more peripheral than the lax vowels /ɪ ʏ ʊ/ (see Heeringa, Peters & Schoormann 2014). There is some disagreement about the distribution of long and short tense vowels (see Fort 1971) and the distinction is on retreat. Whereas there are still a few older speakers who have preserved the opposition between short and long tense vowels, most younger and middle-aged speakers replace the short tense with long tense vowels, which results in binary oppositions between short lax /ɪ ʏ ʊ/ and long tense /i: y: u:/, as in Northern Standard German (see Tröster 1996, 1997; Schoormann et al. 2017).

Figure 1 shows mean values of monophthongs produced in nonce words of the form /hVt/ recorded from 13 male speakers of Ramsloh Saterland Frisian aged between 50 and 75 years with three repetitions. To obtain a target vowel the speakers were instructed to read a /hVt/ word with the intended vowel immediately after a rhyming Saterland Frisian word (e.g. *Hoot*

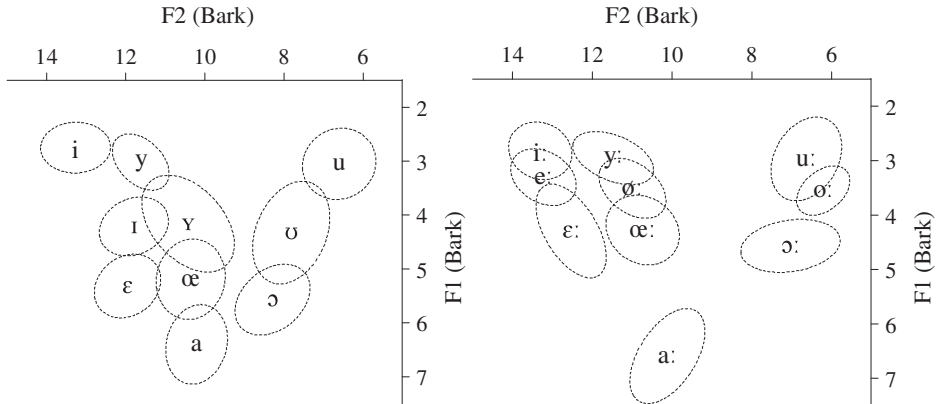
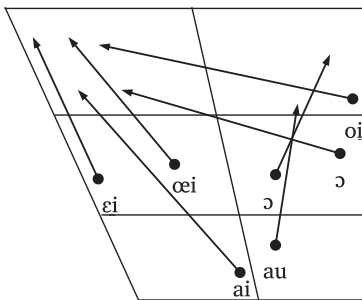


Figure 1 Mean formant frequencies at 50% of vowel duration of short (left panel) and long monophthongs (right panel) in /hVt/ words of Ramsloh Saterland Frisian (after Schoormann et al. 2017). Ellipses indicate one standard deviation. Formant extraction was carried out using the acoustical analysis software PRAAT (Boersma & Weenink 2015).

after Sfr. *Poot* ‘paw’ to elicit /o:/; for further details see Schoormann et al. 2017). As the productions of /i y u/ and /i: y: u:/ do not differ either by duration or by F1 or F2, we conclude that the speakers have merged the short and long close tense vowels.

Diphthongs

Saterland Frisian has seven phonemic diphthongs, all of which are falling and closing: /oi̯/, /ɛ̯i̯/, /œ̯i̯/, /ɔ̯i̯/, /ai̯/, /ɔ̯u̯/, and /au̯/ (see Bussmann 2004: 82, who, however, omits /oi̯/). The first part of the diphthongs may be lengthened but there are no durational contrasts between the phonemic diphthongs. The diphthong /ɔ̯i̯/ is realised as [ɔ̯:̯i̯] except before tautomorphic voiceless plosive (e.g. [brɔ̯:̯it̪] ‘scald 3SG.PST’ with heteromorphic /t/ vs. [ˈflɔ̯:t̪jə] ‘to pipe’ with tautomorphic /t/; see Bussmann 2004: 76f., 80f.). The diphthongs may end with a more centralized vowel. This is especially true for /ai̯/, /au̯/, and /ɔ̯i̯/, which may be realized as [a̯ɪ̯], [a̯ʊ̯], and [ɔ̯ɪ̯], respectively (see formant values in Figure 2 below). As the location of the final part of these diphthongs in the F1-F2 space is variable, we assume that they are diphthongs which end with a tense vowel but may be realized with different degrees of undershoot (see Fort 2015 and Bussmann 2004). The second part of /œ̯i̯/, /oi̯/, and /ɔ̯i̯/ may be both centralized and rounded, resulting in [œ̯ɪ̯], [œ̯ɤ̯], and [ɔ̯ɤ̯].



oï	no:it	‘never’
ei	nei	‘new’
œi	mœidsk	‘vain’
ɔi	kɔi	‘key’
ai	na:i	‘near’
ou	noust	‘knag’
au	na:u	‘accurate’

The diphthong /yɨ/, which Fort (2015) finds in a single word, *Sküüi* ‘meat juice’, was unknown to our speakers. Fort’s (2015) [u:i], which is attested for [tru:ɨjə] ‘to threaten’, is an allophonic variant of /u:/ before /j/.

Saterland Frisian has five additional diphthongs, [iɨ], [iɯ], [i:ɨ], [e:ɨ], and [ɛɨ], which are allophones of the phoneme sequences /iv/, /iv/, /i:v/, /e:v/, and /ɛv/, respectively. When /v/ occurs in intervocalic position, the diphthong is followed by a voiced bilabial approximant [β].

PHONEMIC	ALLOPHONIC	GLOSS
/i:v/	'bli:vən	[i:ɨ] 'bli:ɨβən ‘stayed’
/iv/	'griuv	[iɨ] 'griɨ 'advantage’
	'gliuvə	'gliɨβə ‘cleft’
/iv/	'kivə	[iɨ] 'kiɨβə ‘chin’
/e:v/	'le:və	[e:ɨ] 'le:ɨβə ‘to believe’
/ɛv/	hɛv	[ɛɨ] hɛɨ ‘hit 3SG.PST’
	'hɛvən	'hɛɨβən ‘hit PP’

Just as the distinction between /i:/, /i/, and /ɪ/ is under pressure, there is a tendency to merge /i:v/, /iv/, and /iv/. Table 1 lists the vowel–/v/ sequences that were found to be merged in at least one of the three local dialects by Schoormann et al. (2017).

Table 1 Mergers of vowel–/v/ sequences.

/iv/–/iv/	Ramsloh, Strücklingen, Scharrel
/iv/–/i:v/	Ramsloh
/iv/–/i:v/	Ramsloh, Strücklingen

According to Fort (2015: xv) there is an additional diphthong [ɛ:ɨ] in the pronoun *säüuwen* ‘self’, which is a variant of *säärm*, and which our speakers no longer used.

Figure 2 shows mean values for the phonemic diphthongs (left panel) and allophonic realizations of vowel–/v/ sequences (right panel) in /hVt/ words, which were elicited by using rhyming dialect words and recorded two times from the 13 Ramsloh speakers (see section ‘Monophthongs’ above).

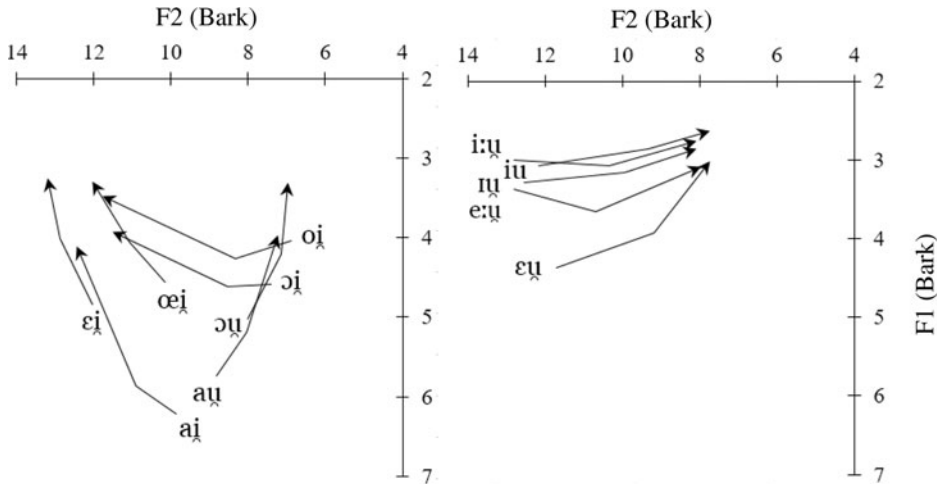


Figure 2 Mean formant frequencies (in Hz) of Ramsloh diphthongs in /hVt/ words measured at 20%, 50%, and 80% of diphthong duration (beginning, center and end of arrow). Left panel: phonemic diphthongs; right panel: allophonic variants of /i:v/, /i:v/, /i:v/, /e:v/, and /e:v/.

Word stress and intonation

The distribution of primary word stress in Saterland Frisian can be characterized with reference to the phonological word as defined by Wiese (2000) for Standard German. Specifically, a phonological word in Saterland Frisian can consist of one of the following: (i) a lexical stem, which may be extended by (a) prefixes with a reduced vowel, (b) the prefix /bi/, or (c) suffixes that begin with a vowel; (ii) a prefix with a full vowel (except /bi/); and (iii) a suffix that has a full vowel and begins with a consonant. Morphological words comprise one or more phonological words. In morphological words comprising a single phonological word the primary word stress falls on the last stressed syllable. If they comprise more than one phonological word, the primary word stress falls on the last stressed syllable of the first phonological word. An illustration of how stress works in Saterland Frisian complex words is given below. Phonological words are in parentheses. Stressed syllables are underlined. Note that the rules do also apply to loans like /zə'lɔ:t/ and /elə'fant/.

WORD	MORPHEME	PHONOLOGICAL WORD	MEANING
/tʊmə/	tumə	(<u>t</u> umə)	'thumb'
/zə'lɔ:t/	zələ:t	(zə <u>l</u> ɔ:t)	'salad'
/bi'prɔ:ljə/	bi+prɔ:l+jə	(bi <u>p</u> prɔ:ljə)	'to praise'
/ʊt'drɪŋkə/	ut+drɪŋk+ə	(<u>u</u> t)(drɪŋkə)	'to drink up'
/dɪskdɔ:k/	dɪsk+dɔ:k	(<u>d</u> ɪsk)(dɔ <u>k</u>)	'tablecloth'
/e:lə'fant/	e:ləfant	(e)lə <u>f</u> ant)	'elephant'

Fort (2015) lists a number of compounds which apparently are loans from Northern Standard German (Nsg.) but have a different stress pattern than their German cognates, such as Sfrs. *jäarm'zoalig* vs. Nsg. *'arm,selig* 'miserable', Sfrs. *licht'fäidig* vs. Nsg. *'leicht,fertig* 'careless', and Sfrs. *'stjuur'fräi* vs. Nsg. *'steuer,frei* 'tax-free'. The deviating stress patterns of the Saterland Frisian words may result from treating the German loans as non-compounds

consisting of a single phonological word whose last stressed syllable attracts the primary word stress.

Saterland Frisian shares most if not all intonation contours with Northern Standard German (see Fort 1995: 527, Peters 2008; for Northern Standard German see Grice, Baumann & Benz Müller 2005 and Peters 2014). In today's language, there is no clear indication of a word accent distinction between *GESTOSSENER TON* ('push tone') and *GESCHLIFFENER TON* ('dragging tone'), as assumed by Siebs (1889) for the Saterland Frisian of his time.

Transcription of recorded passage

The passage was recorded from the female speaker from Ramsloh who distinguishes between short and long tense close vowels (see Heeringa et al. 2014). The symbols | and || are used to mark minor and major intonational phrases.

Phonemic transcription

di 'nɔ̃dəvi:nd̥ un ju 'sʊnə || 'ɪnsən 'stre:dən sɪk di 'nɔ̃dəvi:nd̥ | un ju 'sʊnə | vel fən do be: | vɛɪl di 'ste:rkərə vɑ:s || as a:n 'vɔ̃ndərs,mən | di in a:n 'vɔ:rmən 'mɔ:ntəl 'pəkəd vɑ:s | den vai̯ lɔ̃ŋs kɔ:m || jo 'vudən 'e:nɪç | det di fər den 'ste:rkərə 'jɛɪldə skul | di den 'vɔ̃ndərs,mən tʰvɪŋt | sɪn 'mɔ:ntəl 'uttɔlukən || di 'nɔ̃dəvi:nd̥ 'blɔ:zədə mət 'alə 'krɔ:zjə | 'ɔ:vər 'umso mɔ:r hi 'blɔ:zədə | 'umso 'fɛ:stər 'pəkədə sɪk di 'vɔ̃ndərs,mən | in sɪn 'mɔ:ntəl in || 'entəl̥k 'rɔ:tə di 'nɔ̃dəvi:nd̥ den kɑmp ap || nu 'mɔ:kədə ju 'sʊnə mɛd 'hɪrə 'fryntəl̥kə 'strɔ:lən | ju lʊft vɔ:rm || un al 'ɛtər mɪn 'ɔ:gən,blɪkə | lɔ:k di 'vɔ̃ndərs,mən | sɪn 'mɔ:ntəl ut || do 'mɔ:stə di 'nɔ̃dəvi:nd̥ 'tɔ̃rɛ:kə | det ju 'sʊnə fən hɪm be: | di 'ste:rkərə vɑ:s ||

Allophonic transcription

di 'nɔ̃dəvi:nd̥^h ʔʊn ju 'sʊnə || 'ʔɪnsn̩ 'ʃtre:d̩n̩ sɪk^ɪ di 'nɔ̃dəvi:nd̥^h | ʔʊn ju 'sʊnə | vel fən do be: | vel di 'ʃtɛpkərə vɑ:s || ʔas ʔa:n 'vɔ̃ndəs,mən | di ʔɪn a:n 'vɔ:ɣm̩ 'mɔ:nr̩l̩ pəkət^ɪ vɑ:s | den vai̯ lɔ̃ŋs kɔ:m || ju 'vud̩n̩ 'ʔe:nɪç | ɖet^ɪ ɖi: fɔ den 'ʃtɛpkərə 'jɛɪldə sku:l | ɖi den 'vɔ̃ndəs,mən t^hvɪŋt | sɪn 'mɔ:nr̩l̩ 'ʔut^ɪtɔ̃lʊʔɪŋ || di 'nɔ̃dəvi:n̩ 'blɔ:zədə mɛ 'ʔalə 'krɔ:zə | 'ʔa:vɔ̃ 'ʔumso mɔ:r hi 'blɔ:zədə | 'ʔumso 'fɛ:stɛ 'pəkədə sɪk^ɪ di 'vɔ̃ndəs,mən | ʔɪn sɪn 'mɔ:nʔl̩ ʔɪn || 'entəl̥k^ɪ 'rɔ:tə di 'nɔ̃dəvi:nd̥^ɪ den kɑmp ʔap^h || nu 'mɔ:kədə ju 'sʊnə mɛ: 'i:ɹə 'fryntəl̥kə 'ʃtrɔ:lən | ju lʊft vɔ:ɣm̩ || ʔun əl 'ʔɛtɛ mɪn 'ʔɔ:g̩n,blɪkə | lɔ:k^ɪ di 'vɔ̃ndəs,mən | sɪn 'mɔ:nr̩l̩ ʔut^h || do 'mɔ:stə di 'nɔ̃dəvi:nd̥^ɪ 't^hɔ̃rɛ:kə | det ju 'sʊnə fən hɪm be: | di 'ʃtɛpkərə vɑ:s ||

Orthographic version

Die Noudewiend un ju Sunne

Insen streden sik die Noudewiend un ju Sunne, wäl fon do bee wäil die Stäärkere waas, as 'n Wondersmon, die in 'n woormen Moantel pakked waas, dän Wai loangs koom. Jo wuden enig, dät die foar dän Stäärkere jäilde skuul, die dän Wondersmon twingt, sin Moantel uutouluuken. Die Noudewiend bloazede mäd alle Kroazje, oaver jee moor hie bloazede, uumso fääster pakkede sik die Wondersmon in sin Moantel ien. Äntelk roate die Noudewiend dän Kamp ap. Nu moakede ju Sunne mäd hier früüntelke Stroale ju Luft woorm, un al ätter min Oogenblikke look die Wondersmon sin Moantel uut. Do moaste die Noudewiend toureke, dät ju Sunne fon him bee die Stäärkere waas.

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