Malila orthography statement

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1. Consonants

1.1 Grapheme choices

The table below gives the consonant grapheme choices for Malila (shown in angle brackets) together with the sounds which they represent:

Table 1 Consonant grapheme choices

	Bilabial	Labiodental	Alveolar	Postalveolar/	Velar/	Glottal
				Palatal	Labio-velar	
Voiceless plosives	p^h		t ^h		k ^h	
(aspirated)	<		<t></t>		<k></k>	
Voiced plosives ¹	Ъ		d		g	
			<d>></d>		<g></g>	
Prenasalised voiceless	^m p ^h		ⁿ t ^h		$^{\eta}k^{h}$	
plosives	<mp></mp>		<nt></nt>		<nk></nk>	
Prenasalised voiced	^m b		ⁿ d		ŋg	
plosives	<mb></mb>		<nd></nd>		<ng></ng>	
Voiceless affricates				t∫ʰ		
(aspirated)				<ch></ch>		
Voiced affricates				d ₃		
				<j></j>		
Prenasalised voiced				лd3		
affricates				<nj></nj>		
Voiceless fricatives		f	S		x	h
		<f></f>	<s></s>	<sh></sh>	<kh></kh>	<h>></h>
Voiced fricatives	β	v	z		γ	
	<bh></bh>	<v></v>	<z></z>		<gh></gh>	

¹ The phonetic properties of these sounds have not been thoroughly investigated, but it should be noted that /b/ and /d/ in particular have the auditory quality of implosives.

Prenasalised voiceless		^m f	ⁿ S	ηſ		ⁿ h
fricatives		<mf></mf>	< ns >	<nsh></nsh>		<nh></nh>
Prenasalised voiced		^m V	$^{ m n}$ Z			
fricatives		<mv></mv>	<nz></nz>			
Nasals	m		n	n	ŋ	
	<m></m>		<n></n>	<ny></ny>	<ng'></ng'>	
Approximants			1	j	W	
			<1>	< y > 2	< w > 3	

In all cases where the Malila phoneme is found in Swahili, the grapheme used in Swahili is also used in Malila. This includes the graphemes <kh> for /x/ and <gh> for /y/, which are infrequently used in Swahili. The graphemes for the seven voiceless prenasalised consonants ($/^mp^h/$, $/^nt^h/$, $/^nk^h/$, $/^mf/$, $/^ns/$, $/^nf/$, $/^$

In the case of β , the parallel of α , α , and α in both Malila and Swahili suggested α , with the α symbol representing the bilabial place of articulation and the α representing the fricative manner of articulation.

1.2 Syllabic nasals

Syllabic nasals may be created in Malila by the elision of a high back vowel following /m/ in a grammatical morpheme. The vowel is more commonly retained and is present in slow and careful speech. Therefore the decision was made to write the vowel in these contexts:

² This grapheme is also used to show the palatalisation of consonants.

³ This grapheme is also used to show the labialisation of consonants.

 $(1)^4$

a. u mu puuti	$[umup^h \hat{u} : t^h i] \sim [ump^h \hat{u} : t^h i]$	priest (cl. 1)
b. u mu tinho	$[\acute{u}mut^hi:^nho] \sim [\acute{u}mt^hi:^nho]$	paddle (cl. 3)
c. mu paapa	$[mup^h \hat{a}:p^h a] \sim [mp^h \hat{a}:p^h a]$	wide (cl. 1)
d. m paapa	[^m p ^h a:p ^h a]	wide (cl. 9)
e. akha mu paapa	$[axamup^h \hat{a}:p^h a] \sim [axamp^h \hat{a}:p^h a]$	and she gave birth to him (3sg. obj.)
	/a-xa-mu-p ^h a:p ^h -a/	
	3sg-nar-3sg-give_birth-fv	
f. akha m paapa	[axa ^m pʰâːpʰa]	and she gave birth to me (1sg. obj.)
	/a-xa-N-p ^h a:p ^h -a/	
	3sg-nar-1sg-give_birth-fv	

As a comparison with examples (d) and (f) shows, not writing the vowel in these contexts would create ambiguity, unless a distinct way of marking syllabic nasals was added to the orthography. It was felt that marking syllabic nasals in this way would add unnecessary complexity to the orthography. Writing the vowel reflects the more common pronunciation and does not create ambiguity. Those who wish to elide the vowel when they read are free to do so.

2. Vowels

2.1 Grapheme choices

The table below gives the vowel grapheme choices for Malila together with the sounds which they represent:

Central **Back** Front +ATR/i/ /i:/ /u/ /u:/ <i><ii>> <u>> <uu> -ATR /I/ /I:/ /υ/ /U:/ <i>> <ii>> <u>> < 444 >

Table 3 Vowel grapheme choices

⁴ The following abbreviations are used in the grammatical morpheme glosses: ANT anterior, APPL applicative, CAUS causative, CL class, FUT₂ far future, FV final vowel, IPFV imperfective, ITV itive, NAR narrative, NEG negative, OBJ object, PST₁ near past, PST₂ mid past, PST₃ far past, PASS passive, PL plural, POSS possessive, PRES present, PROG progressive, RCP reciprocal, SG singular. The tone transcription should be considered tentative as a detailed tone analysis has not been carried out. Only high, falling and rising tones are marked. Low tones are unmarked.

mid	/ε/, [e]	/εː/, [e]:			/ɔ/, [o]	/ɔː/, [oː]
	<e></e>	<ee></ee>			< 0 >	< 00 >
low			/a/	/a:/		
			<a>>	<aa></aa>		

Kutsch Lojenga (2005:3) describes Malila as having seven underlying vowels, /i, I, ϵ , a, υ , υ , u/ and nine surface realisations, [i, I, e, ϵ , a, υ , o, υ , u]. She states, "The two mid vowels [e] and [o] do not occur independently as contrastive vowels, but are allophones of / ϵ / and / υ / respectively; they occur as their surface realisations in the environment of the high vowels /i/ and / υ /."

Barred vowel symbols were chosen for the degree-2 vowels as they show the similarity between these vowels and the degree-1 vowels, but are also visually more distinct than the use of diacritics (e.g. $\langle \bar{\imath} \rangle$ and $\langle \bar{u} \rangle$) would be. The doubling of the grapheme to represent vowel length is standard practice in most Bantu languages.

2.2 Vowel length

The basic principle for the writing of vowel length in Malila is that vowels which sound long are written long unless they occur in contexts which do not allow a phonemic vowel length contrast. The following sections discuss how this principle applies in different types of contexts.

2.2.1 Vowel length which is restricted to certain word positions

With some exceptions (to be discussed below), phonemically long and phonetically lengthened vowels in Malila must contain the antepenultimate mora. If this mora is the first mora in the long or lengthened vowel, this vowel necessarily occurs in the penultimate syllable, as in (a) below. If the antepenultimate mora is the second mora in the vowel, the vowel necessarily occurs in the antepenultimate syllable, as in (b) below:

(2)

a. kulaabha [khulâ:βa] to ask, pray
 b. kugoosipa [khugŏ:sipha] to be old

When a phonological word which contains a long vowel in the penultimate syllable is lengthened by means of suffixation or the addition of possessive determiner, the long vowel no longer contains the antepenultimate mora and is thus shortened. It was decided that word-level examples of the shortening process should be written with one vowel symbol, but phrase-level ones would be written with two. Thus the vowel is written as a short vowel if the word is lengthened by suffixation (b), but

as a long vowel if the shortening of the vowel is caused by the addition of a possessive determiner to the phonological phrase (d):

(3)

a. al aa bhe	[aláːβe]	/a-la:β-e/	he should ask
		3sg-ask-fv	
b. at u l a bh i laje	[átʰʊlaβɪladʒe]	/a-tʰυ-la:β-ɪl-ag-e/	he should ask for us
		3sg-2pl-ask-appl-ipfv-fv	
	_ 1		

c. umupaafi [umupʰâ:fi] parent d. umupaafi waakwe [umupʰáfiwâ:kʰwe] his parent

[alá:βe] 'he should ask' and [átholaβıladʒe] 'he should ask for us' are different grammatical words and are written according to how they pronounced, whereas [umuphâ:fi] and [umupháfi] both mean 'parent' and are the same grammatical word, whose pronunciation is determined by the context in which it occurs.

The principle followed here means that words which are derived from minimal pairs contrasted by the difference between a short vowel and a shortened long vowel are not distinguished orthographically when they are sufficiently lengthened by suffixation, as in (b) and (d) below, where the applicative morpheme [-el] and imperfective morpheme /-ag/ have been suffixed to the root:

(4)

a.	k u bh o la	[kʰŭ:βola]	to rot
b.	k u bh o lelaga	[kʰυβolélaga]	to be rotting for
c.	k u bh oo la	[kʰυβôːla]	to cut
d.	k u bh o lelaga	[kʰυβolélaga]	to be cutting for

The vowel shortening seen here in root vowels also applies to long prefix vowels. These vowels have been analysed as underlyingly long because this is how they are pronounced when they contain the antepenultimate mora of the word. These morphemes are the negative /tha:-/ and itive /xa:-/:

(5)

a.	akh aa lole	[axá:lole]	/a-xa:-lol-e/	he should go and see
			3sg-itv-see-fv	
b.	akh a teleshe	[axátʰele∫e]	/a-xa:-t ^h elex-e/	he should go and cook
			3sg-itv-cook-fv	
c.	at aa lole	[atʰáːlole]	/a-t ^h a:-lol-e/	he should not see
			3sg-neg-see-fv	

The vowels in these prefixes are written as long vowels in (a) and (c) and as short vowels in (b) and (d) in order to reflect pronunciation. The context-dependent length of the vowels in these prefixes can be contrasted with that of the narrative morpheme /xa-/ which is analysed as a short vowel at the underlying level:

(6)

Long vowels which are created by the juxtaposition of vowels from different morphemes also follow the principle of being shortened if they do not include the antepenultimate mora of the word:

(7)

a.	bhakh ii khala	[βaxǐ:xala]	/βa-xa-ıxal-a/	and they stayed
			3PL-NAR-stay-FV	
b	. bhakh i khalaga	[βaxıxálaga]	/βa-xa-ıxal-ag-a/	they were staying
			3PL-ITV-stay-IPFV-FV	
c.	aa fikha	[aːfíxa]	/a-a-fix-a/	he arrived
			3sg-pst ₁ -arrive-fv	
d	. a telekha	[atʰeléxa]	/a-a-t ^h elex-a/	he cooked
			3sg-pst ₁ -cook-fv	

In (a) a long vowel is created at the juxaposition of the vowel of the narrative morpheme with the initial vowel of the root. As this vowel includes the antepenultimate mora it is realised as a long vowel and written as such. In contrast, in (b) the vowel created in the same context is short as the addition of the imperfective morpheme means that the vowel does not include the antepenultimate mora. Similarly in (c), the juxtaposition of two grammatical morphemes creates a long vowel, whereas in (d) the same two morphemes combine to form a short vowel. The position of the vowel relative to the antepenultimate mora of the phonological word determines whether the vowel is long or short.

Different vowel length phenomena which relate to word position can be seen in imperatives:

(8)

a. y ii pa	[ji:pʰá]	extract! (sg.)
b. y ii khali ~ yikh aa li	[jǐ:xali] ~ [yixâ:li]	stay! (pl.)
c. g o lola ~ gol oo la	[gólola] ~ [golô:la]	straighten! (sg.)
d. d aa mushi ~ dam uu shi	[dǎ:muʃi]~ [damû:ʃi]	get up! (pl.)

In imperatives with a -VCV stem, as in (a), the vowel in the penultimate syllable must be lengthened. As this is a word-level process and obligatory, it is represented by a long vowel in the orthography. In the case of -VCVCV stems, as in (b), either the vowel in the antepenultimate syllable or the vowel in the penultimate syllable must be lengthened. The former is more common and therefore this spelling has been followed in the translation work.

In stems which have three or more syllables (excluding -VCVCV stems), as in (c)-(d), two pronunciations are possible. In one (shown first in each example), the underlying vowel length pattern of the stem is retained. In the other pronunciation, the vowel in the penultimate syllable is lengthened. The decision was made to write these examples according to the underlying vowel length.

Finally, although both long and lengthened vowels are usually restricted to word positions which include the antepenultimate mora, there are some exceptions to this rule. Word-final vowels may be long in ideophones, such as <fii>'black' and <swee> 'white'⁵, interjections, such as ahaa> 'aha' and loanwords such as <isaa> 'hour' (from Swahili). The vowels in these words are perceived as clearly long and therefore this is reflected in their spelling. In contrast, the vowel in some monosyllabic words in Malila is perceived as longer than a short vowel, but not long enough to warrant a double vowel symbol in the orthography. Examples of these words are the set of relative pronouns, such as <she> (cl. 7) and <pe> (cl. 16), and the negative particle <te>.

2.2.2 Vowel length which occurs in any word position

In contrast with the behaviour seen in the previous section, the near past perfective⁶ verb form in Malila creates a long vowel which is not restricted to a word position which contains the antepenultimate mora:

(9)

⁵ Note that the long vowel in < swee > 'white' is written with a double vowel symbol as although it follows a labialised consonant, it does not include the antepenultimate mora of the word and is therefore not in a predictable compensatory lengthening environment (see section 2.2.3).

⁶ The underlying form of the tense morpheme is given as /ama:-/ because this form is evident in a less common alternative pronunciation. In examples with this pronunciation, the first vowel of the prefix combines with the vowel of the subject concord to form a short vowel and the second vowel of the prefix retains its length regardless of its position in the word, as in < bhamaafishile> [βamă:fiʃíle] 'they arrived', cf. (9a).

a. bh aa fishile	[βǎ:fi∫íle]	/βa-ama:-fix-ile/	they arrived
		3PL-PST ₂ -arrive-ANT	
b. aa seshile	[ǎ:se∫íle]	/a-ama:-sex-ile/	he laughed
		3sg-pst ₂ -laugh-ant	
c. n aa geezile	[nǎ:ge:zíle]	/ıN-ama:-ge:z-ile/	I washed
		1sg-pst ₂ -wash-ant	
d. bh aa bhalile	[βǎ:βalíle]	/βa-ama:-βal-ile/	they went
		3PL-PST ₂ -go-ANT	
e. bh a bhalile	[βaβálile]	/βa-βal-ile/	they have gone
		3PL-go-ANT	
f. int aa manyile	e [iʰtʰǎ:maɲíle]	/ıN-tʰaː-amaː-maɲ-ile/	I did not know
		1sg-neg-pst ₂ -know-ant	
g. intamanyile	[iʰtʰamaɲíle]	/ıN-tʰa:-maɲ-ile/	I have not known
		1sg-neg-know-ant	

This vowel is always written as a long vowel.⁷ Note though that it can be perceived as slightly shorter in longer word forms, especially those containing other long vowels, as in (c). Note that the near past perfective forms a minimal pair for vowel length with the present anterior when the vowel of the subject prefix is /a/, as can be seen by comparing (d) and (e), or the forms are negative, as in (f) and (g).

2.2.3 Vowel length in compensatory lengthening environments

Vowel length is not written before the thirteen prenasalised consonants <mp>, <nt>, <nk>, <mb>, <nd>, <ng>, <nj>, <mf>, <ns>, <nh>, <nh>, <mv> and <nz>, nor after labialised or palatalised consonants, when the vowel includes the antepenultimate mora of the word, as these are environments which cause compensatory lengthening:

(10)

a. am i nzi	[ámiːʰzi]	water
b. i mbwa	[îːmbwa]	dog
c. k u mw e la	[kʰʊmʷêːla]	to drink
d. u lw i tikho	[ʊlʷǐːtʰixo]	faith
e. k u py o ta	[kʰʊpʰjôːtʰa]	to break

 $^{^{7}}$ This statement is true even for compensatory lengthening environments, as will be seen in 2.2.3 below.

f. amasy**a**bhala [ámas^ja:βala] peanuts

Although vowels in these contexts are lengthened, they are not perceived as of the same length as phonemically long vowels and thus the rule of writing them short has some phonetic justification. In particular, vowels which follow labialised or palatalised consonants may be only slightly lengthened, especially if they do not carry a high tone.⁸

Note that compensatory lengthening of the type shown above occurs after labialised and palatalised consonants, but not after the glides /w/ and /j/. Vowels may be short or long after glides, as shown below:

(11)

a. w aa kwe	[wâ:kʰwe]	/u-ak ^{hw} e/	his (cl. 1)
		1-3sgPoss	
b. w a bha	[wáβa]	/υ-a-β-a/	you have been
		2sg-pst ₂ -be-fv	
c. t u khay ii khala	[tʰʊxajɪːxala]	/tʰʊ-xajɪ-ɪxal-a/	we will stay
		1PL-FUT ₂ -stay-FV	
d. t u khay i kala	[tʰʊxájɪkʰala]	/tʰʊ-xajɪ-kʰal-a/	we will buy
		1PL-FUT ₂ -buy-FV	

As noted in section 2.2.2.1, the long vowel of the tense marker in the near past perfective is not shortened when it occurs earlier in the word than the antepenultimate mora. This is also true of vowels following a labialised consonant or preceding a prensalised consonant:

(12)

a. tw aa teleshile	[tʰwǎːtʰeleʃíle]	/tʰʊ-amaː-telex-ile/	we cooked
		1PL-PST ₂ -cook-ANT	
b. aa ndaabhile	[ǎːʰdaːβíle]	/a-ama:-N-la:β-ile/	he asked me
		3sg-pst ₂ -1sg-ask-ant	

It was decided to write the long vowel in these contexts because the vowel sounds longer than a single vowel in a compensatory lengthening environment would sound in the same word position. It is also thereby possible to maintain an orthographic distinction of vowel length with the equivalent far past perfective and present anterior forms:

⁸ A further correspondence between vowel length perception and tone pattern which has been noted is that phonemically long or phonetically lengthened vowels which have the underlying tone pattern LH can be perceived as longer than long or lengthened vowels which have other tone patterns.

(13)

a. tw á teleshile	[tʰʷátʰeleʃile]	/tʰʊ-á-telex-ile/	we cooked
		1PL-PST ₃ -cook-ANT	
b. á ndaabhile	[áʰda:βile]	/a-á-N-la:β-ile/	he asked me
		3 SG-PST $_3$ - 1 SG-ask-ANT	
c. a ndaabhile	[aʰdaːβíle]	/a-N-la:β-ile/	he has asked me
		3sg-1sg-ask-ant	

In (a) and (b) the tone mark (see section 3) further distinguishes the orthographic form from the equivalent near past forms, (12a) and (12b) respectively. However, vowel length alone distinguishes between (13c) and (12b).

A further exception to the rule of not writing a long vowel before a prenasalised consonant can be found in the member of a tonal minimal pair which has two high tones:

(14)

a. ɨm aa ndɨ	[ímǎ:ʰdɪ]	long ago
b. ɨm a ndɨ	[ɪmâːʰdɪ]	Monday
c. insaangu	[íʰsǎːʰgʊ]	collection
d. ɨnsangu	[íʰsaːʰgʊ]	shaker
e. ish i nji	[íʃǐːʰdʒi]	other (cl. 7)
f. ish i nji	[íʃiːʰdʒi]	many (cl. 7)

The vowel length in (a) and (c) is perceived as longer than that in (b) and (d) respectively (presumably because of the difference in tone pattern) and therefore writing a long vowel in (a) and (c) has the double benefit of reflecting intuition and disambiguating what would otherwise be homographs. No other tonal minimal pairs of this kind have been found in nouns. One similar example is found in modifiers, as shown in (e-f), but the decision made here was not to break the usual rule of writing a short vowel before a prenasalised consonant as only class 7 creates a minimal pair of this kind. Having a special rule for one class would have been hard to apply, but writing the vowel length difference in all classes for the sake of consistency would have greatly increased the number of exceptions to the general rule.

2.2.4 Predictable word-initial vowel length

The word-initial vowel in nouns, pronouns, demonstratives and vowel-initial subjunctives which would otherwise contain three morae or fewer is lengthened (a-e). The prefix vowel in verb infinitives which would otherwise contain three morae or fewer is likewise lengthened (f):

(15)

a. a mat i	[ǎːmatʰɪ]		saliva
b. i bho	[î:βo]		war
c. i we	[ǐ:we]		you (sg.)
d. i shi	[î∫i]		this (cl. 7)
e. a manye	[ǎːmaɲe]	/a-man-e/	he should know
		3sg-know-fv	
f. k u lita	[kʰŭːlitʰa]		to be tired

The decision was made not to write this lengthened vowel with a long vowel symbol because the lengthening process is predictable.

The initial vowels of verbs with roots of the type VC and VCVC are lengthened in the imperative form and a palatal glide surfaces word-initially:

(16)

It was decided to write the long vowels here as although the length is predictable in this grammatical context, segmentally similar words do not exhibit the same lengthening process:

(17)

a. yibhe [jí
$$\beta$$
e] /jı- β -e/ it should be 9-be-FV b. yikuti [ji k h' $\acute{o}t$ h'ı] /jı- k h' υ -th'ı/ it says 9-PROG-say c. yabha [já β a] /jı-a- β -a/ it has been 9-PST₂-be-FV

2.2.5 Lengthening of short prefix vowels before an object which occurs before a -C- root

When a verb derived from a consonant-initial monosyllabic root contains an object marker, the vowel in the syllable immediately before the object marker is lengthened if it contains the antepenultimate mora of the word. This environment is created in all verb forms that do not include extensions, the anterior suffix /-ile/ or the imperfective suffix /-ag/:

(18)

a. t u k uu bhapa	[tʰʊkʰûːβapʰá]	/tʰʊ-kʰʊ-βa-pʰ-a/	we are giving them
		1PL-PROG-3PL-give-F	FV
b. t uu bhape	[tʰûːβapʰe]	/tʰυ-βa-pʰ-e/	we should give them
		1pl-3pl-give-fv	
c. akh aa mupa	[axǎ:mupʰa]	/a-xa-mu-p ^h -a/	and he gave him
		3sg-nar-3sg-give-f	V
d. k uu bhapa	[kʰὕ:βapʰá]	$/k^h$ u- βa - p^h - $a/$	to give them
		15-3PL-give-FV	

These vowels cannot simply be analysed as being lengthened because of the minimal mora count as some of the words already have enough morae before the lengthening process. They are also not necessarily in the usual word-initial syllable position for this lengthening process. The vowels are clearly underlyingly short, based on what we see in other words. Therefore the decision was made to write the lengthened vowels as long vowels since the lengthening process takes place at the word level and does not occur in segmentally similar contexts:

(19)

a. t u k u bhala	[tʰʊkʰύβala]	/tʰʊ-kʰʊ-βal-a/	we are going
		1PL-PROG-go-FV	
b. t u bhale	[tʰúβale]	/tʰυ-βal-e/	we should go
		1pl-go-fv	
c. akh a mila	[axámila]	/a-xa-mil-a/	and he swallowed
		3sg-nar-swallow-	FV

The vowel length shown in (18a-d) is not written if the object is first person singular and creates a prenasalised consonant with the root consonant or the subject creates a subject plus glide sequence as this creates a compensatory lengthening environment which would automatically lengthen the vowel:

(20)

a. akh a mpa	[axǎː ^m pʰa]	/a-xa-nı-p ^h -a/	and he gave me
		3sg-nar-1sg-give-f	V
b. ampe	[âː ^m pʰe]	/a-nɪ-pʰ-e/	he should give me
		3sg-1sg-give-FV	
c. kw a kupa	[kʰwǎ:kʰupʰa]	$/k^h$ u-a- k^h u- p^h -a/	it (cl. 15) has given you
		15-PST ₂ -2SG-give-FV	<i>I</i>
d. ly a bhapa	[l ^j ǎ:βapʰa]	/lɪ-a-βa-pʰ-a/	it (cl. 5) has given them
		5-PST ₂ -3PL-give-FV	

2.2.6 Imbrication and vowel length phenomena in verb extensions

The addition of the anterior suffix /-ile/ to some verbs containing extensions results in a long vowel in the penultimate syllable which is created by imbrication:

(21)

a. abhasimishiz ii zye	[aβasimiʃi:z ^j é]	/a-βa-simi∫ız ^j -ile/ 3sG-3pL-certify.caus-ant	he has certified them
b. asebhiilwe	[aseβi:lʷé]	/a-seβ-u-ile/ 3sg-choose-PASS-ANT	he was chosen
c. akholiine	[axolĭ:ne]	/a-xol-an-ile/ 3sG-resemble-RECIP-ANT	he resembles
c. asog oo ye	[asogŏ:je]	/a-sogol-ile/9 3sg-leave-ANT	he left

These forms can be contrasted with similar verb forms in which the vowel in the penultimate syllable is short because the suffix /-ile/ is not present and there is no imbrication:

(22)

a. bhasimish i zye	[βasimiʃíz ^j e]	/βa- simi∫ız ^j -e/	they should certify
		3pl-certify.caus-fv	<i>I</i>
b. zidind i lwe	[zidi:ndílwe]	/zi-di: ⁿ d-il-u-e/	they should be prevented from
		10-prevent-APPL-PASS-FV	

⁹ If analysed synchronically, the verb does not contain an extension, but it is assumed that the imbrication indicates that historically the root [-sog-] was suffixed by the reversive [-ol].

Imbrication also occurs in -CV- verb roots, as in (a-b) and in the -C- root /-p-/ 'give', as in (c):

(23)

a. ing uu ye	[i ^ŋ gŭ:je]	/ɪN-gu-ile/	I have fallen
		1sg-fall-ant	
b. bhál ii ye	[βáli:je]	/βa-á-li-ile/	they ate
		3PL-PST ₃ -eat-ANT	
c. apew ii lwe	[apʰewiːlʷé]	/a-p ^h -u-ile/	he has been given
		3sg-give-pass-ant	

3. Tone

Malila is a tone language. Two underlying tone heights are recognised: high (H) and low (L). Contour tones are analysed as sequences of H and L. Short vowels are analysed as having one mora and phonemically long vowels and compensatorily lengthened vowels are analysed as having two morae.

In nouns, four tone patterns can be recognised (following Kutsch Lojenga 2007): high tone on the antepenultimate mora, high tone on the word-initial mora, high tone on the penultimate mora, and a pattern which contains two high tones, one in a pre-stem position and one on the penultimate mora. Several minimal pairs for tone have been found in nouns:

(24)

a. impanga	[ɪ ^m pʰâːʰga]	small house (for man)
b. impanga	[í ^m pʰaːʰga]	baldness
c. u wooga	[ʊwô:ga]	mushroom
d. u wooga	[úwo:ga]	fear

It was felt that the number of minimal pairs of this kind was low enough that writing tone on nouns in the orthography is not necessary. (See (14) in section 2.2.3 for two exceptional examples of tonal minimal pairs which are distinguished by writing a vowel length difference.)

Verb infinitives all show the same tone pattern, namely, a high tone on the antepenultimate mora. Tone in verbs is grammatical rather than lexical, being determined by such features as tense, aspect, mood and person/number. Three types of minimal pairs are found in verb forms. Firstly, the negative present anterior and negative far past perfective form a tonal minimal pair:

(25)

a. tutateleshile	[tʰutʰateleʃíle]	/thu-tha:-thelex-ile/	we have not cooked
		1PL-NEG-cook-ANT	
b. tutáteleshile	[tʰutʰátele∫ile]	/tʰʊ-tʰaː-á-tʰelex-ile/	we did not cook
		1PL-NEG-PST ₃ -cook-ANT	

Verb stems of all types create minimal pairs of this type.

Secondly, the affirmative present anterior and affirmative far past perfective form a tonal minimal pair when the subject concord morphemes containing the vowel /-a/:

(26)

a. ateleshile
$$[at^hele \S ile] \hspace{1cm} /a\text{-}t^hele x\text{-}ile/ \hspace{1cm} \text{he has cooked} \\ 3\text{SG-cook-ANT} \\ \text{b. áteleshile} \hspace{1cm} [\acute{a}t^hele \S ile] \hspace{1cm} /a\text{-}\acute{a}\text{-}t^hele x\text{-}ile/ \hspace{1cm} \text{he cooked} \\ 3\text{SG-PST}_3\text{-}cook\text{-ANT} \\ \end{array}$$

Finally, the irregular verb 'to be' distinguishes between near past perfective and far past perfective by tone alone:

(27)

a. naamile [na:míle] /IN-ama:-
$$\beta$$
-ile/ I was
$$1s_{G-PST_2}\text{-be-ANT}$$
 b. náamile [nâ:mɪle] /IN-á- β -ile/ I was
$$1s_{G-PST_3}\text{-be-ANT}$$

As shown in the examples above, the decision was made to use a tone mark in the orthography for the far past perfective. By using a tone mark for this verb form, all three types of minimal pairs are distinguished in the orthography. It was felt that this was important as the verb forms involved in the minimal pairs occur frequently and are not necessarily disambiguated by context.

Although not all far past perfective verb forms create minimal pairs with other verb forms, it was decided to use the tone mark in all forms, for the sake of consistency and to simplify the rule for the writer. Several different tone marks were initially discussed and it was felt that the acute accent was the best option as it was simple and visually represented an upward movement from left to right, which fit intuitively with the concept of high tone. The placement of the high tone mark coincides with the placement of the high tone itself. In affirmative verb forms, the high tone is on the vowel in the first syllable in the word and in negative verb forms, it is on the vowel in the second syllable in the world. Thus the tone mark can be taught both as a grammatical mark which is associated with a

specific verb form and as phonological mark which is associated with the syllable carrying the high tone.

4. Morphophonology

4.1 Consonants

The principle of writing changes to segments at the word level is followed. In the case of consonants, these changes can occur to root-initial or prefix-initial /x/, $/\beta/$, /l/, /j/ and /w/ when they are prefixed with /N-/, which is either part of the first person singular subject or object morpheme or the class 9 or 10 noun prefix:

(28)

a. ɨ nh ambakʉ	[íʰhaʷbakʰʊ]	/ɪ-N-xa ^m bak ^h u/	bull	-khambak u
b. i mb iibhi	[i ^m bî:βi]	/ɪ-N-βi : βi/	sin	-bhiibhi
c. ind ongo	[ɪʰdôːʰgo]	/ɪ-N-loːʰgo/	language	-longo
d. ɨnj okha	[îːºdʒoxa]	/ı-N-joxa/	snake	-yokha
e. i ng uganile	[i ^ŋ gúganíle]	/iN-wʊ-gan-ile/	I have loved it	-w u (14овј)
		1sg-14-love-ant		

No changes of this kind have been noted at the phrase level in Malila.

Further changes to consonants at the word level can be seen at the morpheme boundary before the /i/, /i/, /e/ or /u/ vowel of certain grammatical morphemes. These changes are written according to pronunciation, as exemplified below:

(29)

a. la j i	[ladʒí]	/lag-i/	say goodbye! (pl. sbj.)	-lag-
		say.goodbye-FV		
b. atwi nsh e	[atʰʷîːʰʃe]	/a-t ^{hw} i: ⁿ h-e/	he should sweat	-twinh-
		3sg-sweat-fv		
c. uwuli s u	[uwúlisu]	/ʊ-wʊ-litʰ-u/	tiredness	-lit-
d. umupaa f i	[umupâːfi]	/ʊ-mʊ-pʰaːpʰ-i/	parent	-раар-

4.2 Vowels

4.2.1 Vowel harmony

Malila has both ATR vowel harmony and vowel height harmony (see Kutsch Lojenga 2009 for further detail). Leftward spreading ATR vowel harmony can be seen in augments and noun class prefixes, subject and object prefixes and tense prefixes, when the root contains a [+ATR] high vowel. Leftward spreading ATR vowel harmony is also triggered by certain suffixes. Both these processes are illustrated below:

(30)

a. i sh i p u ngo	[ɪʃɪpʰûːŋgo]	/ɪ-ʃɪ-pʰʊːŋgo/	shoulder
b. t u khal i la	[tʰʊxálɪla]	/tʰʊ-xa-lɪl-a/	and we cried
		1PL-NAR-cry-FV	
c. i sh i f u bha	[íʃifuβa]	/ı-∫ı-fuβa/	chest
d. t u khaf i kha	[tʰuxáfixa]	/tʰʊ-xa-fix-a/	and we arrived
		1PL-NAR-arrive-FV	
e. umusiibhi	[umusî:βi]	/υ-mυ-sɪ:β-i/	thinker
f. ulilile	[ulilíe]	/ʊ-lɪl-ile/	you have cried
		2sg-cry-ant	

Examples (a) and (b) illustrate words in which the underlying [-ATR] vowel quality of all the morphemes surfaces. Examples (c) and (d) illustrate comparable words in which the [+ATR] vowel quality of the root spreads leftwards to the prefixes. Examples (e) and (f) contain [-ATR] roots which surface with [+ATR] vowels because the words have [+ATR] suffixes which trigger vowel harmony. These processes take place at the level of the phonological word and therefore the surface quality of the vowel is always written. In some contexts this phonological word extends over two orthographic words:

(31)

```
a. mu nyumba [múnu:mba] /mo N-ju:mba/ in the house
b. ilyi nyumba [iljínu:mba] /ɪlja i-N-ju:mba/ of the house
c. ni nyumba [nínu:mba] /na N-ju:mba/ and the house
```

Writers seem more likely to make vowel harmony mistakes in these contexts than when the harmony extends over a single orthographic word. The associative, as shown in (b), is particularly problematic as Malila speakers can be unsure about how they would most naturally pronounce the vowels,

particularly if the word following the associative is a loanword or if several non-high vowels are found before a final /i/ or /u/. For the sake of consistency, where there was doubt in phrases of such kind, the usual rule was always followed.

When a locative is followed by a phrase introduced by an associative, a relative pronoun or negative *te*, there is free variation in whether these words block vowel harmony extending from the noun or verb to the locative. For the sake of consistency and simplicity, the decision was made to always write the underlying form of the locative in such environments:

(32)

a. ku bhe bhegiine [khυ βe βegǐ:ne] for those who have married each other

b. k**u** zya Yees**u** [kʰʊ zʲa jê:su] about Jesus

c. k**u** bhe te Bhayah**uudi** [k^hυ βe t^he βajahû:di] for those who are not Jews

Vowel height harmony is present in verb extensions. As this process takes place at the word level, again the surface quality of the vowel is always written. Thus, as shown below, the applicative morpheme, which has the underlying form /-ɪl/, can be written as <-il>, <-il> or <-el>:

(33)

a. kuv**ii**tila [k^huvĭ:t^hila] to be angry about

b. kusujila [khusúdʒıla] to tend for
 c. kubhombela [khuβŏːmbela] to work for

4.2.2 Adjacent vowels of different quality

The orthographic occurrence of two adjacent vowels of different quality in native Malila words is limited to sequences of $\langle ie \rangle$, $\langle ie \rangle$, $\langle ie \rangle$, $\langle ie \rangle$, $\langle ie \rangle$ after $\langle n \rangle$:

(34)

a. umubhi nie	[úmußin ^j e]	/υ-mυ-βin-ı-a/	you should nurse him
		2sg-3sg-nurse-caus-fv	
b. kubhi nia	[kʰuβínʲa]	/k ^h υ-βin-1-a/	to nurse
		15-nurse-CAUS-FV	
c. bha nio njile	[βan ^j o¹dʒíle]	/βa-nio ⁿ dʒ-ile/	they have strangled
		3PL-strangle-ANT	
d. umupo nie	[úmupʰonʲe]	/u-mu-p ^h on-1-e/	you should heal him
		2sg-3sg-heal-caus-fv	

e. k u pon i a	[kʰʊpʰónʲa]	/kʰʊ-pʰon-1-a/	to heal
		15-heal-CAUS-FV	
f. ishi nio ngo	[ɪʃɪn ^j ôːʰgo]	/ɪ-ʃɪ-nɪoːʰgo/	steering wheel, rudder
g. k u toonya	[kʰʊtʰôːɲa]	/kʰʊ-tʰoːɲ-a/	to rain
		15-rain-FV	

Writing the vowel sequence in (a-f) both reflects speaker perception regarding pronunciation and also ensures that there is no orthographic confusion with a palatal nasal, as shown in (g) for the sake of comparison.

Other combinations of adjacent vowels are possible in loanwords, as is shown in section 6.

4.2.3 Augments

Malila nouns have an augment of a single vowel which occurs in certain grammatical contexts and not in others. Associatives may also have an initial vowel and its presence depends in some cases on the semantics of the phrase and in others on the grammatical context, but is also sometimes a matter of free variation. The two examples below have an augment on the first noun, but not on the second. Example (a) has an augment on the associative and example (b) does not:

(35)

a. i shitaabu i sha mukuwi	[iʃitʰâːbu íʃa mukʰúwi]	the book of the prophet
b. ishaakulya sha bhaana	[iʃa:kʰúlʲa ʃá βa:na]	the food of the children

The orthographic rule for the augment is simply to write it wherever it occurs.

5. Word boundaries

5.1 Conjunctions

The conjunction 'and, with' in Malila has the underlying form /na/ and may be realised as /na/, /nu/, /nu/, or /ni/, depending on the context in which it occurs:

(36)

a. n a minzi	[námiːʰzi]	and water (cl. 6)
b. n u mwana	[nóm ^w a:na]	and child (cl. 1)
c. n u mupaafi	[numupʰâːfi]	and parent (cl. 1)
d. n i z u bha	[nî:zυβa]	and sun (cl. 5)
e. n i ntemu	[nîːʰtʰemu]	and axe (cl. 9)

The decision was made to write the vowel according to its surface pronunciation and to write it disjunctively from the following word. It is not possible, even in slow and careful speech, to pronounce both the underlying conjunction vowel and the vowel of the following word (*[na ámi:nzi], *[na ómwa:na], etc).

The conjunction is analysed as a clitic as it has the grammatical properties of a word, but is phonologically part of the word it precedes. As such, the option of linking it to the following word by means of a punctuation mark was considered as an option, as in <na-minzi>, <n-aminzi>, <number of example. This was not preferred as it was felt that adding a punctuation mark unnecessarily complicated the orthography. Also, nouns occur without their augments in other contexts (such as after an associative or in a vocative construction) and therefore readers are accustomed to recognising the word shape of a noun without its augment. The option of writing the conjunction and the following word as one orthographic word was rejected as it did not give sufficient prominence to the conjunction and was too similar visually to the noun without the conjunction.

Note that the disjunctive writing of the conjunction /na/ holds even when it is used with a copula to convey the meaning 'be with' or 'have':

(37)

a. alɨ na minzi [álɪ námiːnzi] he has water
 b. bháamɨle ni nswi [βâ:mɪle nî:nswi] they had fish

Class 5 nouns with a consonant-initial root are problematic for the disjunctive writing of /na/ as writing a CV shape for the conjunction means that the bare root is left as a single orthographic word: (38)

a. ni zibha [nî:ziβa] and milk
 b. ni taawa [nítʰa:wa] and name

Although this option is not ideal, it was preferred to the conjunctive option, which would have introduced vowel length issues (*<nizibha> or *<niizibha>?) and obscured the status of the conjunction as a separate grammatical word. The option of writing the underlying form, as in *<na izibha>, was rejected as it is not possible to pronounce the words in this way even when speaking slowly and carefully. The idea of writing *<ni izibha> was also rejected as Malila speakers felt that people would mistakenly add a glottal stop between the two words. Note also that this pronunciation is correct for a loanword from Swahili, which is therefore written in this way:

(39)

a. n u i nge	[nuʔîːʰge]	and scorpion
b. n i i nge	[niʔîːʰge]	and scorpions

There are two categories of exceptions to the rule for writing the conjunction /na/. These categories are personal pronouns and demonstratives:

(40)

a. ni ine	[nɪːné]	with me	cf.	ine	[ĭ:ne]	I
b. ni iwe	[nɪːwé]	with you (sg.)	cf.	iwe	[ĭ:we]	you (sg.)
c. nawo	[náwo]	with him	cf.	*wo		
d. ni itwe	[nɪːtʰʷé]	with us	cf.	itwe	[ř:tʰwe]	we
e. ni imwe	[nɪːmʷé]	with you (pl.)	cf.	imwe	[ǐːmʷe]	you (pl.)
f. na bho	[náβo]	with them	cf.	*bho		
g. na lyo	[nál ^j o]	with it (cl. 5)	cf.	*lyo		
h. na sho	[ná∫o]	with it (cl. 7)	cf.	*sho		
i. nuu la	[nû:la]	and that (cl. 1)	cf.	u la	[û:la]	that (cl. 1)
j. ni ivwo	[nǐ:v ^w o]	and these (cl. 8)	cf.	ivwo	[ĭːv ^w o]	these (cl. 8)
k. na gaala	[na gâ:la]	and those (cl. 6)	cf.	gaala	[gâ:la]	those (cl. 6)

The disjunctive option was rejected for the combination of /na/ and personal pronoun. Writing, for example, *<ni ne> and *<ni we>, was rejected as it creates an orthographic word after the conjunction which has a different meaning (<ne> 'I am', <we> 'you (sg.) are', <twe> 'we are', <mwe> 'you (pl.) are') or is not an independent word (*<wo>, *<bho>, *<lyo>, *<sho>). The option of writing, for example, *<ni ine> and *<ni iwe>, was rejected as it gave the misleading impression that the vowels either side of the space should be pronounced individually, rather than as a single lengthened vowel.

The combination of the conjunction /na/ and a vowel-initial demonstrative results in a pronunciation which does not facilitate disjunctive writing (i-j), for the same reasons given above. In contrast, before a consonant-initial demonstrative, disjunctive writing is possible (k).

The behaviour of the conjunction /na/ 'and' before words is the same as that of /ă:nza/ 'like' in the same contexts and therefore the same orthographic decisions regarding word boundaries have been made:

(41)

a. anzu mwana [aⁿzóm^wa:na] like a child cf. umwana [óm^wa:na] child

b. anzi ine	[aʰzɪːné]	like me	cf.	ine	[ǐ:ne]	I
c. anz u unu	[aʰzʊːnú]	like this (cl. 1)	cf.	unu	[ບໍ:ກບ]	this (cl. 1)
d. inzi iga	[ɪʰzɪːgá]	like these (cl. 6)	cf.	iga	[î:ga]	this (cl. 6)
e. anza ziniizi	[ǎːʰza zíniːzi	like these (cl. 10)	cf.	ziniizi	[zíni:zi]	these (cl. 10)
f. anza wunee	we	like he himself	cf.	w u neewe	[wóně:we]	he himself
[ǎːʰza wóněː	we]					
g. anza weene	[a ⁿ zawě:ne]	like him	cf.	uweene	[ówě:ne]	he
h. anza bheene	e [aʰzaβěːne]	like them	cf.	abheene	[áßě:ne]	they

When /ă:nza/ precedes a noun, the /a/ vowel is replaced with the augment of the noun and the two words are written disjunctively, as in (a), although the tone pattern suggests the two grammatical words form one phonological word. When /ă:nza/ precedes a first or second person pronoun or a vowel-initial demonstrative, the resulting form is written conjunctively (b-d). (Note the unexpected tone patterns.) When /ă:nza/ or precedes a consonant-initial demonstrative or pronoun, the resulting form is written disjunctively (e-h). Note that the third person singular pronoun loses its initial vowel in this context (g) and behaves like a consonant-initial word. The third person plural pronoun (h) is treated the same, although as its initial vowel is /a/, it is possible that it has not been lost but rather replaced the final vowel of the preceding word.

Note that in contrast to the behaviour described above, the phonologically similar /ĭ:¹ga/ 'if, in order that' always retains its final vowel, regardless of what follows, and therefore is always written disjunctively as <inga>.

5.2 Locatives

Malila has three locative clitics: $/p^ha/$, $/k^h\upsilon/$ (realised as $[k^h\upsilon]$ or $[k^hu]$) and $/m\upsilon/$ (realised as $[m\upsilon]$ or [mu]). These morphemes are phonologically identical to the noun class prefixes for classes 16, 17 and 18 respectively, but functionally and grammatically different:

(42)

a. a pa nt u pa mu	[apʰâːʰtʰu pʰámu]	a certain place (cl. 16)
b. u ku zelu kw akwe	[úkʰuzelukʰwâːkʰwe]	his white place (cl. 17)
c. u mw ilu mw abho	[úm ^w ilum ^w â:βo]	their dark place (cl. 18)
d. pa shi tundu sh aani	[pʰáʃɪtʰʊʰdʊʃâːnɪ]	at my basket (cl. 7)
e. ku ma kha g ooni	[kʰʊːmáxa gôːni]	by what strength (cl. 6)
f. mu ly ina li ila	[mul ^j îna lî:la]	in that hole (cl. 5)

Examples (a-c) show how nouns in classes 16, 17 and 18 behave with respect to agreement. As expected, class agreement is shown on the possessive determiner. Similarly, in examples (d-f), the possessive determiner agrees with the noun class. This agreement holds even when the noun is preceded by a locative. It is thus clear whether the morphemes /pha/, /xu/ and /mu/ are noun class prefixes or locative clitics, both because of the difference in agreement on the possessive determiner and because the prefixes attach to bound noun stems (a-c) and the clitics precede nouns already containing a class prefix (d-f).

The phrase-level function of the locative is also clear from examples (d-f) above. The locative function extends over not just the following noun, but also over its modifier, i.e. over the noun phrase as a whole. The locative is pronounced as a single phonological word with the following noun and together with its phrase-level grammatical function, this argues for its analysis as a clitic.

Writing the locative with a joining punctuation mark was rejected as introducing unecessary symbols into the language. The original preference of the Malila writers was to write the locatives conjunctively, as <pashitundu shaani> 'at my basket', for example. After some years, this decision was changed to a disjunctive rule as the writers became more experienced and began to see the desirability of maintaining a consistent representation of words with the same reference. Thus <(i)shitundu> is always the representation of 'basket', regardless of the grammatical context in which it occurs.

Note that if a demonstrative does not agree with the class of the noun, it does not modify it, but functions pronominally:

(43)

a. **mwi** tata **mu**ula [mwǐ:thatha mû:la] in the bush (cl. 5) there (cl. 18) b. **mwi** tata **li**ila [mwǐ:thatha lî:la] in that bush (cl. 5)

Examples (43a-b) also illustrate the difficulty associated with class 5 nouns with a consonant-initial root. The /i/ or /ɪ/ vowel which precedes these noun roots is not elided after a locative clitic and either replaces the clitic vowel (cl. 16, shown in (a)) or causes glide formation (cl. 17 and 18, shown in (b-c)):

(44)

a. pi zibha $[p^h \hat{i}:zi\beta a]$ at the milk b. kwi lomu $[k^{hw}i:lomu]$ with the mouth c. mwi taawa $[nit^h a:wa]$ in the name The disjunctive writing of the locative means that the bare root is left as a single orthographic word. As described in relation to the behaviour of class 5 nouns with consonant-initial root following the conjunction /na/ (see example (38)), this situation is not ideal. However it was preferred to the conjunctive option, which would have introduced vowel length issues (*<pizibha> or *<pizibha>?) and obscured the status of the clitic as a separate grammatical word. The option of writing the underlying form, as in *<pa izibha>, was rejected as it is not possible to pronounce the words in this way even when speaking slowly and carefully. The idea of writing *<pi izibha> was also rejected as Malila speakers felt that people would mistakenly add a glottal stop between the two words. Note also that this pronunciation is correct for a loanword from Swahili (following the pattern seen for conjunctions and loanwords in (39)) and therefore phrases of this kind are written accordingly:

(45)

```
a. mu ikuulu [muʔikʰûːlu] in the palace
b. ku inge [kʰuʔîːʰge] on the scorpion
```

Note that writing locatives disjunctively means that they contrast with prefixes of the same shape from other classes:

(46)

a.	k u makha	[kʰʊːmáxa]	by strength (cl. 17 locative, cl. 6 noun)
b	. ku mala	[kʰǔːmala]	to finish (cl. 15)
c.	mu minzi	[múmiːʰzi]	in the water (cl. 18 locative, cl. 6 noun)
d	. mu manyizyi	[mumaníz ^j i]	teacher (cl. 1)

There are two main categories of exceptions to the rule of writing locatives disjunctively. The first is that the locative is written together with the following word if the meaning of the whole is idiomatic. The second is that the conjunctive option is used when the disjunctive option would result in a form following the locative which has no meaning in isolation (although perhaps it once did):

(47)

a. ku kwilu	[kʰúkʰwiːlu]	in secret	cf.	ukwilu	blackness
b. Pa m u l u ngu	[pʰamʊlʊ̂ːʰgʊ]	Sunday	cf.	Mulungu	God
c. pa mwanya	[pʰámʷaːɲa]	up	cf.	imwanya	heaven
d. k unongwa	[kʰớnoːʰgʷa]	because	cf.	inongwa	news, case
e. ku kwitu	$[k^h \upsilon k^{hw} \mathbf{\hat{i}} : t^h \upsilon]$	to us	cf.	kwitu	our (cl. 15)
f. pamiiso	[pʰámiːso]	in front	cf.	amiiso	eyes
g. ku miiso	[kʰúmiːso]	in the face	cf.	amiiso	eyes

h. kumiiso kukhalamaga

[khúmi:so khuxalámaga] he was shining in the face

i. pamiiso ga Mulungu

[pʰámi:so gamulŷ:¹gu] in front of God

j. pamiiso pa Mulungu

[pʰámiːso pʰamulŷːŋgu] in front of God

k. **pa**asi [p^hâ:sɪ] down cf. *asi, *si (insi country)

Examples (a-g) illustrate the first category of exception as they have idiomatic meanings. Note that the subject agreement in (h) is class 17 and therefore $/k^h$ úmi:so/ is being treated as a class 17 noun rather than a class 6 noun with a class 17 locative prefix. However, this is not always the case for examples of this kind, as can be seen in (i-j), where the agreement of the associative can be class 6 or 16. Example (k) illustrates the second category of exception as removing the locative results in a form which has no meaning in isolation, although is assumed to have derived from one, as indicated.

A third category of exception comprises examples which have a literal meaning and are clearly composed of a locative clitic plus a noun which currently has meaning in isolation, but are considered indivisible orthographically by speakers:

(48)

a. kwi syila ilya s u mbi	[kʰwɪsʲîːla ílʲa sûːʰbɪ]	to the other side of the lake
b. kwi syila kwa s u mbi	[kʰwɪsʲîːla kʰwa sûːʰbɪ]	to the other side of the lake
c. isyila ilyamwabho	[ɪs ^j î:la ɪl ^j ámʷǎ:βo]	the other side
d. ku wandilo	[kʰuwǎːʰdɪlo]	at the beginning
e. uwandilo uwa	[ʊwǎ:ʰdɪlo ówa]	the beginning of
f. k ulubhazu	[kʰʊlóβazʊ]	at the side
g. ulubhazu lwakwe	[υlύβazu lʷâːkʷe]	his side
h. pa l u kɨndɨ	[pʰalʊkʰîːʰdɪ]	in public

For some of the words that fall into this category, the reason for the mother tongue perception of them as single orthographic words may be due to the fact that the word is changing from a phrase consisting of a locative clitic and a noun to being reanalysed as a preposition. Examples (a-b) support this view as $/k^{hw}Is^{j}I:la/$ 'to the other side' allows two agreement options (possibly with a slightly different meaning, depending on the context). In (a) the agreement is consistent with the interpretation of $/k^{hw}Is^{j}I:la/$ as a phrase in (b) it is consistent with its interpretation as a preposition. In (c) we see $/k^{hw}Is^{j}I:la/$ without the locative clitic and it behaves as a class 5 noun, as expected.

For other examples, the reluctance of mother tongue speakers to separate the locative clitic is perhaps because these examples are more commonly found with the locative clitic than without it, as in (d) and (f). Although (e) and (g) clearly show how the forms without the clitic exist as independent words and have normal agreement properties, mother tongue speakers feel (d) and (f) should be written conjunctively.

This third category of exceptions to the rule of writing locatives disjunctively is more problematic than the first two categories illustrated in (47). The boundaries of this third category are more fluid and dependent on individual speaker interpretation.

It is possible (though rare in our data) to double a locative clitic before a noun, as in the following examples:

(49)

a. **papa** shilozu [pʰapʰaʃílozu] right there at the desert
b. **kʉkʉ** nsɨ ɨya Moabu [kʰokʰôːʰsɪ íja móabu] right at the country of Moab
c. **mumu** nyumba [mumúnuːʰba] right in the house

As shown, the decision was made to write the doubled clitic as one word.

5.3 Copula

The decision was made to write the copula as a separate word from what follows because it has the grammatical status of an independent word and because the following word is able to exist in isolation from the copula.¹⁰ However, the close connection between the copula and the following word can be seen in the vowel harmony and tone pattern phenomena exhibited. Another reason for separating the copula is to maintain distinctiveness from some superficially similar but structurally different forms, as will be seen in (51) below. (50) gives examples of the disjunctive writing of the copula:

(50)

a. ŧweene wu Kilisiti [owê:ne wukhilísithi] he is indeed the Christ
b. wu naanu [wúna:nu] who is it?
c. liniili lye shilolesyo [líni:li ljeʃɪlolésjo] this is indeed a sign
d. itwe twe bhinji [ǐ:thwe thwéβi:ndʒi] we are many
e. abhantɨ bhe te bhabhinu [aβâ:ntho βe thê: βáβinu] people who are not ill

¹⁰ Proximal demonstratives take a consonant-initial form after a copula, e.g. < shi shiishi > /ʃiʃi:ʃi/ 'it is this (cl. 7)', rather than the normal vowel-initial form (for class 7, < ishi >). The consonant-initial form of the demonstrative occurs in other grammatical contexts, such as after an associative, e.g. < bha shiishi > /βaʃî:ʃi/ 'of (cl. 2) this/now (cl. 7)'.

f. $\mathbf{k}\mathbf{u}$ kuti $[\mathbf{k}^h \mathbf{v} \mathbf{k}^h \mathbf{v}^t \mathbf{t}^h \mathbf{r}]$ it is that

g. **bha** bhaala [βaβa:lá] they are those

h. iwe **te we** Kilisiti [ǐ:we t^hê: wé k^hilísit^hi] are you not the Christ? i. ine **ne ne** Kilisiti [ǐ:ne ne né k^hilísit^hi] I am indeed the Christ

These examples can be contrasted with pronominal forms and demonstratives in which similar segments are not written as separate words:

(51)

a. **n**uneene [núně:ne] I myself

b. **w**uneewe [wóně:we] you (sg.) yourself

c. **tu**neetwe [thúně:thwe] we ourselves

d. te **twetwe** [t^hê: t^{hw}ê:t^{hw}e] not us

e. wuwuula [wówu:la] that very one (cl. 1 or 3)
f. bhabhaala [βáβa:la] those very ones (cl. 2)

g. ine ne **neene** [ĭ:ne ne nê:ne] it is indeed me

h. iwe **wu**muluuji [ǐ:we wumúlǔ:dʒɪ] you barren person

5.4 Associatives

The associative is written disjunctively from the following word:

(52)

a. u mwana uwa mupaafi	[óm ^w a:na ówamupʰâ:fi]	the parent's child
b. ulusinda ulwi mpenga	[úlusiːʰda úlʷiʰpʰěːʰga]	the rat (type)'s tail

c. uwinza **uwa** minzi [úwi:ⁿza uwámi:ⁿzi] the goodness of the water

d. apa kugona [aphakhúgona] sleeping place (lit. 'of' + 'to sleep')

The noun which follows the associative occurs without an augment, except if it comes from class 5, 9 or 10. In nouns of these classes, the /a/ is elided and replaced by the /ɪ/ or /i/ of the noun augment, as in (b) above, in which the second noun is from class 9. As shown, the rule of writing the associative disjunctively is still followed in these cases.

There are some nouns which are derived from an associative and a following infinitive verb or adverb. In these cases the associative is written together with what follows as the construction functions as a regular noun, as in examples (a-b) below:

(53)

a. **ishaa**kulya [i $\{a:k^h\acute{u}l^ja\}$] food (lit. 'of' + 'to eat')

b. **uwa**nalyoli [uwanal^jô:li] truth (lit. 'of' + 'truly')

c. uwukuwi **uwa** nalyoli [uwuk^húwi ówa nal^jô:li] true prophecy

Note that examples (b-c) show how in this way the orthography distinguishes between a noun containing an associative and a noun preceded by an associative.

If the associative is preceded by a locative clitic, the two words are written disjunctively:

(54)

a. imanyizyo **ku zya** mulakha [ɪmaníz^jo k^húz^ja muláxa] teaching about anger b. **ku zyi** taawa lyani [k^huz^jít^hawal^jâ:nɪ] because of my name

5.5 Person marking

A morpheme showing person agreement can attach before the class prefix of a noun:

(55)

a. ine **nu**mufinjile [ĭ:ne númufiⁿdʒile] I the holy one

b. iwe **wu**muluuji [ǐ:we wumúlǔ:dʒɪ] you barren person

c. **tu**bhasundikwa [tʰúβasu:ndikhwa] we apostles

d. imwe mubhanholo bhiitu mu lwitiko

[ǐ:m^we muβá:ⁿholo βî:t^hu mul^wǐ:t^hɪk^ho] you (pl.) our brothers in the faith

It was felt that these morphemes need to be written conjunctively with the following noun. Note that this is helpful in the case of the first person singular, second person singular and second person plural forms as it removes any potential ambiguity with the conjunction $/n\upsilon/$, the copula $/w\upsilon/$ and class 18 locative clitic $/m\upsilon/$ respectively, which are all written disjunctively:

(56)

a. ine **nu** mushi waani [ĭ:ne nómoʃī wâ:nɪ] I and my wife b. UYeesu **wu** Mwene [ujê:su wom^wê:ne] Jesus is Lord c. imwe **mu** lwitikho [ĭ:m^we mol^wĭ:t^hɪxo] you in the faith

5.6 Reduplication

Reduplicated non-verbs are written disjunctively if the meaning of the whole is clearly related to the meaning of the reduplicated element and conjunctively otherwise:

(57)

a. weeka weeka [wê:kha wê:kha] one by one

b. kwonti kwonti [kʰwôːntʰi kʰwôːntʰi] everywhere

c. niigo niigo [niigo niigo] various (cl. 6)

d. bhuliibhuli [βυlǐ:βυlɪ] what sort? (bhuli is an interrogative particle)

Reduplicated verb stems are written with a hyphen:

(58)

a. akhanda kuzyunguula-zyunguula

[axâ:nda khuzjungúlazjungû:la] he started to go around and around

b. atakugalunhana-galunhana

[atʰákʰugalʊ́ʰhanagalʊ̆ːʰhana] he doesn't change

Writing these forms conjunctively instead would result in very long words and writing them disjunctively would mean that the second word had the appearance of an imperative. Therefore using a hyphen between the two parts is a good compromise.

5.7 Compound Words

Compound words are usually written disjunctively, except when the meaning of the whole is idiomatic in some way:

(59)

a. umubhomba mbombo [úmuβombambô:mbo] worker
 b. abhatula nongwa [aβathuláno:ngwa] sinners
 c. umwene shiizi [umwené∫i:zi] field owner
 d. abheene nyumba [aβenéɲu:mba] house owners

e. abhanashikholo [aβaná[ixolo] relatives (lit. 'children-clan')

Although in terms of tone pattern and vowel length phenomena, all these compound words are treated as single phonological words, note that with respect to vowel harmony, there is a clear word break, as seen in (c). Example (e) is written conjunctively because its meaning is not literal.

5.8 Other word boundary issues

The relative pronoun in Malila is written disjunctively:

(60)

a. pe umwantanda weeka [p^he umwá $^nt^ha$: nda wê: k^ha] then one woman

b. **we** abhalaga [we aβálaga] after saying goodbye to them

c. she ámubhuziizye

[∫e ámuβuzi:z^je]

as he said to him

In fast speech the /e/ vowel of the relative pronoun is often elided before a vowel-initial following word, but writing the slow pronunciation at all times is to be preferred as it avoids orthographic ambiguity with other verb forms:

(61)

a. we aafikha [we a:fíxa] / [wa:fíxa] after he arrivedb. waafikha [wă:fixa] you have arrived

Similarly, the negative particle <te> is written disjunctively, even when it occurs before a vowel-initial word and can be pronounced with the /e/ vowel elided:

(62)

a. **te** asɨibhe [tʰe asî:βe] / [tʰasî:βe] he will not think

The following examples both involve the interrogative particle $/\beta \acute{o}li/$, which is written disjunctively:

(63)

a. kwe kuti bhuli [khwe khóth βúl] what does it mean?
b. yitili bhuli [jɪthílɪ βúlɪ] how (lit. 'it says what')

The examples below show how < sita > 'without' is written separately from a following word:

(64)

a. sita shɨkholanyo [sitʰa ʃɪxoláno] without a sign b. sita kʉgeeza [sitʰa kʰoɡêːza] without washing

Note also the following near orthographic minimal pair:

(65)

a. ngaweeka [¹gawěːkʰa] (not) even one

b. inga weeka [ǐːʰga wěːkʰa] if one

6. Loan words and foreign names

Loan words from Swahili and English are written according to how they are most naturally pronounced in Malila:

(66)

a. ishitaabu [iʃitʰâːbu] book (Sw. kitabu)

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b. ifalaasi [ifalâ:si] horse (Sw. farasi)
c. uZakaliya [uzakʰalíja] Zechariah (Sw. Zakaria)
d. Naazaleti [nă:zaletʰi] Nazareth (Sw. Nazareti)
e. Yoolodani [jŏ:lodani] Jordan (Sw. Yordani)
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Note that in (d-e) a long vowel occurs in a position which does not include the antepenultimate mora. This is not normal for native Malila words, but is perhaps allowed in these loan words because the word-final vowel is commonly devoiced and thus not moraic.

If a loan word has adjacent vowels, Malila sometimes inserts the glide /j/ between the two vowels: (67)

a.	aBhafalis aayi	[aβafalisâ:ji]	Pharisees (Sw. Mafarisayo)
b.	uMat aayi	[umatʰâːji]	Matthew (Sw. Mathayo)
c.	Betis ayi da	[betisájida]	Bethsaida (Sw. Bethsaida)
d.	Yud eeya	[judé:ja]	Judea (Sw. Yudea)
e.	Samal iya	[samalíja]	Samaria (Sw. Samaria)
f.	uMal iya	[umálija]	Mary (Sw. Maria)
g.	uGal iyo	[ugalíjo]	Gallio (Sw. Galio)
h.	uK ai saali	[ukʰaisâːli]	Caesar (Sw. Kaisari)
i.	N ea pooli	[neapʰôːli]	Neapolis (Sw. Neapoli)
j.	Mid ia ni	[mídiani]	Midian (Sw. Midiani)
k.	uD io nisiyo	[udionísijo]	Dionysius (Sw. Dionisio)
1.	u Fal ao	[ufaláo]	Pharaoah (Sw. Farao)
m.	M oa bu	[moábu]	Moab (Sw. Moabu)
n.	uN au mi	[unáumi]	Naomi (Sw. Naomi)
o.	uSim ilyo ni	[usímil ^j o:ni]	Simeon (Sw. Simeoni)

Examples (a-g) include a < y > between two vowels which are adjacent in the equivalent Swahili forms. The orthographic form reflects the intuitions of Malila speakers. In contrast, examples (h-n) are written with adjacent vowels, again reflecting intuition. The general tendency is for < y > to be inserted if the second of the otherwise adjacent vowels is word-final (see, for example, both < io > and < iyo > in (k)), but there are exceptions (such as in (c), < Betisayida >). Other changes are also possible, such as the addition of / l i / between two vowels in (o).

7. Capitalisation

Proper nouns in Malila behave like nouns in most classes in that they carry an augment in most grammatical contexts. As this augment is not always present, it was decided to capitalise the first letter after the augment in proper nouns. Thus if the noun has a prefix, the capitalised letter is at the start of the prefix (a-d). If the noun has no prefix, the capitalised letter is at the start of the root (e-f):

(68)

a. uMumalila	[ʊmʊmálɪla]	Malila person
b. aBhamal i la	[aβamálıla]	Malila people
c. iShimalila	[ɪʃɪmálɪla]	Malila language
d. u W u málila	[uwumálıla]	Malila-ness
e. iYelusaleemu	[ijelusalê:mu]	Jerusalem
f. uYookhani	[ujŏ:xani]	John

The augment is not present if the proper noun is part of a vocative or if it follows an associative or a locative clitic. If the noun follows the conjunction <na>, the augment replaces the <a> of the conjunction. Thus in all these cases the initial letter of the word is capitalised:

(69)

a. We Yeesu, unaavwe!	[we jê:su úna:v ^w e]	Jesus, help me!
b. umwana va Alufeeyo	[óm ^w a:na wa alufê:jo]	son of Alphaeus
c. ku Yelusaleemu	[kʰujelusalê:mu]	in Jerusalem
d. nu Yeesu	[nujêːsu]	and Jesus

If a proper noun occurs at the start of a sentence, the augment (if it is present) is capitalised as well as the regular capital letter which follows the augment:

(70)

UYeesu akhalaabha. [ujê:su axalâ:βa] Jesus prayed.

The principles described here also apply when a common noun is capitalised because it is a unique referent, or part of a phrase describing a unique referent:

(71)

a. iNtumi iNyinza	[îʰtʰumi íɲiːʰza]	Good News
b. u Mwana wa Muntu	[ớm ^w a:na wa mû: ⁿ tu]	Son of Man

For the sake of consistency it was decided that the principle of capitalising the first letter after the augment should apply to nouns and adjectives, including when they occur phrase-medially and have an augment which is always present, as in example (a).

8. Free variation

The following forms are examples of free variation between two pronunciations:

(72)

a. khaala \sim khaa	[xâ:la \sim xâ:]	no
b. áamile ~ áamili	[â:mɪle \sim â:mɪlɪ]	he was
c. kwanziwa ~ kwanzilwa	$[k^{hw}a^nz \text{\'i}wa \sim k^hwa^nz \text{\'i}l^wa]$	to be fitting
d. anza \sim inza	[ăːʰza ~ ĭːʰza]	like
e. inge \sim inga \sim anga	[ǐːṇɡe ~ ǐːṇɡa] ~ [ǎ:ṇɡa]	if
fimvwa ∼-ivwa	$[-\mathrm{I}^\mathrm{m} \mathrm{v}^\mathrm{w} \mathrm{a} \sim -\mathrm{I} \mathrm{v}^\mathrm{w} \mathrm{a}]$	hear
g. v inii vwo ~ v inii vyo	$[v$ ín i : v ^w w o $\sim v$ ín i : v ^j o]	thus
h. gamu ~ gamo	[gámu ~ gámo]	certain (cl. 6)
ifumwizye \sim -fumiizye	$[\text{-fum}^w i : \! z^j e \sim \text{-fum} i : \! z^j e]$	give-ANT
j. pilongolela pa \sim lya \sim ya	$[p^h f lo^\eta g o le la \ p^h a \sim l^j a \sim j a]$	in front of

In all these examples, the first pronunciation given above is considered more standard and has been used in the translation work.

9. Punctuation

In the translation work, the following words and phrases have been followed by a comma when occurring sentence-initially: <isiku limo, > 'one day' (cf. <isiku limo ilyi Sabaato > 'one Sabbath day'), <Pilongolela, > 'later' (cf. <Pilongolela pa Yeesu > 'in front of Jesus') and the interrogative particle

bhuli, >. This reflects normal intonation.

<lyoli > 'but' and <khabhili > 'again' are preceded by a comma sentence-medially where they
start a new clause.

A comma is not usually placed between two speech verbs describing the same event, as in <akhamubhuuzya akhati > 'he told him saying'.

References

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Kutsch Lojenga, Constance. 2009. Two Types of Vowel Harmony in Malila, Bantu M.24, Lake Corridor, S.W. Tanzania. In M. Petter and R. Beline Mendes (eds.), *Proceedings of the Special World Congress of African Linguistics - São Paulo 2008: Exploring the African Language Connection in the Americas*. 109–128. São Paulo: Humanitas.

Appendix 1: Record of orthography meetings

30th July 2005, Ilembo: The initial orthography proposal was presented and agreed upon by the language committee.

4th May 2012, Ilembo: Community approval of orthography from language committee.

Appendix 2: Record of additions and changes to orthography decisions

2015-04-08 Malila orthography statement

First version of the document. Put together by Helen Eaton with input from Lukas Mwahalende and Juma Mwampamba.

2016-01-22 Malila orthography statement

Revisions and additions made after linguistic check of 1 Corinthians.

Those present during check: Lukas Mwahalende, Juma Mwampamba, Helen Eaton

Issue	Reference	Comment
Writing vowel length in CL	(14e-f),	Further minimal pair added.
environments	2.2.3	
Short vowels after /j/	(17c), 2.2.4	Example added.
Imbrication	(23c), 2.2.6	Exception added.
Vowel harmony	(32), 4.2.1	Added examples of locative harmonising with
		vowel of non-adjacent words.
Locatives	(47h), 5.2	Further conjunctive exception added.

Reduplication	(57), 5.6	Added doubt about decision to write reduplicated
		forms conjunctively.
Other word boundary issues	(65), 5.8	Added examples.
Capitalisation	7	Added tentative rule about capitalisation after
		colon.
Free variation	(74f-g), 8	Examples added.

2018-11-30 Malila orthography statement

Revisions and additions made after linguistic check of New Testament.

Those present during check: Lukas Mwahalende, Juma Mwampamba, Helen Eaton

Issue	Reference	Comment
Vowel length in	(8), 2.2.1	Decision changed to always write underlying stem vowel
imperatives		length pattern.
Vowel length in CL	(14), 2.2.3	Decision changed to only write tonal minimal pair distinction
environments		in two pairs of lexical items and not the class 7 modifiers.
Vowel length before	(18), 2.2.5	Example added to show rule applies to infinitives as well.
an object and -C-		
root		
Vowel length before	(20), 2.2.5	Examples added to show how rule applies in Cw- and
an object and -C-		Cy- contexts.
root		
Imbrication	(23c), 2.6	Vowel length corrected in 'give' example.
Vowel harmony in	(31), 4.2.1	Comment added to clarify that rule is consistently applied to
loanwords		phrases including loanwords, even if pronunciation is
		debatable.
Vowel harmony	(32), 4.2.1	Decision changed to write underlying vowel quality of class 17
across three-word		and 18 locatives, i.e. ku/mu not ku/mu.
phrases		
Loanwords after	(39), 5.1	Singular example added for completeness.
'and'		
Copula	(50-51),	kң kңti no longer an exception to the general rule. Further
	5.3	examples added and explanation clarified.

Associatives	(52-53),	Class 16 no longer an exception so relevant example moved	
	5.4	from (53) to (52).	
Person marking	(56), 5.4	Example of <uyisewo> 'your father' removed as not natural</uyisewo>	
		Malila. Examples added to show how conjunctive person	
		marking contrasts with similar morphemes written	
		disjunctively.	
Reduplication	(57), 5.6	Most reduplicated non-verbs now written disjunctively.	
 bhuli>	(63), 5.8	Decision changed. bhuli > now always written disjunctively.	
Capitalisation	7, (72)-	Biblical examples of capitalisation removed as more	
	(73)	comprehensive list found in Malila NT linguistic check	
		document.	
Free variation	8, (72)	Further examples added and decisions given for which forms	
		used in translation work. Example (75) removed as potential	
		ambiguity does not occur when new decisions followed.	
		Example (76) removed as not relevant to free variation.	
Punctuation	9	Further examples re comma use added.	