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Proposed segmental orthography of Moloko

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TABLE OF CONTENTS

1. Introduction.....	1
1.1 Linguistic Classification of Moloko	1
1.2 Basic principles in the orthography design.....	1
2. The alphabet	1
2.1 Choice of graphemes	1
2.2 Order of Alphabet	2
2.3 Consonants.....	2
2.4 Vowels and prosodies	6
3. Orthography rules and conventions	8
3.1 Underlying a- prefix.....	8
3.2 Syllable patterns.....	8
3.3 Elision and fast speech phenomena	9
3.4 Word boundaries.....	10
3.5 Compound words.....	12
3.6 Reduplicated words	12
3.7 Borrowed words.....	12
3.8 Verb morphology.....	13
3.9 Grammatical tone.....	14
3.10 Punctuation and capitalization	15
4. Appendix	17
5. References	19

1. INTRODUCTION

This orthography proposal represents the present state of the development of the orthography in Moloko. It is based on a phonology statement and tentative orthography suggestions made by Cathy Bow in 1997. The orthography suggested by Bow was employed since 1997 by a few Moloko men when they wrote a Moloko songbook. Then, between July of 2000 and March 2001, a committee of Moloko men from the language committee met together with the SIL team to look at orthography issues and further develop the orthography. The men did some testing in three different areas of the Moloko region. They taught two variations of the orthography to two different test groups and studied how the participants could read and write each of the orthographies.

As of this moment, the symbols for each phoneme have been chosen and a set of spelling rules has been established. The orthography was taught and tested in a 2-day workshop for a dozen people literate in Fulfulde. The final revision was made afterwards, considering the results of the testing and suggestions by the consultants.

A treatment of tone is beyond the scope of this paper. Initial study indicates that there is both grammatical and lexical tone in Moloko. The abundance of minimal pairs for tone in both nouns and verbs indicate that tone must be written somehow. This area is currently under study and we await orthographic suggestions on how tone is to be written.

1.1 Linguistic Classification of Moloko

Moloko is a central Chadic language of the Wandala-Mafa group. It is spoken in the arrondissements of Tokombéré and Maroua, departments of Mayo-Sava and Diamaré, respectively, in the Far North Province of the Republic of Cameroon.

1.2 Basic principles in the orthography design

- Moloko words will be written according to their isolation form. The fact that the final syllable before a pause contains a full vowel means that every word said in isolation will have at least one full vowel regardless of their underlying form. These vowels are the vehicles for indicating the prosody on the word.
- The word image of the isolation form will normally be preserved when the word is in context or when affixes are added.
- Only one grapheme will normally be used for each consonant phoneme.
- Word division decisions are aided by the observation of word final allophonic variations, and also by the fact that word prosodies will cross morpheme boundaries but not word boundaries.

2. THE ALPHABET

2.1 Choice of graphemes

The symbols to be used were chosen in accordance with the *Alphabet Général des Langues Camérounaises*, adopting the forms most similar to Fulfulde, the trade language of northern Cameroon. Even though French is the language of education, virtually every Moloko who can read French can also read Fulfulde, and Fulfulde is much more widely employed by the people in the Moloko region.

2.2 Order of Alphabet

a, b, ɓ, c, d, ɗ, e, ə, f, g, h, i, j, k, l, m, mb, n, nd, ng, nj, o, p, r, s, sl, t, u, v, w, y, z, zl.

2.3 Consonants

Phoneme	Grapheme	Allophone	Examples, by position		
			word initial	word medial	word final
/p/	p, P	[p]	<i>paɗay</i> eat! <i>pəlɔŋɔd'</i> skin <i>pembez</i> blood	<i>məpapar</i> seiko <i>mopocok</i> clothes of ancestors <i>mepetpete</i> butterfly	<i>ɗap</i> on purpose
/b/	b, B	[b]	<i>bahay</i> chief <i>bogom</i> type of hoe <i>beke</i> slave	<i>mabasl</i> melon <i>abor</i> greed <i>mebebek</i> bat	-----
/ ɓ /	ɓ, B	[ɓ]	<i>ɓəzlan</i> mountain <i>ɓoray</i> rescue! <i>ɓezlen</i> count!	<i>ɗəɓənay</i> learn <i>abolo</i> yam	<i>həɓ</i> break! <i>kɔɓ-kɔɓ</i> in quantity <i>hereɓ</i> heat
/f/	f, F	[f]	<i>fat</i> sun <i>fokotok</i> empty <i>fenge</i> termite mound	<i>afa</i> at the house of <i>fefen</i> stalk	<i>həraf</i> medicine <i>həlɔf</i> blind <i>kələf</i> fish
/v/	v, V	[v]	<i>vakay</i> burn! <i>vorom</i> chase away! <i>vəvele</i> dust devil	<i>njavar</i> young man <i>həvot-həvot</i> soft <i>zlevek</i> rabbit	<i>pahav</i> lungs <i>hərgov</i> monkey <i>tev</i> movement of a fire
/m/	m, M	[m]	<i>ma</i> mouth, language <i>mogom</i> house <i>medelengwez</i> leopard	<i>təmak</i> sheep <i>amom</i> honey <i>atəme</i> onion	<i>yam</i> water <i>zlom</i> five <i>hərdədəm</i> knee
/mb/	mb, Mb	[mb]	<i>mbahay</i> call! <i>mbolom</i> bachelor <i>mbəlele</i> elephant	<i>hambar</i> skin <i>hombo</i> flour <i>səmbetewk</i> hair	-----
/w/	w, W	[w]	<i>war</i> child <i>welen</i> interval	<i>ɗuwa</i> milk <i>cəcewe</i> branch	<i>mahaw</i> snake <i>cew</i> two
/t/	t, T	[t]	<i>təmak</i> sheep <i>təlolon</i> heart <i>tenjew</i> mosquito	<i>tətarak</i> sandals <i>atos</i> hedgehog <i>mepetpete</i> butterfly	<i>mat</i> die! <i>petpetet</i> much
/d/	d, D	[d]	<i>ɗalay</i> girl <i>ɗəngo</i> tail <i>ɗərlenge</i> hyena	<i>hada</i> much <i>adok</i> type of plant <i>dede</i> grandmother	-----
/ ɗ /	ɗ, D	[ɗ]	<i>ɗuwa</i> milk <i>ɗəgom</i> neck <i>ɗedew</i> clay pot	<i>yaday</i> pull! <i>həɗo</i> wall <i>pəɗe</i> hole	<i>həmad'</i> wind <i>hod'</i> stomach
[ɸ]	sl, Sl	[ɸ]	<i>sla</i> cow <i>slosloh</i> millet leaf <i>slenkəre</i> aluminium	<i>aslar</i> tooth <i>aslesleɓ</i> saliva	<i>kasl</i> wait! <i>kosl-kosl</i> forever <i>kwəcesl</i> viper
[ʌ]	zl, Zl	[ʌ]	<i>zlək-zlak</i> type of termite <i>zlokay</i> drill a hole! stream <i>zləzlew</i>	<i>agozlak</i> cockerel <i>bozlom</i> cheek <i>azlere</i> spear	<i>mbazl</i> destroy! <i>morozl</i> cheekbone <i>gəgwezl</i> type of flute

Phoneme	Grapheme	Allophone	Examples, by position					
			word initial		word medial		word final	
/n/	n, N	[n] word initial, word medial	<i>nah</i>	ripen!	<i>zana</i>	clothing	-----	
			<i>nok</i>	you				
		[N] word final	-----		-----		<i>hajan</i>	tomorrow
							<i>tololon</i>	chest
							<i>mədāgen</i>	cold (n.)
/nd/	nd, Nd	[nd]	<i>ndam</i>	people	<i>danday</i> ¹	intestine	-----	
			<i>ndozloy</i>	attack!	<i>kondon</i>	banana		
			<i>nden-nden</i>	sword	<i>hānder</i>	nose		
/l/	l, L	[l]	<i>lāvan</i>	night	<i>balay</i>	wash!	<i>wal</i>	attach!
			<i>lāho</i>	afternoon	<i>tololon</i>	chest		
			<i>lāhe</i>	bush	<i>alele</i>	leaf, sauce		
/r/	r, R	[r]	<i>rah</i>	skin!	<i>kāra</i>	dog	<i>ahar</i>	hand
			<i>reke</i>	sugar cane (Fulfulde)	<i>aroh</i>	pus	<i>tohor</i>	cheek
					<i>hereb</i>	heat	<i>meher</i>	forehead
/ts/	c ² , C	[ts] labialised and no prosody words	<i>car</i>	climb!	<i>wacay</i>	write!	<i>harac</i>	scorpion
			<i>cokor</i>	wooden fish trap	<i>mocod</i> ²	type of mouse	<i>mōboc</i>	fallow
		[tɕ] palatalised words	<i>cew</i>	two	<i>cecewk</i>	flute	<i>mekec</i>	knife
/dz/	j, J	[dz] labialised and no prosody words	<i>javar</i>	guinea	<i>jajay</i>	brown	-----	
			<i>jogom</i>	fowl				
			<i>jāgor</i>	shoulder garde				
		[dʒ] palatalised words	<i>jere</i>	true			-----	
/s/	s, S	[s] labialised and no prosody words	<i>sar</i>	know!	<i>asak</i>	foot	<i>was</i>	cultivate!
			<i>sono</i>	teasing	<i>gāmsō</i>	type of mouse	<i>atos</i>	hedgehog
		[ɕ] palatalised words	<i>senewk</i>	shadow	<i>sese</i>	meat	<i>lāmes</i>	song
/z/	z, Z	[z] labialised and no prosody words	<i>zar</i>	man	<i>wazay</i>	shake	<i>baz</i>	harvest!
			<i>zom</i>	eat!			<i>abongoz</i>	charlatan
		[ʒ] palatalised words	<i>zezekwe</i>	frightning thing	<i>tezeh</i>	boa	<i>mātāwez</i>	sorrel fruit

¹ All of the word medial nd (also nj and ng) could be interpreted as consonant clusters. However, there are no unambiguous cases of word medial syllable final n.

² [tsʰ] 'c' and [dzʰ] 'j'. Since these sounds function phonemically as complete units, rather than clusters of two consonants, it should be simple for speakers to learn a single grapheme for each one. Fulfulde readers already read c and j for ts and dz.

Phoneme	Grapheme	Allophone	Examples, by position					
			word initial		word medial		word final	
/ndz/	nj, Nj	[ndz] labialised and no prosody words	<i>njavar</i>	young man sit!	<i>manjara</i>	termite	-----	
		[ndZ] palatalised words	<i>nje</i>	sit!	<i>tenjew</i>	mosquito	-----	
/y/	y, Y	[y]	<i>yam</i>	water	<i>ayaw</i> <i>ayewed'</i> <i>edāyen</i>	yes whip bird	<i>zay</i> <i>səkoy</i> <i>memey</i>	peace clan how?
/k/	k, K	[k] palatalised and no prosody words	<i>kara</i> <i>kekeb-</i> <i>kekeb</i>	courage sharp	<i>makay</i> <i>beke</i>	leave slave	<i>hadak</i> <i>gadedek</i>	thorn frog
		[k ^w] labialised words ³	<i>kokor</i>	gourd	<i>ako</i>	fire	<i>mogodok</i>	vulture
/g/	g, G	[g] palatalised and no prosody words	<i>gədan</i> <i>ge</i>	strength do!	<i>gəgəmay</i> <i>mədager</i>	cotton type of hoe	-----	
		[g ^w] labialised words	<i>goro</i> <i>gəzom</i>	kola nut wine	<i>jogom</i>	shoulder	-----	
/h/	h, H	[h] palatalised and no prosody words, word initial or medial	<i>hay</i> <i>heyew</i>	millet grasshopper	<i>mahay</i> <i>meher</i>	door forehead	-----	
		[h ^w] labialised words, word initial or medial	<i>homboh</i> <i>hor</i>	pardon woman	<i>toho</i> <i>tohor</i>	there type of game	-----	
		[ɛ] word final, any prosody	-----		-----		<i>ḥah</i> <i>agoh</i> <i>aroh</i>	sew! viper pus
/ng/	ng, Ng	[ng] palatalised and no prosody words	<i>ngay</i>	set	<i>mangasl</i> <i>dərlenge</i>	fiancée hyena	-----	
		[ng ^w] labialised words	<i>ngohom</i>	break!	<i>mongohom</i>	animal horn	-----	

³ The labialisation of these velars is indicated by the labialised vowel (o).

Labialised Velars

Velars become labialised in labialised words. Also, Bow has posited the existence of distinct underlyingly labialised velar consonants: /k^w, g^w, h^w, ng^w/. Phonetically they sound the same as /k, g, h, ng/ in labialised words. These consonants are found in words with no prosody or in palatalised words. If these labialised velars do occur in labialised words, there is neutralization with their unlabialised counterparts.

Labialised velars are written in the following manner:

If [k^w] realizes /k^w/ in a no prosody or palatalised word, it is written *kw*.

If [k^w] is in a labialised word, it is written *k* (the labialisation is indicated by the vowel).

The vowel changes associated with the labialised velars are not indicated in the orthography since they are predictable.

Phoneme	Grapheme	Allophone	Examples, by position		
			word initial	word medial	word final
/k ^w / ⁴	kw, Kw	[k ^w] palatalised and no prosody words	<i>kwəsay</i> ⁵ haze <i>kwəcesl</i> viper	<i>təkwərak</i> partridge <i>mecekwed</i> worm	<i>azekw</i> sorry
/g ^w /	gw, Gw	[g ^w] palatalised and no prosody words	<i>gwabay</i> much <i>gwəla</i> first son <i>gweden</i> toilet	<i>agwazlak</i> hen <i>gegwez</i> red	-----
/h ^w /	hw, Hw	[h ^w] palatalised and probably no prosody words	<i>hwəzlay</i> spoil	<i>cehwel</i> stalk	-----
/ng ^w /	ngw, Ngw	[ng ^w] palatalised and probably no prosody words	<i>ngwədaslay</i> simmer	<i>medelengwez</i> leopard	-----

⁴ These labialised velar phonemes sound the same as velars in labialised words. See section 2.4 for more discussion.

⁵ The pronunciation is [κ^wYσαψ]. All schwas are written ə regardless of the underlying prosody influencing them. See section 2.4 for more discussion.

2.4 Vowels and prosodies

Variants of the /a/ vowel are represented by *a*, *o*, or *e*, according to the prosody. There are two word-level prosodies, palatalisation and labialisation. These prosodies affect the vowels and some of the consonants in a word.⁶ Each word carries no prosody or one of these prosodies. In the orthography, the underlying prosody in a word is indicated by the variant of the /a/ vowels in the word. There is always at least one full vowel in the citation form of a word because of the pause final influence of stress.

In words unaffected by a prosody, the full vowels are all written ‘a’. Examples:

<i>awak</i>	goat
<i>kara</i>	courage
<i>məngamak</i>	wild cat

In palatalised words, the full vowels are all written ‘e’. Examples:

<i>dedewe</i>	type of bird
<i>heyew</i>	grasshopper
<i>hənder</i>	nose

In labialised words, the full vowels are all written ‘o’. Examples:

<i>bogom</i>	type of hoe
<i>sono</i>	joke, teasing
<i>təlom</i>	trompette

Phoneme	Grapheme	Allophone	Examples ,by position		
			word initial	word medial	word final
/a/	a, A	[a] no prosody	<i>anjakar</i> hen <i>awak</i> goat	<i>matabasl</i> cloud <i>harac</i> scorpion <i>agwazlak</i> hen	<i>kəra</i> dog <i>hada</i> enough
	o, O	[o] or [ɔ] in labialised words	-----	<i>səkoy</i> clan <i>agoh</i> viper	<i>hədo</i> wall <i>lo</i> go!
	e, E	[e] or [ɛ] ⁷ in palatalised words	-----	<i>heyew</i> grasshopper <i>dedewe</i> type of bird	<i>dede</i> grandmother <i>pəde</i> hole
		[œ] next to a labialised velar in a palatalised word	-----	<i>mədəhwer</i> old	<i>cecekw</i> flute

⁶ Labialisation affects the velar onsonants (/k, g, ng, h/), and palatalisation affects the alveolar fricatives and affricates (/s, z, ts, dz, ndz/) (see consonant chart). Speakers do not seem to have any problem reading or writing one symbol for the two allophones. Examples:

jan	[dzaŋ]	‘pierce’
jen	[dʒɛŋ]	‘luck/chance’
məcapar	[mətsapar]	‘many things that are different’
məcepe	[mitʃepe]	‘to suspend’
asa	[asa]	‘if’
ase	[aʃe]	‘again’
njavar	[ndzavar]	‘young man’
njemer	[ndʒemer]	‘little bones’
gala	[gala]	‘courtyard’
golom	[g ^w olom]	‘type of tree’

⁷ Probably the lower vowel is found in closed syllables, as Smith found in Muyang. Needs further study.

The /ə/ is an automatic insertion between consonants.⁸ Because the word prosody is already indicated by the full vowel in each word, the schwa will automatically harmonize, and so variants of /ə/ do not need to be marked.

Phoneme	Grapheme	Allophone	Examples, by position		
			word initial	word medial	word final
/ə/	ə, Ə	[ə] words with no prosody	<i>əwla</i> my	<i>gəgəmay</i> cotton	<i>kə...aka</i> on
		[i] or [I] ⁹ palatalised words, before <i>y</i> in words of any prosody	-----	<i>kələf</i> fish <i>agəne</i> today <i>səyfa</i> life <i>jəyga</i> all <i>kəya</i> moon	<i>awəy</i> it is said <i>navəy</i> other side <i>abəy</i> he said
		[y] between a /y/ and a /w/ or labialised velar	-----	<i>wəya</i> joy <i>wəyen</i> earth <i>ləkwəye</i> you (plural)	-----
		[u] or [Y] ¹⁰ labialised words, next to labialised velars, and before <i>w</i> in words of any prosody	-----	<i>kəro</i> ten <i>gəzom</i> wine <i>kwəsəy</i> haze <i>agwəjer</i> grass <i>dəwlay</i> millet drink <i>səwse</i> thanks <i>dəwer</i> sleep	<i>dəw</i> also

⁸ See section 3.2 for more discussion.

⁹ Differences here seem to be according to the speaker or syllable pattern, but need further study.

¹⁰ As above.

3. ORTHOGRAPHY RULES AND CONVENTIONS

3.1 Underlying a- prefix

There are many words in Moloko which begin with a full vowel. This reflects an underlying a- prefix, which has lost its meaning and become part of the lexical word. The prefix is affected to varying degrees by the word prosodies. Palatalisation appears to be the stronger prosody and the a- prefix in virtually all palatalised words is pronounced [e] or [ae], according to the speaker. In labialised words, however, some prefixes are pronounced [o] and some [a], according to the speaker. In order to standardize the spelling, we have made a rule that states that the only vowel that can begin a word is 'a'.¹¹ Examples:

<i>ako</i>	[okΩo]	fire
<i>akor</i>	[akΩop]	rock
<i>agoh</i>	[αγΩoΞ]	viper
<i>aroh</i>	[oroΞ]	pus
<i>ale</i>	[ele]	eye, thing
<i>anen</i>	[enen]	snake, something
<i>agəne</i>	[egəne]	today
<i>ateme</i>	[eteme]	onion
<i>ayewed</i>	[eyewed]	whip

3.2 Syllable patterns

Bow found the basic syllable patterns in Moloko to be the following:

CV. This is the most common syllable type. All consonants can occur as the onset, all vowels as the nucleus. Examples:

<i>baba</i>	father
<i>tere</i>	other
<i>sono</i>	teasing, joke

V. This syllable pattern is only found word initial.

<i>awak</i>	goat
<i>ale</i>	thing
<i>akor</i>	stone
<i>a</i>	associative particle, preposition

CVC. This syllable type occurs word final, and in a limited number of word medial cases:

<i>təmak</i>	sheep
<i>fefen</i>	millet stalk
<i>bərzlan</i>	mountain
<i>malgamay</i>	jawbone
<i>gəmsədo</i>	maternal grandfather
<i>səyfa</i>	life
<i>dəwlay</i>	millet drink

The onset can be any consonant, the nucleus any vowel. Only certain consonants can occupy the coda however. All voiced plosives and affricates (/b, d, g, gΩ, dz, mb, nd, ng, ngΩ, ndz/) are excluded from the coda. Word medially, syllables can only end with r, l, and m.

¹¹ Words can begin with ə when there is no a prefix and an underlying w or y, for example əwla (my) and Əyna (a name from Fulfulde).

3.3 Elision and fast speech phenomena

There are many changes that occur when words run together in a phrase. The general rule is to spell using the citation form of the word – the pronunciation when the word is pronounced in isolation.¹² Some of these changes are:

Vowel deletion. When a word ending with a vowel precedes a word beginning with a vowel, one vowel deletes. Examples:

<i>kage</i> ¹³	[kege]	you do	<i>almay</i>	[almay]	what?
<i>kage almay</i>	[kagalmay] ¹⁴	What are you doing?			

<i>məze</i>	[μlʒε]	person	<i>ahay</i>	[ahay]	plural
<i>məze ahay</i>	[mlʒhəy]	people			

Word final ay is pronounced [i] in context. Examples:

<i>alay</i>	[alay]	he digs	<i>pəde</i>	[pɪde]	hole
<i>alay pəde</i>	[alipɪde]	he digs a hole			
<i>dalay</i>	[dalay]	girl	<i>ahay</i>	[ahay]	plural
<i>dalay ahay</i>	[dalihay]	girls			
<i>zay</i>	[zay]	peace	<i>daw</i>	[daw]	INTERROGATIVE
<i>zay daw</i>	[zɪdaw]	greeting (is there peace?)			

Word final /aw/ is pronounced [u] in context. Examples:

<i>asaw</i>	[asaw]	I want	<i>bay</i>	[bay]	NEGATIVE
<i>asaw bay</i>	[asubay]	I do not want			
<i>cew</i>	[tʃew]	two	<i>ga</i>	[ga]	adjectivizer
<i>cewga</i>	[tʃuga]	by two			

hV deletes in context. Examples:

<i>bahay</i>	[bahay]	chief	<i>aloko</i>	[aloko]	our
<i>bahay aloko</i>	[bayaloko]	our chief			
<i>həmay</i>	[həmay]	run	<i>kə...om</i>	[kə...om]	2pl verb affix
<i>kəhəmom</i>	[kəmom]	you (plural) run			

Word final n (plus preceding vowel) is deleted in context. Examples:

<i>berzlan</i>	[berzlan]	mountain	<i>a...ava</i>	[a...ava]	to, in
<i>a berzlan ava</i>	[abɛrʒlava]	to the mountain			
<i>ndahan</i>	[ⁿ daɦan]	he	<i>ava</i>	[ava]	existential
<i>ndahan ava</i>	[ⁿ daɦa] ¹⁵	he is here			

¹² The final syllable in a phrase is stressed and an underlying full vowel or schwa will always be pronounced as a low, full vowel. Bow found neutralisation of contrast in a few instances.

¹³ This is two morphemes and the underlying image of each is preserved. See section on verb morphology.

¹⁴ The verb prosody is also lost.

¹⁵ Note that there is also hV deletion.

Re-syllabification of words in context. Examples:

<i>kafat</i>	[kafat]	day	anen	[enin]	some
<i>kafat anen</i>	[kaftenen]	one day			
<i>anjakar</i>	[andzakar]	hen	éwla	[ula]	my
<i>anjakar əwla</i>	[andzakrula]	my hen			
<i>ma</i>	[ma]	mouth, language	asaw	[asaw]	I want
<i>asabay</i>	[asabay]	no more			
<i>ma asaw asabay</i>		[maswasabay]			I do not want to hear anymore

3.4 Word boundaries¹⁶

The word in Moloko may be:

- a proper name

Amtamba
Məyede

Sləməy na baba əwla Amtamba
My father's name is Amtamba.

- a noun

hor woman
akor rock
mahaw snake

Hor agas ala kələf.
The woman is hunting fish.

- a pronoun

ne me
nok you (singular)
ndahan he
loko we (inclusive)
ləme we (exclusive)
ləkəye you (plural)
təta they

Ne nəmənjər na nok va apazan
I saw you yesterday.

əwla my
ango your (singular)
ahan his
aloko our (inclusive)
aləme our (exclusive)
aləkəye your (plural)
atəta their

- a verb, with or without affixes¹⁷

lo go!
amat he dies
la ala come here!

Nəlohóm va a ləhe.
We were in the bush.

- a preposition

a...ava to, in

Nalo a kosoko ava.
I go to the market.
Kələf a zəraka ava.
The fish is in the mayo.
Nanje kə wəyən aka.
I sat on the ground.

¹⁶ Patterned after Boyd's orthography.

¹⁷ See section 3.8 for more discussion on verbs.

- an adverb

<i>jəyga</i>	all	<i>Babəza ahay jəyga tətə aba ?</i> Are your children well?
<i>dəw</i>	also	<i>Əyaw, tətə aba .</i>
<i>ayaw</i>	yes	Yes, they are well.

- a number

<i>bəlen</i>	one	<i>Təmak əwla ahay məfad.</i> I have four sheep.
<i>məfad</i>	four	
<i>səkat</i>	hundred	

- a conjunction

<i>nata</i>	and	<i>anjakar nata awak</i> the hen and the goat
<i>a</i>	association	<i>Hay a bahay.</i> It is the chief's house.

- a negative

<i>bay</i>	not	<i>Nanjakay bəlen bay.</i> I can't find even one.
<i>asabay</i>	no more	

- an interrogative

<i>way</i>	who	<i>Nəngehe na way ?</i> Who is he?
<i>amtamay</i>	where	
<i>daw</i>	question word	

- a discourse particle

<i>na</i>	focus	<i>Asa kanday kage kaandan na səlomga.</i> If you do that it would be good.
<i>nde</i>	then	<i>Nde ehe na vəymete əwla na way ?</i> Who then is my neighbor?

- an adjective. Some adjectives are derived from their corresponding noun, by adding an adjectivizing suffix *ga*, as follows:

<i>səlom</i>	goodness	<i>səlomga</i>	good
<i>gədan</i>	strength	<i>gədanga</i>	strong
<i>bərav</i>	heart	<i>bəravga</i>	someone who stands under suffering
<i>daz-daz</i>	redness	<i>daz-dazga</i>	red
<i>kələdədə</i>	smoothness	<i>kələdədəga</i>	smooth
<i>pəyecece</i>	coldness	<i>pəyececega</i>	cold
<i>tere</i>	another thing	<i>terga</i>	other
<i>medere</i>	something planted	<i>mederga</i>	planted

Note that if the last syllable of the noun is *re*, then the final vowel drops when the *ga* is added.¹⁸

- plural markers. Examples:

<i>kəra</i>	dog
<i>kəra ahay</i>	dogs
<i>kəra aloko ahay</i>	our dogs

¹⁸ It is suspected that the same would happen for any of the other consonants which can be word internal codas (l, m, y, w). Needs further study.

3.5 Compound words

Since compound words are thought of as single words, they are spelled as such, and considered as one root. This will sometimes deform the spelling of the root words of the parts. Examples:

<i>ma</i>	[ma]	language	<i>loko</i>	[lok ^w o]	our
<i>Moloko</i>	[məlok ^w o]	Moloko			
<i>ale</i>	[ele]	thing	<i>ako</i>	[ok ^w o]	fire
<i>aloko</i>	[alok ^w o]	firewood			

3.6 Reduplicated words

Complete reduplication is spelled with a hyphen. Examples:

<i>zlək-zlak</i>	termite
<i>zən-zan</i>	shrew
<i>zən-zon</i>	gourd for planting
<i>zən-zen</i>	obscurity
<i>ndən-nden</i>	sword

Reduplication of one or two syllables is spelled as one word. Examples:

<i>pədɔcoco</i>	sweet
<i>kərekeke</i>	acidic
<i>məkətarkətar</i>	ancestors, a big stomach
<i>wəsekeke</i>	the action of multiplication

3.7 Borrowed words

Moloko borrows freely from surrounding languages. These words will be spelled using Moloko orthography rules, where possible. Examples:

from French	<i>akwel</i>	school (école)
from Fulfuldé	<i>barka</i>	blessing
	<i>adəyko</i>	head scarf
	<i>slenkəre</i>	aluminum
from English	<i>basəkwar</i>	bicycle (via Fulfuldé)
	<i>masen</i>	machine (via Fulfuldé)

3.8 Verb morphology

Probably one of the more complex aspects of Moloko orthography, verb morphology is in ongoing study. The desired general principle for orthography is to guard the root image of the verb root and each affix. Word final phonologic changes suggest where word boundaries should be.

The consonants of the verb root and its prosody are found in the imperative singular. The underlying vowels can be seen in the infinitive and the first and second plural conjugated forms.¹⁹

imperative singular	first person singular	first person plural	underlying form of root	English translation
<i>bah</i>	<i>nabah</i>	<i>məbohok</i>	bah	pour
<i>kad</i>	<i>nakad</i>	<i>məkədok</i>	kəɗ	put
<i>zom</i>	<i>nazom</i>	<i>məzəmok</i>	zəm	eat
<i>ceke</i>	<i>nəcəke</i>	<i>məcəkək</i>	cək	get up

When affixes are added or there are other elements to the verb phrase, the written form should preserve the verb root image (guarding the consonants of the root but changing the vowels as necessary). The root image of each affix or particle should also be preserved.

The infinitive is written as one word. It is always palatalised.

<i>məbehe</i>	to pour
<i>məkəde</i>	to put
<i>məzəme</i>	to eat
<i>məcəke</i>	to get up

Subject pronouns are attached:

<i>nasar</i>	I know	<i>na</i> or <i>nə</i> ²⁰	I
<i>kasar</i>	you (s) know	<i>ka</i> or <i>kə</i>	you (singular)
<i>asar</i>	he knows	<i>a</i>	he, she, it
<i>məsərok</i>	we (incl) know	<i>mə</i> or <i>ma. . .ok</i>	we (inclusive)
<i>nəsərom</i>	we (excl) know	<i>nə</i> or <i>na. . .om</i>	we (exclusive)
<i>kəsərom</i>	you (pl) know	<i>kə</i> or <i>ka. . .om</i>	you (plural)
<i>tasar</i>	they know	<i>ta</i> or <i>tə</i>	they

The root form of the subject affix should be preserved even when it is affected by a prosody:

<i>nawe</i> [<i>newe</i>]	I give birth	<i>nəcəke</i> [<i>nɛɫɛkɛ</i>]	I stand up
<i>nadad</i> [<i>nadad</i>]	I fall	<i>nəbalay</i> [<i>nəbalay</i>]	I wash
<i>nazom</i> [<i>nozom</i>]	I eat	<i>nəfokay</i> [<i>nɣfokoy</i>]	I whistle

¹⁹ Underlying vowel or schwa contrast is neutralised in the imperative forms because of pause final stress. Further study in stress and tone may clarify if the underlying vowels must always be marked in the orthography. For the moment, the vowels in conjugated verb roots will be written according to their phonetic sound to preserve possible lexical differences.

²⁰ What Bow refers to as the initial a- prefix in verb roots is reflected in the subject prefix, examples: [nəndaway] 'I swallow' and [nandaway] 'I insult' ('a- prefix' verb)

<i>ndaway</i>	Insult!	<i>ndaway</i>	swallow!
<i>məndewe</i>	to insult	<i>məndewe</i>	to swallow
<i>nandaway</i>	I insult	<i>nəndaway</i>	I swallow
<i>nandawom</i>	we insult	<i>nəndawom</i>	we swallow

Bow's 'a-' prefix in verbs may in reality be something of tone/stress in the verb root. More study is needed.

Below are some other elements of the verb word and verb phrase:

Kaslay tɔmak. You slaughter the sheep.

ka-sl-ay

you (SINGULAR)-verb root-*ay*²¹

Kaslaw tɔmak. You slaughtered the sheep for me.

*ka-sl-aw*²²

you –verb root-indirect object (BENEFICIARY)

Kaslaw na. You slaughtered it for me.

ka-sl-aw

you (SINGULAR)-verb root-indirect object *na*
direct object (singular)

Kaslaw na va. You already slaughtered it for me.

ka-sl-aw

you (SINGULAR)-verb root-indirect object *na* *va*
direct object PERFECTIVE

lom ala Come here! (imperative plural)

l-om

verb root-imperative plural suffix *ala*²³
directional

aməslere na ala the one who sent him here

a-məslere

relativizer-infinitive *na* *ala*
direct object (singular) directional

atarəy ma he calls

a-tar-əy

he-verb root-placeholder *ma*
mouth (collocates with many speech verbs)

3.9 Grammatical tone

In Moloko verbs, tenses or aspects²⁴ are distinguished by a difference in tone and length of the subject-marking prefix. For example:

----- [nazom daf]	<i>Nazom daf.</i>	I eat boule.
----- [naazom daf]	<i>Naazom daf.</i>	I will eat boule.
____ - _ ----- nəlo a kosoko ava]	<i>Nəlo a kosoko ava.</i>	I am going to the market.
----- [naalo a kosoko ava]	<i>Naalo a kosoko ava.</i>	I will go to the market.

²¹ Placeholder affix which drops off when other affixes are added.

²² The indirect object affixes are listed below :

verb	translation	indirect object affix	translation
<i>ajənwaw</i>	He helps me.	<i>-aw</i>	me
<i>ajənok</i>	He helps you.	<i>-ok</i>	you
<i>ajənan</i>	He helps him.	<i>-an</i>	him
<i>ajənaloko</i>	He helps us all.	<i>-aloko</i>	us (inclusive)
<i>ajənaləme</i>	He helps us (exclusive).	<i>-aləme</i>	us (exclusive)
<i>ajənaləkwəye</i>	He helps you all.	<i>-aləkwəye</i>	you (plural)
<i>ajənata</i>	He helps them.	<i>-ata</i>	them

²³ Towards speaker. *alay* indicates away from speaker.

²⁴ Either present and future tense or completed versus incomplete or some kind of irrealis. Currently under study.

The first example in each pair represents an action that is currently happening. The tone of the subject prefix is low and the vowel is short. These verbs are spelled with a single vowel in the prefix: *nazom, nəlo*.

The second example of each pair represents an action that is in the future or is not yet complete. In this case, the tone is higher and the vowel is longer than for the first example. The subject prefix on these verbs is written aa: *naazom, naalo*.

3.10 Punctuation and capitalization²⁵

Basically follow the rules for French.

The period (.) indicates the end of the phrase. Examples:

<i>Nege na slərele əwla va.</i>	I did my work.
<i>Motoko a mægəle yam.</i>	We go to draw water.
<i>Awak anjakay kəra.</i>	The goat found the dog.

The comma (,) indicates a small pause in the middle of the phrase, to show coordination or to separate a subordinate proposition from other elements in the phrase. Examples:

<i>Asa asaw məzəme dəf na, cəm nəbalay ahar.</i>	If I want to eat, I wash my hands.
<i>Məcohok yam, məbohok a so ava arah va pedede.</i>	We drew water and filled the pail to the rim.
<i>Təta awəy abəya : Anjakar, awak, təmak, kəra, tədo.</i>	They said (this is the story of) : The hen, the goat, the sheep, the dog, and the leopard.

The question mark (?) indicates the end of an interrogative phrase. Examples:

<i>Kəlo va amtamay ?</i>	Where are you going?
<i>Kanjakay almay ?</i>	What did you find?
<i>Nok aba daw ?</i>	How are you?

The exclamation point (!) indicates the end of an exclamatory or imperative phrase.

Examples:

<i>Yawa !</i>	There!
<i>Ne na nəcəjen ale əwla !</i>	I'll be lost! (Lit. I will lose my things)
<i>A, kasar bay ! Kasar bay !</i>	You don't know!
<i>Ne dəw, toko jəyga !</i>	Me too, let's go together!
<i>Əya ! Hadak ajaw va !</i>	Ow! Something pricked me!

The colon (:) and the quotation marks (« ») indicate that what follows is a citation of a text, or words or thoughts of someone. If the citation is a direct quotation, one must also put quotation marks around the citation. Examples:

<i>Tawəy abəya : « Zarga aba təta na hor ahan, aslay agwəjer ana sla. »</i>	They said: "There was a man who, along with his wife, cut some grass for his cow."
<i>Tawəy abəya : Anjakar, awak, təmak, kəra, tədo.</i>	They said (this is the story of) : The hen, the goat, the sheep, the dog, and the leopard.
<i>Kəra : « Kəlohom amtamay ? »</i>	The dog said, "Where are you going?"

²⁵ This section was patterned after Boyd's orthography.

Use of capital letters

Capital letters are found:

- **at the beginning of a sentence.** Examples:

Bomba bomba kəla dərgod'...

(the beginning of a story)

Bahay əwla nage memey nanjakay səyfa

My Lord, what must I do to find life?

aməndeve kəlobay na ?

Yesu ambadaka awəy :

Jesus replied,

« *Nandaday Hərbəlom ango.... »*

“Love your God...”

- **for proper names and for respect.** Examples:

Məloko, Sambo, Bahay Hərbəlom

Moloko, Sambo, Lord God

- **at the beginning of a title.** Examples :

Ma asak a ma məloko

Moloko alphabet (the foot of the language)

Mabomba anjakar na təmak

The fable of the hen and the sheep

4. APPENDIX

A story that illustrates the orthography :

*Bomba bomba kəla dərgod !
Tawəy abəya : Anjakar, awak, təmak,
kəra, tədo.*

*Anjakar awəy: « T anday taslaw aka
babəza ahay va. Nde taslaw ka
babəza ahay va na, nəhəmay mogo. »
Atəwelay: « Bababa kəlak, kəlak,
kəlak, kəlak, kəlak. » Atəwe na.*

*Anjakay awak.
« Kətəwe almay, anjakar ? »
« Nətəwe bəyna hajan na ta gəsomala
anjakar, slom na va. Nəhəmay mogo
əwla. »
Nde awak awəy : « Hajan na cəje
agan na məze na, ta kədōm awak,
kədōm awak. Təwok koy əwde. »
« Bababa kəlak. »
« Mee, mee. »*

*Awak ambadəlay na, anjakay kəra.
Yawa, tanjakay kəra na.
Kəra: « Kəlohōm amtamay ? »
« A nəlohōm alələme bəyna hajan na
ta slom anjakar, hajan na kədōm
awak. Nəhəmom alələme. »
« Nde kəhəmom na meme ? »
« A məhəmom. »
« A ne dəw, toko jəyga. Cəje agan
ana məze na, ta kədōm kəra, kədōm
kəra, kədōm kəra. Təwok əwde ! »*

*« Bababa kəlak. » « Meme meme
meme. » « Sələlə məsələysol, sələlə
məsələysol. »*

*Tanjakay təmak.
« Təmak! Meme ! »
« Aa, kəlohōm amta ? » Təmak a
məgəye.
Kəra ta : « Nəlohōm alələme bəyna
hajan na cəje agan ana məze na ta
slom anjakar, hajan na ta kədōm*

A fable about a hen, goat, sheep, dog, and leopard.

The hen said, "They slaughtered my children! I am fleeing (to die)!"

Sounds of crying

She meets a goat.

The goat asks, "Why are you crying, hen?"

The hen replies, "I am crying because each day they say to catch a chicken and slaughter it! I am fleeing.

The goat says, "Each day someone gets sick and they say, "Slaughter a goat! Slaughter a goat!" We need to cry together and see if our cries mesh." Sounds of crying.

The goat comes upon a dog. The dog asks, "Where are you going?"

They reply, "We are fleeing because every day they say to slaughter a chicken, every day they say to slaughter a goat. We are going to see the idols"

The dog asks, "How are you fleeing?"

They reply, "We are running."

The dog replies, "Let's go together – when someone gets sick, they say to kill a dog, kill a dog, kill a dog. Let's cry together now!"

Sounds of crying.

They meet a sheep.

They greet him, "How is it, sheep?"

The sheep says, "Where are you going?"

They reply, "We are fleeing because every day sickness comes and they say to kill a chicken, every day they say to kill a goat,

*awak, hajan na ta kədom anan kəra
ana, məze cəje agan na. »*
*« Aa ne dəw, ndana ka məjəye sanjak
na hajan na, ta ele age neken na ta
zəmala andakay təmak. Alələhe agan
ana məze, ta na, zəmala təmak. Asa
a magan na almay, ta zəmala təmak.
Toko jəyga ! Təkərom təwe
aləkwəye ! »*
« Meme meme meme. »
« Sələlə məsələysol. »
*« Mbəra dəməke dəməke, mbəra
dəməke dəməke. »*
« Bababa kələk. »
« Meme meme meme. »

*Mbaday na, tanjakay tədo.
« Kələhom amta? »*
*« Aa, məhəmom mogo aleləme bəyna
hajan na ta slom anjakar, hajan na ta
kədom awak, hajan na ta kədom kəra,
hajan na ta gəsom ala təmak.
Aməzəwede na alələhe. Nəhəmom
aleləme. »*
« Wa təkərom təwe aləkwəye əwde. »
« Meme meme meme. »
« Bababa kələk. »
« Meme meme. »
*« Sələlə məsələysəl, sələlə
məsələysol. »*
« Mbəra dəməke dəməke. »
*« Gar gaw, gar gaw. » Tədo atəwe.
« A kasar bay, kasar bay! »*
*« Napaday ləkwəye ! Asa nasar bay
na, napaday ləkwəye! »*

Andava.

every day they say to kill a dog, when a man gets sick.”

The sheep says, “Me too, it is like you say, every day when something happens, they say to bring a sheep. When the ancestors trap someone, they say, bring a sheep! No matter what sickness, they say to bring a sheep. Try crying your cry.”

Sounds of crying.

The sheep joins in.

They meet up with a leopard.

The leopard asks, “Where are you going?”

They reply, “We are fleeing to the idols because every day they say to kill a chicken, every day to kill a goat, every day to kill a dog, every day to kill a sheep. They wave the body to the ancestors. We are running to the idols”

The panther says, “OK, try crying your cry.”

Sounds of crying

The panther joins in.

The animals say, “You don’t know how to cry!”

The panther replies, “If you say I don’t know how to cry, I will eat you!”

The end

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