

## **Guide to the Dagaahre Orthography**

*Constancio K. Nakuma*

### **1. Introduction**

An Orthography is a conventional and standardized way of writing a language, which involves choosing an alphabet and developing rules for spelling and punctuation. Dagaahre has internal variations or *dialects*, of which four were identified and labelled by the Dagaahre Language Committee as Northern, Central, Mid-Central, and Southern. Most speakers probably relate better to the dialects of Dagaare as including Dagara, Waale, and Dagaahre. The existence of sub-dialects within these dialects makes the language even more complex, and some word examples in this *Orthography* may differ sometimes from how you say them yourself. Spelling differences due to dialectal variation cannot be avoided, but if the orthography is well mastered and correctly applied, we should all be able to read and write the Dagaahre dialects we know.

Inaugurated in February 1976, the Dagaahre Language Committee produced a 24-page *Guide to Dagaare Spelling*, which serves as the official reference for writing Dagaahre. In the *Guide*, the Committee welcomed suggestions for improving their work (p. 3). This *Orthography* answers that invitation, and suggests improvement to the *Guide* regarding the spelling of the mid vowels, glottal consonants, and tones.

First, it proposes a change in the way we spell the vowels represented by the special

characters  $\varepsilon$  and  $\mathfrak{O}$ , and their associated diphthongs and geminates. The proposal is that these characters should be replaced with ordinary letters of the Roman alphabet, so that  $[\varepsilon]$  will be written as “ai”,  $[\mathfrak{O}]$  as “au”,  $[\text{I}\varepsilon]$  as “ea”,  $[\mathfrak{U}\mathfrak{O}]$  as “oa”,  $[\varepsilon\varepsilon]$  as “ay”, and  $[\mathfrak{O}\mathfrak{O}]$  as “aw.”

Second, it proposes ending the practice of using the letter “e” to represent both the sounds /e/ and /I/ and the letter “o” to represent both /o/ and /U/. These sounds are to be written henceforth thus: /I/ as “e”, /e/ as “ei”, /U/ as “o”, and /o/ as “ou”. Graphical variants of “ei” and “ou” are presented and explained in section 2.1.

Third, it proposes the letter “c” for marking the glottal feature of some consonants found in the Dagara dialects. Thus, /b/ will be written as “cm” and not “mh” as suggested by the Committee. The full table of these sounds and their corresponding spellings is presented in sections 2.1 and 2.2.

Finally, it proposes the spelling of tones using letters. Tones are usually omitted during writing, and the result of this omission is that reading a Dagaahre text is like playing a guessing game. By this proposal, the letter “h” written immediately after a vowel will indicate that the vowel bears a high tone. Similarly, “x” written immediately after a vowel marks a low-high tone contour, while the letter “q” marks a high-low contour. Combinations of these basic tone letters spell all attested tonal variations in the language. The complete list of tone letters and the rules governing their use is presented in section 2.3. Modifying Dagaahre spelling to include tones ensures that the language is written in its entirety.

Spelling rules contained in the *Guide* have been retained with minor modifications. We believe that the writing of Dagaahre will be greatly enhanced with the adoption of this *Orthography*, which is the product of much research, reflection, and testing. The main foreseeable obstacle to its adoption is the natural human penchant to resist change, even when it is needed. Radical reform of Dagaahre orthography has been long overdue, and the price paid for this neglect is the abysmal development of literacy in the language.

Section 2 presents and illustrates the spelling of consonants, vowels, and tones in different word types and phrases. Section 3 presents and discusses potential spelling problems and their solutions. It also presents rules for spelling numbers, and offers suggestions for extending the number system beyond a million. The final section, section 4, contains illustrations of the orthography in extended texts. We are indebted

to the Dagaahre Language Committee for laying the foundation upon which we build, and to you the reader for being our most constructive critic. All suggestions for improving this orthography are most welcome and should be addressed to:

Constancio K. Nakuma, Ph.D (Professor & Department Chair)  
Department of Languages  
Clemson University  
Clemson, SC 29634-0535  
Tel: (864) 656-3544  
Fax: (864) 656-0258  
Email: cnakuma@clemson.edu

## 2. Dagaahre Sound System and Spelling

In this section, we describe and explain the spelling of Dagaahre consonants, vowels, and tones, starting with an explanation of basic orthographical concepts. The Dagaahre soundtrack is made up of twenty-nine *consonants* and nine *vowels*, and a melody comprised of word *stress*, *intonation*, and *tones*. Stress is not marked in writing, but some elements of intonation are marked somewhat through punctuation.

A major first step in developing a writing system for a language consists in choosing an *alphabet* and *numeral* set with which to write its sounds and numerals. An alphabet is a set of *characters* (or traces) used either separately or in combination to write the sound (and tonal) units of a language. Characters in an alphabet are by definition *letters*, because they serve to write sound units. Dagaahre uses letters of the *Roman alphabet*. Characters that serve to write numbers are called *figures*, and the figures 1, 2, 3, 4... retained for Dagaahre are from the *Arabic numeral* set.

A *spelling* is a set of rules that specify the letters or combination of letters to be used to write the sound units of the particular language. Once the association of letters and sound units is completed, the outcome is a *phonographic code*. Standard phonographic codes called *phonetic alphabets* exist for writing the sounds of all known languages, the most popularly known one being that of the *International Phonetic Association* (IPA). When the missionaries first developed Dagaahre spelling, they borrowed IPA characters, including  $\eta$ ,  $\widehat{\eta m}$ ,  $\tilde{n}$ ,  $\gamma$ , which were later replaced by (combinations of) letters of the Roman Alphabet, respectively “hg”, “hgm”, “hy”, and “g.” The two vowel symbols  $\circ$  and  $\varepsilon$  that survived those revisions need to be replaced too, so that typing a Dagaahre text will no longer require specialized equipment and extraordinary typing skills.

A defining characteristic of phonetic symbols is that each represents one and the same

sound, and each discernible sound unit is represented by the same symbol in all languages. Thus, the IPA symbol [ɛ] represents the sound found in the Dagaahre word *kpɛ* (to enter), and in the English words *bet*, *pet*, *met*. A letter of the Roman alphabet, on the other hand, does not have any intrinsic sound value in all languages. To notice this, simply observe the range of sounds represented by the letter “c” in English words like *ice*, *cake*, *church*, etc. Theoretically, any letter (or combination of letters) can be assigned any sound value, when developing the spelling of a language. This freedom to assign sounds to letters and vice versa in a spelling system explains why the sound /tʃ/ is written in Dagaahre as ‘ky’, in *kyiq* (millet), *kyah* (divide), *karahkye* (literate person), but as ‘ch’ in English, as in *church*, *chips*, *hunch*, or ‘tch’, as in *catch*, *patch*, etc. Whenever we must represent a sound by a phonetic symbol in this *Orthography*, IPA symbols are used.

## 2.1. Consonant Sounds and Spelling

### Summary of consonant spellings

Sound	Spelling	Sound	Spelling	Sound	Spelling
<b>p</b>	p	<b>t</b>	t	<b>k</b>	k
<b>b</b>	b	<b>d</b>	d	<b>g</b>	g
<b>f</b>	f	<b>s</b>	s	<b>h</b>	h
<b>v</b>	v	<b>z</b>	z	<b>tʃ</b>	ky
<b>kp</b>	kp	<b>gb</b>	gb	<b>ɔʒ</b>	gy
<b>m</b>	m	<b>n</b>	n	<b>ɲ</b>	ny
<b>ŋm</b>	ngm	<b>ŋ</b>	ng	<b>l</b>	l
<b>y</b>	y	<b>w</b>	w	<b>r</b>	r
<b>ʔl</b>	cl	<b>ʔy</b>	cy	<b>ʔw</b>	cw
<b>ɓ</b>	cm	<b>ɸ</b>	ch		

Consonants have been grouped below according to the number of letters that are used to write them. A sound spelled with two letters is a *digraph*, and with three letters, a *trigraph*.

Consonant spellings recommended in the *Guide* have been maintained, except the change from **Mh** and **mh** to **Cm** and **cm** respectively for /ɓ/, a glottal bilabial stop. Using ‘c’ to mark the glottal liberates the letter ‘h’ for marking high tones, and makes the letter ‘c’ useful in Dagaahre.

**2.1.1. Consonants written as a single letter**

<u>IPA</u>	<u>SPELLING</u>	<u>EXAMPLES (DUONG-DAFFIAMA DIALECT)</u>
/ p /	P p	Pa (to fill up); pu (to flower); a zaa pahp (all of them totally); pawpaaqlaah (bride); puuhroh (flowers); pohre (to pour) ; pore (to name; also to abound) ; pouri (to blister); pohrre (to pout); puhro (tamarind); puhroh (one who bursts open sth.); pouhrih (to trim down a shrub); peere (to sweep); peehre (sheep); peehreh (rooftops); peereh (gluttony).
/ b /	B b	Baa (to grow up); ahba (exclamation of frustration); bu (to macerate); bahmbahlaaqlaah (swallow); boumbouh (arrow root starch); yaahbah (mask); beere (to distill pito); neqmbeehreh (dangerous folk); behreh (kenaf); bernaihne (edible kenaf petals); bere (to mature; to possess supernatural powers); bereh (breast); beraih (breasts); beihrih (days); biehrih (parsimony); beyhbuh ‘bieluqng (personality, character, nature).
/ t /	T t	Taax (to have); tu (to follow); tuh (to dig); toh (to insult); tuuh (thicket); ahta (three); tahta (inflated self-image); taaxngaah (shea tree/fruit); taaxma (shea trees/fruits); tereh (spoon); tere (give to me); tehre (mode of speech); tea (to shoot; also to prop up); teax (tree; also spoons); teah (to kick; also sheaths); tiiq (tea); teexng (medicine); teaqng (to stretch out one’s hand to, to point out).
/ d /	D d	Daax (market); daaqng (pito); daaq (to push once); dah (to push several times, or several things); daah (male); daahdaah (straight ahead); di (to eat); dendengeh (vertically); dauhndauhmauh (enemy); dohnneh (mosquitoes); duhnnih (animals); duhmoh (knees).
/ k /	K k	Koh (to kill); kouh (to turn cloudy); kou (to dry up); kauh (to hoe, to till); kaw (to break); kaure (to empty out); kauhre (to cough); kawre (break into pieces; also to delay); kauroqng (a cough); kawhreh (bone; a type of break-dance); kaureh (pocket); kaukauhre (throat, voice, language); kaukaureh (forest); kauhkaure yaihlaih (nauseating stuff or behaviour).
/ g /	G g	Gouh (to stoop); gou (to expect, to anticipate); gougngou (type of tree with sharp spikes); gougngouh (kapok tree); gauhngauh (crooked); gaung (to become crooked); gangah (kraal); ganneh (kraals); ganne (to wear a triangle); gahnneh (reigns); ganggaax (drum); dahngah (ostentation); Danggah (Proper name).

/ m /	M m	Max (mother); ma (to cling to); mauh (to wrestle; to try one's best); Mah...wa? (Tag question particles); maung (to stir e.g. TZ); mauhmboh = mauhmmoh (the act of stirring); mauqng (to refuse s.o. sth.); mauqmboh, = mauqmmoh (the act of refusing s.o. sth.); mai (to build, to mold); meelee (to wipe); melle (to entwine); mehleh (to get entangled); milli (to get accustomed to); mahnne (to narrate, describe); maneh (sea); mahnneh (rubber bands).
/ n /	N n	Naax (chief); nage (to skip a period); nahgeh (to flog); ahnah (those ones); ganne (to wear a triangle); naane (to get ready); nahngah (scorpion); nahnneh (scorpions); nehmmengah (an honest, decent, amiable person); nehmmenneh (honest, decent, amiable people).
/ f /	F f	Fa (to be wretched); fah (to confiscate several things); faaq (to confiscate once); faah (ugly, bad); fugi (to scare off); fohh (pull off); fowh (to pound sth. soggy, such as fresh corn or fresh cassava); fuoq (to pull off one thing); filli (to cheat s.o.); gohfo (a borrowed word meaning "boss"); fangah (strength).
/ s /	S s	Saax (father); su (to wear on the torso); sea (to wear on the waist); seah (waist); seaq (soul, spirit); seax (breeze; also teasing); susuh (to measure); suhsuh (group contribution plan).
/ v /	V v	Vaaq (a leaf); vaa (to grab by the leg); viq (shame); vigvihgih (to wag); vuuxng (fire); voohre (to breathe); voahreh (an opening, a hole); vuo (to become clear); vuoq (an open space); vaiqng (to let go of, to liberate); vaingvaing (long).
/ z /	Z z	Zo (to run); zuh (to steal); zuq (head); zoohreh (tail); zooxre (flies); zawreh (war, battle); zahneh (a stuffed leather wristband); zahmah [collective focus] = zahnneh [individual focus] (stuffed leather wristbands); zanne (to dream; also to study); zaunneh (blind people).
/ l /	L l	La (to laugh); laah (bowl); lagah (wooden spoon); lauhre (to be lucky); laure (to soak); lawhre (lorry, motor vehicle); Lo-hoh (name of a village under Kaleo Parish); wehleh (to dismantle); wehlle (to manipulate with scrutiny); waihle (to split up); waihlle (to split up several things); wahllah (of course); waahlah (the people of Wa); wahlaah (antelope); wahlleh (antelopes); wahleh (sweat); sohntaahlah (body armour, bullet-proof vest); lawx (a type of field mouse); lawq (law); lawh (to throw down/away); loax (groin); loare (to hesitate).
/ r /	R r	Bare (to let go); buri (to soak up); bore (to sow); buhri (to beguile

		s.o.); gor (to feel overwhelmed by a heavy load); gour (to curl into a hook); baihre (to tear off); baihrreh (traps); bairreh.
/ h /	H h	[For guidance on how to distinguish “h” as a sound or as a tone marker, see §2.3.2]; Haixng (name of a town); haaq (to open); haah (exclamation of caution); a-haaqng (Okay, that’s what I thought!); a-haahng (Oh, I see!); Louhoh (name of a village under the Kaleo Parish); heihnni (to tighten ones belt); heyh (exclamation of frustration or bewilderment); heyq (exclamation of interpellation).
/ w /	W w	Wax (Upper-West regional capital); wa (to come); waox (yam); wawx (lame person); waw (to become lame); wawq (elephant); wawh (to harvest abundantly); la bio (Once again); bioh (tomorrow in Mantahreeh dialect) = beuh (tomorrow in Mahnlaahleeh); bibeuh (mischievous child).
/ j /	Y y	Yih (to go out); yieq (houses); yuohri (name); yuohrih (water pot); yoare (to fill to the brim); yoareh (penis); yaure (to become abundant); yah (to go crazy); yauhreh (to come loose); yiehle (songs); yeahle (to winnow); yaihlah or yaihlah (roaches; also matters); gyaihlah or gyaihla (eggs); yaahbah (mask).

### 2.1.2. Consonants written as digraphs

#### IPA SPELLING EXAMPLES (DUONG-DAFFIAMA DIALECT)

/ $\widehat{gb}$ /	Gb gb	Gbih (to kneel down); gbaire (to become crippled); gbaihreh = gbaihrooh (cripple); gbaihre (foot, leg); gbeihri (to break off a small piece); gbeirih (foreheads); gbiex (forehead); gbieqh (has knelt).
/ $\widehat{dʒ}$ /	Gy gy	Gyaihlah or gyaihla (eggs); gyaihlee (egg); gyaugyau (groundnut soup); gyugyuh (juju); gyaihlnghmaihneh (snail); gyalengyeax (sparrow); dagyuh (tarantula); gyoughlli (to walk on one’s toes); gyounni (to stalk, to pick a quarrel with s.o.); Alhaahgyi = Alaaxgyi (a Muslim title); gyungni (vulture).
/ $\widehat{kp}$ /	Kp kp	Kpai (to enter); kpi (to die); kpeih (to crack nuts); kpeembauhgreh (type of bird); kpaihmkpaihlmaih (left-over trifles); kpaimkpaihlmaih (sagging elongated extras); kponkpohrmauh (little pieces of junk to which one is emotionally attached); kpoqng (big); kpouhmkpouhlouh (ground xylophone); wakpouhlou (tiny tubers of yam).
/ $\widehat{tʃ}$ /	Ky ky	Kyaiq (here); kyai (to hack); kyaih (but, however); kyeaq (ground

		squirrel; kyea (to tear); kyaahkyaah (challenge); kyaakyaa (pre-distilled pito); kyaaxkyaax (type of bird named onomatopoeically); kyauh (stand behind something to hide oneself from view); kyekyeh (barrel hoop)
/ŋ/	Ng ng	Ngax (this one); bing (put down); bahngnah (wise person); bangah (lizard); bahngah (bracelet); aqngguohngaah (shrub bearing reddish fist-sized berries); kangngelang (adjective describing an oblong and flattened object).
/ɲ/	Ny ny	Nyai (to lay an egg, to defecate; also to fish a pond); nyaih (to see), nyauqg (to grab); nyaw (to fuck); nyog (to set ablaze); kauhnyawh (meek and humble in demeanor); nyuh (to drink).

### Dagara examples

/b/	Cb cb	Cbe (to patch up a dress); cba (to beat up).
/ʔl/	Cl cl	Clā (to split apart); nauh clahgo (wide and ‘shallow’ mouth).
/h/	Ch ch	Cha (to go stale).
/ʔy/	Cy cy	Cyain (to breastfeed).
/ʔw/	Cw cw	Cwar (to scour); cwau (to chew)

### 2.1.3. Consonant written as a trigraph

#### IPA SPELLING EXAMPLES (DUONG-DAFFIAMA DIALECT)

/ŋ̃m/	Ngm ngm	Ngmehne (deity); Naangmehne (God); ngmai (to beat); ngmaimaih (sour-dough pancakes); ngmahn (calabash); ngmahmah (calabashes); ngmaxma (doves); ngmaxneeh (dove); Buoqlahngmehne (Proper name meaning ‘who among us is God’); Ngmeqnehmbang (Proper name meaning ‘It is God who knows’); ngmeqnaah (sun).
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### 2.1.4. Liaison consonants and spelling

Because long sequences of vowels are not tolerated in the language, liaison consonants prevent them from forming. We signal these consonants only to draw attention on their existence and legitimacy and, therefore, on the need to spell them whenever they show up. Here are examples of the use of /y/ and /g/ as liaison consonants. The \* signals that the particular structure is not attested in the Duong-Daffiama sub-dialect from which the examples are drawn.

<b>Verb</b>	<b>y</b>	<b>g</b>
gaa	o gaayaih	o gaagayx

<b>Verb</b>	<b>y</b>	<b>g</b>
go to	he is gone	he is gone
faaq	o faaqyaih	o faaqgayh
to liberate	he is liberated	he is liberated
to confiscate once	he has confiscated	he has confiscated
<b>but</b>	*faaqyooh	Faaqgooh
	liberate him/it	liberate him/it
kaw	o kawyaih	o kawgayx
to break; to char	It is broken; charred	It is broken; charred
<b>but</b>	*o kawyaaq daax	o kawgaaq daax
	he broke the stick	he broke the stick

### 2.1.5. Spelling nasal consonants and nasalized vowels

Vowels close to nasal consonants tend to nasalize. Automatic nasalization of that sort is not spelled, since the presence of the nasal consonant suffices. However, in words like /pĩĩ/ (arrow), where the vowel is nasalized even though there is no nasal consonant around, nasalization needs to be spelled, hence the addition of the final “hg” in “pĩiqng”. The Committee recommended marking nasalization diacritically using the tilde sign “~” over the vowel. However, given the need to rid Dagaahre of all special characters, we propose spelling nasalization using nasal consonants, thus:

1) Write “**n**” after the vowel and its applicable tone letter when the vowel is followed by **f, v, t, d, n, s, z, l, y, ky, gy, w, or h**.

Examples:

- nf** neq**nf**aah (bad fellow); boq**nf**aah (bad thing); fan**nf**ahne (soap);
- nv** neh**nv**elaax (good fellow); boh**nv**elaax (good thing); bai**nv**aaahre (bean leaves); bai**nv**aaq (bean leaf)
- nt** ent**nt**uoh (laziness); perent**nt**oax (bottle); paun**nt**ehre (toad)
- nd** gan**nd**aah (hero); gan**nd**aax (kraal beam)
- nn** neq**nn**ooh (humanity); boh**nn**ooh (guess work); boq**nn**ooh (worthlessness); kangkan**nn**eh (figs); nah**nn**eh (scorpions); bah**nn**eh (bangles, bracelets)
- ns** neh**ns**aalaa (human being); boh**ns**aaloxng (slippery thing); neh**ns**auqglaah (black person); neh**ns**aalauqglaah (member of the black race; also humanity)
- nz** banzeahraah (kite); bah**nz**ahng (vacuous, empty); zun**nz**ugli (overcast sky, isolated cloud); buh**nz**uq (meat head)
- nl** baiq**nl**aah (bean bowl, bowl of beans); neq**nl**aahneeh (good for nothing fellow);

- bonleih (small donkey); boqnleih (small object); bohnleh (the tying of things)
- \*nr Unattested sequence.
- nky** dankyihnih (wall); bankyeh (sweet cassava); kankyihri (a type of wild spinach treated as a weed); kyenkyempoqnaah (lightning bug, fire fly); kyenkyehmpelaax (cattle egret)
- ngy** bahngyehraah (toilet); bohngyeqraah (which can subside; also one on which a person can trip over)
- nw** nehnweaq (non relative); Nanweax (Proper name)
- nh** neqnhoohrauh (one who pesters others)

2) Write “**m**” after the vowel and its tone letter (if any) when the vowel is followed by either **p, b, m, kp, gb, or ngm**.

Examples:

- mp** tampailoxng (ashes); pampahna (now); kyenkyempoqnaah (lightning bug, fire fly); kyenkyehmpelaax (cattle egret)
- mb** nimbureyx or numbureyx (imbecile); sohmboh (help)
- mm** Mmxh (yes); mh-mmx (No); sohmmoh (help); zoxmmoh (fish); nohmmoh (love)
- mkp** kpohmkpohloh (ditch xylophones); kpankpane (arm)
- mgb** laqmgbahraah (a long thin pole); gbangbaah (slave)
- mngm** neqmngmaah (short fellow).

3) Write “**ng**” after the vowel and its tone letter(s) when the vowel is either word-final (\_\_\_#), or followed by **k, g, or ng**.

Examples:

- \_\_\_# Faang (to lack); feehng (little); fooxqng (emphatic 2<sup>nd</sup> person singular pronoun); piiqng (arrow); kyeeqng (to fry); kaaqng (oil); toaqng (to overpower); toahng (pain, harm, injury); koaxng (water); kahwng (alkali); piiqng (arrow).
- ngk** kangkanneh (figs); bangkaroqng (gull); bangkuh (banku)
- ngg** galengguoxliih (a millipede); ganggaax (a drum)
- ngng** kangngelang (convex); kohngngelohng (concave).

Other nasal combinations are possible with “ng”, including “**ngn**”, as in bahngnah (astute fellow; “too known” fellow), or gbehngnih (lion).

## 2.2. Vowel Sounds and Spelling

### Summary of vowel spellings

		2 <sup>nd</sup>								
		i	e	o	u	a	ɪ	ɛ	ʊ	ɔ
1 <sup>st</sup>		i	e	o	u	a	e	a	o	a
I	i	ii	ie	io	iu					
e	ei		ey		eu					
o	ou	oi	oue	ow						
u	u	ui	ue	uo	uu					
a	a					aa	ae		ao	
ɪ	e						ee	ea	eo	
ɛ	ai							ay	aio	
ʊ	o						oe	oai	oo	oa
ɔ	au						aue	auai		aw

Dagaahre vowels fall into two sets based on their  $\pm$ ATR (Advanced Tongue Root) feature:

**[+ATR] or Tense Vowel Set**

/ i, u, e, o /

**[-ATR] or Lax Vowel Set**

/ ɪ, ʊ, ɔ, ɛ, a /

Vowel harmony is the term used to denote a selection process whereby the first vowel in a non-compound word enables only vowels with the same  $\pm$ ATR feature to follow it. When /a/ is the first vowel of a non-compound word, only vowels belonging to the open vowel set (but not the close set) can follow it. However, unlike the other open vowels, /a/ can also follow close vowels in a non-compound word, a behaviour that makes it unique in terms of the vowel harmony constraint.

Vowels in their respective sets combine to form ***geminate*** vowels (two continuous and identical vowel sounds in one syllable), ***diphthongs*** (two different but continuous vowel sounds in one syllable), or ***triphthongs*** (three different but continuous vowel sounds in one syllable). The following question contains the geminate /ii/, the diphthong /ie/ and the triphthong /ieo/:

*Fo yeli kah bioh biih bieh?* (Did you say *tomorrow* or *child*?)

### 2.2.1. Simple vowels written as a single letter

IPA	SPELLING	EXAMPLES (DUONG-DAFFIAMA DIALECT)
/ i /	I, i	Iri (to rise up); piirih (rock); mihri (rope); sihgih (to descend; also a farm hut); pihsihnuh (penny); pieh (ten); piehtoh or peihtouh (loin cloth); kyiiqruhng (taboo); bioh (tomorrow).
/ u /	U, u	Uri (to bump into; to startle); puri (to burst); muhrih (straw); tuo (to carry on the head); tuoh (bitter); tuox (baobab); kungkuhnih (tortoise); kuurih (hoe); kuuri (scoop out); kuuhrih (type of field mice); uori (to bellow); uohri (to warm up oneself by a fire or in the sun).
/ ɪ /	E, e	E (to do); pere (to shell; also to wound); pehre (a sheep); pehreh (a hoop); mehreh (to sprinkle); peah (rooftop); pea (blow an instrument); peax (basket); zeng (to sit); lahre (axe); weax (farm); weaq (the lead); wea (to part); feexng (exclamation meant to be insulting); feeng (mute); feehng (small, little).
/ ʊ /	O, o	Ohreh (to scour); sohmmoh (help); zoxmmoh (fish); vealoxng (beauty); doaxlohng (mudfish); dawloqng (manhood, manliness); kawhlohng (hair, fur, feathers).
/ a /	A, a	Anghaahng (Oh I see!); Axnzagrah (Proper name meaning <i>Who refuses?</i> ); kah (to drain a liquid with a calabash; also that); lahre (axe); ahre (to pluck an ear of maize; to separate one thing from another); are (to stay standing); ahreh (to be a nephew or niece on the maternal side; also to pluck several ears of maize).

### 2.2.2. Simple vowels written as digraphs: “ai, au; ei, ou”

These are mid vowels. The letters “i” and “u” in the digraphs “ai” / ε/ and “au” / ɔ/ mark the front and back distinction respectively. The low vowel letter “a” marks them as low-mid vowels. In the digraphs “ei” / e/ and “ou” / o/, the letters “i” and “u” indicate [+ATR]. When any of these digraphs is preceded in a word by a clearly marked tense or lax vowel, the second element of the digraph (i.e. “i” or “u”) can often be dropped with no adverse consequences on recognition or pronunciation, thanks to vowel harmony. Thus, one may choose to spell: piehtoh or piehtouh (pant); pireh or pireih (newly-cleared farmland); kpehra or kpehrai (name of the smallest field mouse known); and tontohnah or tontohnau (worker). These spelling variations reflect actual dialectal variants of the same word.

IPA	SPELLING	EXAMPLES (DUONG-DAFFIAMA DIALECT)
/ e /	Ei, ei	Weihrih (to be precociously smart, active); meihri (to pout

		expressing indifference); bieh (child); biehrih (parsimony, refusal to share); bioh (tomorrow); kpeih (crack baobab seeds); gbeirih (foreheads); gbeihri (to break off a small piece); gbeihrih (break off small pieces).
/ o /	Ou, ou	Kou (to dry up); fouh (to unfetter); kouh (to turn cloudy); kyouh (to take aim); kyow (to dowry); tourih (baobabs); puo (to pierce a hole through); kuoh (type of field mouse); guox (club); bioh (tomorrow); tuo (to carry on the head); tuoh (bitter); tuox (baobab); guohloh (ring pads); baiqngguohloh (string beans); guohlo (poultry); galengguoxlo (millipedes); guoloh (keep winding); guoqloh (keep breeding);
/ ɔ /	Au, au	Auhraa (yellow berry); aung (to fetch a liquid; to smoke meat/fish.); kauh (to hoe); kaukauhre (language; throat); kaukauaiq (languages; throats); kauaiq (gourds); kauaiqh (has farmed); kauaix (pockets); kawyaih (has broken; also has charred); aure (to set sth. for decomposition); auhre (to exude noxious fumes); auhreh (to triturate green vegetables); pauh (to make a solemn promise, swear an oath); pauhre (to pluck).
/ ɛ /	Ai, ai	Maireh (drool of a corpse); gbaihre (leg); paih (to harvest peanuts, tiger nuts, or Bambara beans); waihreh (to split into several pieces); meaxlong (dew); pai (to milk); faihlfaihl (insipid, bland); tailailai (stretched out in an inert and lifeless manner); gbaileh (tame); painnoox (air).

### 2.2.3. Spelling diphthongs, geminate vowels, and triphthongs

Vowels spelled with a single letter form their geminate by duplicating it. The mid vowels, spelled as digraphs, form their geminates by replacing the “i” with “y” and the “u” with “w”. Other vowel sequences are spelled by combining the respective vowel letters in the appropriate order.

#### TENSE VOWEL SET

##### IPA      SPELLING      EXAMPLES (DUONG-DAFFIAMA DIALECT)

/ii/	Ii, ii	piirih (rock); biireyq (sand); kyiiqruhng (taboo); kyiihre (taboos); diihbuh (food); niriq (“egushi”); diihbu (act of pressing down); tiiqluuh (propping); piiqruih (hot water massage); piiqraah (which can be massaged with hot water).
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/ie/	Ie, ie	kyiehri (to ululate); bieh (child); bieq (seeds); bie (to dawn); yieq (houses); gbiex, (forehead); yieqluhng (song); yiehle (songs; also plural of a type of tree); nyiehli (to flash sth. mockingly in front of s.o.; to tempt s.o. with sth.).
/ee/	Ey ey	biireyq (sand); pourey (puffy); douhreyh . doueh (heaps); buleyh (kid); buhleyh . buhlowh (cistern, well); kureyq . kurowq (shorts); pureyx . purowx (aunt); suleyq . surowq (ladle); Eyh! (eh!).
/eu/	Eu, eu	Mahnlaahleh examples: Beuh (tomorrow; also treacherous); beu (to dawn); deux (room).
/oe/	Oue, oue	youeq (names); louex (wild turtle doves); kouex (funerals); gbouex (doors); souex (knives; also has bathed).
/oo/	Ow, ow	towrih (ear); fowh (to mash by pounding); fow (gaping); gow . goubaa (embarrassingly foolish); Ow! (Oh!); kowhkwlaah (a popular measuring container)
/ue/	Ue, ue	kuex (hoes); vueq (yam farms); vueqh (has dragged/crawled).
/uo/	Uo, uo	suox (knife); nyuox (navel); guox (club); guoxri (cola nuts); guoxbuh (cola nut); kuoh (type of field mouse); fuoq (to pull out once); tuo (to carry on the head); duox (wild boar).
/uu/	Uu, uu	puuhroh (flowers); tuuli (to follow the trace); tuuhli (to administer a drink to); nyuuh (neck; odour; odorous); nyuuri (to become jealous of); nyuuhrih (jealousy); nyuuqrrih (dialectal variant for yam, <i>waox</i> ), suuhrih (anger); meiqrruuh . meiqrrbuh (lip contortion); yeihluuh . yeihlbuh (talk); geiqluuh . geiqlbuh (tilting); gboulluux (rallying).
/oi/	Oi, oi	woih (exclamation sometimes expressing spiritual agony).
/ui/	Ui, ui	muix (rice).
/iu/	Iu, iu	gbiu (describes something that is so bulky it occupies one visual space).
/ieo/	Io, io	bioh (tomorrow); wioqhng (quickly).

#### OPEN VOWEL SET

##### IPA SPELLING EXAMPLES (DUONG-DAFFIAMA DIALECT)

/ɪ/	Ee, ee	Seehboh (act of skinning); meehlooh (sabotage; also act of wiping); kyeere (to yell); kyeehre (to deny; also ground squirrels); teere (to lean against); teereh (trees); peere (to sweep); seeqboh (populated beehive); peereh (gluttony, greed); peehreh (rooftops); peehre (sheep); seehreh (waists); seehre (honey); seere (to be tight on).
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/ɪɛ/	Ea, ea	seahbo (roasting); seahboh (sewing); neaq (person); neah (step on); nea . neane (to tuck away); sea (dance); seah (waist); seaq (soul, spirit); seax (mockery, teasing); wea (to part); weax (farm); weaq (the lead); meaxlong (dew, mist); teahre (to think); teare (to prod, to feel for); teahreh (a bow-and-arrow shootout); peahmaih (brand new and expensive attire).
/ɛɛ/	Ay, ay	kpayq (malt); kpayqh (to have boiled); kpayx (to have entered); kpayh (occipita); layx (beads; to have laughed); layq (axes); layxq? (Is that so?); kyaibayq (a dunce).
/ʊʊ/	Oo, oo	noore (to dress up); noohre (hens); noohreh (immigrants, settlers); tooreh (bottles); toore (to push out of the way, to shift); toohre (to spit out); boohreh (goats); booreh (discussion); boohreh (offspring); boore (to charge forward).
/ʊʊ/	Oa, oa	Oahng (perforated pot used for steaming and smoking food); toax (bottle) toa (to trace a line); toaqng (to overpower); toahng (harm, injury); koaxng (water); koaqraah (farmer); bohngkoaraaq (merchandise); bohngkoaqraah (cultivated crop); goaraax (a type of tropical tree).
/ɔɔ/	Aw, aw	Aw (chew); tawreh (far); tawre (piece of tobacco); sawhreh (liver); bawreh (sacrifice); kawhreh (bone; sort of dance); pawpawq = mahngkaehng (papaya).
/aa/	Aa, aa	saax (father); saah (rain); saaqraah (saw); dihraah (glutton); pihraah (button); maale (to make; to repair); selaax (hawk); lehraah (link; button); behlaah (termite hill); beqlaahng (a little); paihlaa (“liniment” shrub); gouxlaa (cola nut bowl); kpaihglah (tripod support); baihraah (trap).
/ɛʊ/	Aio, aio	Mahnlaahleh examples: waiox (farm); paiox (basket); aiox (crocodile).
/ɪɛʊ/	Eao, eao	peaoqng (civet cat); kpeaoqng (strength); weao (sleekly).
/ɔɛ/	Auai, auai	kauaiq (gourds); kaukaiq (languages; throats); awyaih (has chewed; also has ached).
/ɔɪ/	Aue, aue	Gauex (Cape Coast); bauexbauex (house servant); bauqbaueh (duck); baueng (calm).
/aɪ/	Ae, ae	Kpaeh ! (Amazing !)
/aʊ/	Ao, ao	Faoh! (Gone! Disappeared!).
/ʊɪ/	Oe, oe	Toeng (deep red).
/ɪʊ/	Eo, eo	? (No examples).
/ʊɛ/	Oai, oai	koaiqh (has killed); koaix (has given).

### 2.3. Tones and Spelling

#### Summary of tone spellings

1 <sup>st</sup> Syll \ 2 <sup>nd</sup> Syll		L	H	LH	HL	M	LM	HM	LHL	LHM
				h	x	q	h		qh	xq
<b>L</b>			- h	- x	- q			- qh		- xh
<b>H</b>	h	h -	h h		h q	q h		h qh		
<b>LH</b>	x	x -		x x		x h				
<b>HL</b>	q	h -		q x						
<b>M</b>										
<b>LM</b>										
<b>HM</b>	qh	qh -				qh h				
<b>LHL</b>	xq									
<b>LHM</b>	xh									

Dagaahre has two basic register tones, high and low, which can combine to produce different tone contours within a syllable, or a tone sequence across syllables. Tones are spelled by writing the appropriate tone letter(s) immediately after the vowel letter, as illustrated next:

Tones	Spelling	Examples
Low		ba (they; to plant); baa (to grow); ngma (to cut up); ngmaa (to cut once).
High	h	bah (Negation); baah (dog); ngmah (to conquer); ngmahn (calabash); ngmaah (short).
Lo-Hi	x	baax (stream; plant them!); ngmaax (cut them!); max (mother).
Hi-Lo	q	baq (father; friend); baaq (bar); faaq (to confiscate).
Hi-Mid	qh	ngmaaqh (conquer them <sub>(non animate)</sub> !); gyaiqhl (egg).
Lo-Hi-Lo	xq	maaxqng (emphatic 1 <sup>st</sup> person pronoun); fooxqng (emphatic 2 <sup>nd</sup> person pronoun).
Lo-Hi-Mid	xh	ngmaxhn (dove); mmxh (yes).

Crucial meaning distinctions are lost when tones are not written. To see this, try reading the following line:

*Ka ba wa daa wa daa ...*

Did you manage to figure out its correct pronunciation and meaning? How many utterances did you read out of it by changing the tones? The current spelling system imposes the guessing game you just played, and no one can be sure of the intended meaning of the above “text” as it is written. By rewriting the same line, taking care to spell out the intended tones, we can save the reader the frustration of guessing. Thus:

- (1) Kah bah wa daax wa daax. (Tell them) that they should come to the market to buy them.
- (2) Kah bah wa daax wa daaq. (Tell them) that they should come to the market to push (it).
- (3) Kah bah wa daax wa daaqh. (Tell them) that they should come to the market to push them.
- (4) Kah bah wa daax wah daax. (Tell them) that they should come to the market on Wa market day; or that they should come and buy them on Wa market day.
- (5) Ka ba wax daax wa daax ... If they come to the market to buy them...
- (6) Ka ba wax daax wah daax ... If they come to the market on Wa market day, ...
- (7) Ka ba wa daaxq wah daax... If they come and **buy** (emphasis on buy) them on Wa market day...
- (8) Ka ba wax daax wa daaxq, (kyaih) ... If they come to the market to **buy** (emphasized) them, (nevertheless) ...
- (9) Ka ba wa daaq wah daax... If they come and buy them on Wa market day, ...
- (10) Ka ba wa daaqh wah daax, ... If they come and push them on Wa market day, ...
- (11) Ka bah wa daax wa daax... Let them come to the market to buy them... or and they came to the market and bought them.
- (12) Ka bah wa daaq wah daax ... Let them come and push (it)on Wa market day...
- (13) Ka bah wa daaqh wah daax... Let them come and push them on Wa market day.
- (14) Etc.

One could list more meaning possibilities for this utterance, but the point is clearly made: While it is easy to write Dagaahre without the tones, it is harder to read the toneless text. Reading is such a painful exercise in divination that few literates have the will to undertake it, and those who write often lack the ability to decipher their own writing once it is completed. Context alone is not sufficient to guide the reader to reconstruct the intentions of the writer, if those intentions are not written into the text through careful spelling of the required tones.

This section contains a carefully thought-through and complete tone spelling system, designed to capture the complex semantic nuances that the language enables its speakers to encode through tonal variation. Before you conclude that it is needlessly complex, which may be true of your particular dialect, remember that Dagaahre has many dialects that differ in complexity at all levels. This proposal addresses tonal issues from the simplest to the most tonally complex of dialects. The Dagara dialects, which practise tone levelling, have the simplest tonal system, and the Mantahreeh and Mahnlaahleeh dialects, which do not, are the most tonally complex of all.

### ***2.3.1. How to identify and spell tones***

To identify the tone levels of a word, it is best to hum or whistle it, syllable by syllable. Once the tone levels are identified, it is easy to write the word by following the simple tone spelling rules, which are explained in the next subsections.

### ***2.3.2. Tone and the syllable***

Although the **syllable** is the tone-bearing unit in Dagaahre, it is only its **nucleus** and occasionally its **voiced coda** that actually bear the tones. The nucleus of a syllable is usually the vowel sound, and the coda is any consonant that follows the vowel within the same syllable. Because voicing is required for tone to be perceived, it is not by mere coincidence that the few coda-compatible consonants in Dagaahre are voiced consonants: m, n, r, l, ng, and g. The consonant that begins a syllable is called its **onset**, and onsets do not bear tones. In the monosyllabic word *bar* (let go, leave) there is a voiced onset [b], a nucleus [a], and a voiced coda [r]. The word *pu* (to flower) has a voiceless onset [p], a nucleus [u], but no coda. And the vowel-initial word *ar* (to stand) has no onset,<sup>1</sup> but it has a nucleus [a] and a voiced coda [r]. Only the [ar] component of the syllables [bar] and [ar] can bear tones. Similarly, only the [u] of [pu] is tone-bearing.

Any consonant at the beginning of a word is necessarily an onset, and hence never bears tones. The sound [h] represented by the letter ‘h’ only occurs as an onset consonant. Moreover, even if it were to occur as a coda consonant, which it never does, it would still not be able to bear tones because it is a voiceless consonant. That

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<sup>1</sup>Strictly speaking, vowel-initial words have a glottal stop onset when pronounced as isolated words. There are compound words in which the glottal stop is manifested, and such words must be written hyphenated. Cf. § 3.5. (2) for more information.

makes the letter ‘h’ quite appropriate for marking the high tone, since mnemonically ‘h’ recalls ‘high’.

Tones are sensitive to their environment; i.e. the tones of a word can change based on where the word is in the sentence. Fortunately, many of the tonal changes which either occur within a word, or which the word can undergo in a sentence, are predictable. Here are some facts about how tones change in context.

- (1) \***HLH** tone sequences are not attested in non-compound words, because the **LH** sequence becomes a **Mid** tone after a High tone. There is a tonal constraint such that within a non-compound word \***HLH** Ψ **HM** (a **hi-lo-hi** tonal sequence is reduced to a **hi-mid** one).
- (2) A **Low-High contour** is followed only by a **Mid** or **Low** tone, but never by a **High** tone. Thus, the tone digraph ‘xh’ cannot be misread as \***LHH**, since that is an unattested tone sequence.
- (3) The first tone of an isolated word cannot be a **Mid** tone. A **Mid** tone always follows a **High** tone, or another **Mid** tone.
- (4) **Mid tones do not usually immediately follow low tones.** A High tone which follows a Mid tone **in the same unit** cannot be pronounced higher than the Mid tone level. This constraint is the cause of the widespread phenomenon of downdrift.
- (5) **Hi-Lo contours** survive word-finally, but elsewhere they tend to spread over two syllables to become a **Hi-Lo** sequence, which happens when the contour is followed by a low tone, or their low tone fuses with a following High tone to produce a Mid tone, generating a **Hi-Mid** tone sequence. These facts partially explain the observation made in (1).
- (6) Occasionally, word-final vowels apococate (i.e. get dropped, so to speak), transferring their tone to the preceding syllable. For example, ‘bovine’ is pronounced as either *naaqboh* or *naaqhb*, and ‘guinea fowl’ as either *kpaaqngoh* or *kpaoqhg*. For the flexibility needed in the orthography to cater to such pairs, it is proposed that the **Hi-Mid** tone contours and sequences be marked by the digraph “**qh**”, written either together or separated, as in the above examples. See §2.3.4 for examples.
- (7) A **High** tone at the beginning of a rhythmic group may sound higher than another at the end of it, because downdrift progressively lowers all high tones. Downdrift is not marked.
- (8) Stem-final vowels generally become long when a suffix is attached to the stem. So the stem and suffix boundary is a zone where changes in sounds and tones

occur most frequently.

Analysis of the tonal structure of Dagaahre reveals that the Northern dialects, which have the most elaborate consonant system, have the simplest tonal structures, while the Mid-central dialects have the most complex tonal structures. Contour tones, like the **HL** in **biireyq** (sand), are quite rare in Dagara, as one would rather hear **biireh** (sand). The systematic reduction of tone contours to simple tones is called tone levelling.

### 2.3.3. *Ten simple tone-spelling guidelines*

The term **contour** denotes the concurrent production of different tone levels within the same syllable. Examples: baq (father), faaq (confiscate once); baax (river, stream). **Tone sequence** denotes the production of identical or different tone levels over several syllables in the same **written word** or phrase. Examples: baalah (sick person); Ngmehne (God). The word doaxlohng (mud-fish) consists of a **Lo-Hi** tone contour in the syllable “doax,” followed by a **Mid** tone in the syllable “lohng.” A **written word** is any acceptable sequence of letters demarcated by blank spaces. The written word may consist of one or more morphological words. Although written and pronounced alike, baax (river) has one morphological word whereas baax (plant them!) has two. Tone letters apply to the preceding verb, not the following one. The following guidelines govern the use of the tone letters:

Guideline 1: Write the appropriate tone letter(s) **immediately following** the vowel

letter(s) or syllabic consonant(s) that convey the tone. [E.g. **baah** (dog); **Nh** (should I?); **NOT** \***bhaa**, or \***baha**].

Guideline 2: Leave **Low** tones unwritten. Read as a low tone any vowel letters that are not followed by a tone letter. [E.g. ba (to plant); baa (to grow); vaale (to rake up)].

Guideline 3: Use the tone letter “**h**” to represent a simple (non-contour) **Hi** tone in every position of the written word. However, use “**h**” after “**q**”, to mark the **Mid** tone in a Hi-Mid sequence. See guidelines 5, 6 and 7 for clarification [e.g. **bah** (let them; negative particle); **baah** (dog); **vaahlah** (rubbish); **kpohmkpohloh** (ditch xylophones); **BUT** **kaaqboh** (grain of millet) vs **kaahboh** (the act of looking)].

- Guideline 4: If the letter ‘h’ appears between two vowels, read it as the onset of the following syllable, not as the tone marker for the preceding syllable. When writing, to mark the preceding vowel as a high tone, either insert a hyphen between the ‘h’ and the vowel that follows it, if the next syllable does not begin with /h/, or write ‘hh’, if the next syllable begins with /h/. [Waahleh examples: ahe /àhɪ/ (to stand); ahheh /áhi/ (to pluck corn)].
- Guideline 5: Use the tone letter “q” to spell a **Hi-Lo contour** [e.g. baq (father); gaqng (to lie down)]. But to write a **High** tone in a **Hi-Lo tone sequence**, use **h** as explained in Rule 3 for the first syllable [e.g. baihgai (beans) wehleh (to dismantle)].
- Guideline 6: Write a **Hi-Mid tone sequence** with the letters “qh”. If the **HM** sequence is spread over two or more syllables, write the **Hi** of the first syllable as “q” and the **Mid** of the second and subsequent syllables as “h”. [E.g. naaqboh (bovine) vs. niiq (bovines); and kpaaqngoh (guinea fowl) vs. kpiihni (guinea fowls); waaqboh (snake) vs. weehre (snakes)].
- Guideline 7: Write a **Hi-Mid contour** with the tone digraph “qh” in order to distinguish it from the **HL** contour represented by the single tone letter “q.” [e.g. waaqhb (snake), short form of waaqboh; naaqhb (bovine), short form of naaqboh, vs. niiq (bovines)].
- Guideline 8: Use the tone letter “x” to write a **Lo-Hi contour**. [e.g. max (mother); baax (river, stream); weax (farm); mh-mmx (No)]. But write a **Lo-Hi sequence** as explained in Guideline 3. [e.g. wirih (horse); peereh (gluttony)].
- Guideline 9: Write a **LH contour + Mid tone sequence** as “xh”, separating the “x” from the “h” as required by the syllabic structure [e.g. doaxlohng (mud-fish); dalendeaxleeh (leach); deaxlaah (a type of mocking bird); galengguoxliih (a millipede); mmxh (yes)].
- Guideline 10: Write a **LHL tone contour** using the tone digraph “xq.” These contours are rare but can be found in the Mid-central dialects in emphatic pronouns like maaxqng or maaxq (me), foqxqng (you). Note

that Teneeq (us), and yaimaeq (you, plural), are tone sequences, not contours, just as are doaxlau (plural of mud-fish), deaxlai (mocking birds), galengguoxlo (millipedes), and dalendeaxlai (leaches).

### 2.3.4. How to spell tonal changes in phrases

Tones change in context for various reasons. Tonal changes within a word are easy to represent in spelling, as shown in the word ‘child’, whose tones switch between high and low as follows:

- 1a) bieh (child)
- 1b) bikpoqng (adolescent)
- 1c) a bieh kpoqng (the child is big)
- 1d) bidawh (son)
- 1e) bidawleih (boy; little son; little boy)
- 1f) dawleih (male infant; little man)

Another type of tone change, illustrated by the set of examples presented in (2), may prove to be harder to spell.

- 2a) dawh lah dawh! (A man is a mean!)
- 2b) dawh lah daw (It is a man who is squatting)
- 2c) dawq dawh (friend of man; man’s friend)
- 2d) dawq dawh lah daw (It is a man’s friend who is squatting)
- 2e) a dawqngah dawh lah daw (It is this man’s friend who is squatting)
- 2f) dawqngah dawqnah da dawx lah kyaiq (That friend of this man was squatting here).

In 2c) to 2f), the genitive construction causes the tones of subsequent constituents in the noun phrase to be lower than those of the first. Marking these tonal adjustments is important, since they affect both pronunciation and meaning. Guidelines on how to demarcate the written word are presented and explained in section 3.

## 3. Word Division

Words used in speech tend to be organized in word groups called **phrases**, which also group into **clauses**. Because of such hierarchies, some words may fuse together, others may split apart, and some will shorten, while others lengthen. These are the reasons why we need rules to guide word division in the text. The *Guide* contains

instructions on word division, which we recall in this section. For the most part, we adhere to the rules given in the *Guide*, but we suggest a few modifications in order to optimize the tonal orthography.

### 3.1. The *Guide* on word division in the sentence

(Information contained in pages 12 through 18 of the *Guide*)

A word may be **simple**, **complex**, or **compound**. A simple word is either a minimal free form (e.g. N, kah, da) or a complex word (bieh, kpoqng, daarah). Minimal forms that are not free such as ‘bi’ in **bikpoqng** (big child)) cannot be written as separate words. Complex words are simple if made up of one stem and an affix. With two or more stems, a complex word becomes a compound word. Dagaahre vowel harmony operates in simple words but not in compound words.

The rule of thumb is to write each free form as one unit, using no hyphens or diacritic marks unless absolutely necessary for correct pronunciation.

### 3.2. Words to be written separately

#### 3.2.1. *General principles*

**Only words that have the lowest free form in meaning and in grammatical function may be written as separate words. Among such forms are:**

1. Nouns, verbal nouns, actor nouns, proper nouns
2. Subject pronouns (see list below)
3. Verbs e.g. gaa, gaayaih, gairaih, (forms of ‘go’)
4. Predicate adjectives e.g. a bieh kpoqng (The child is big)
5. Adverbs, conjunctions, and diverse functional particles.

#### 3.2.2. *Nouns*

Nouns used as subjects or objects of verbs should stand as single words.

(a) Nouns as subjects of verbs. E.g.

<i>Guide’s Spelling</i>	<b>Tonal spelling</b>	<b>English</b>
a baa taa kōɔ	a baax taax koaxng	The river has water

a baa taa la kōo	a baax taaqlah koaxng	The river has water
Dasaa gaa daa	Dasaah gaah daax	Dasaah has gone to
Dasaa gaa la daa	Dasaah gaaqlah daax	the market
A naabo kpie la	A naaqboh kpielah	The cow is dead

(b) Nouns as objects of verbs.

<b>Toneless</b>	<b>Tonal</b>	<b>English</b>
A vūū di la daa	A vuuqng diqlah daax	The fire has consumed the wood
A yiri taa dāā	A yihri taaxh daaqng	The house has pito
Nii oo la a kyi.	Niiq awxlah a kyi	Cattle have eaten the millet

Actor nouns

Actor nouns should be written as single words. E.g.

<b>Toneless</b>	<b>Tonal</b>	<b>English</b>
didire	didihreh	Foodian
tontona	tontohnah	Worker
koora	koaqaah	Farmer
zozoro	zouzohroh	Runner
kongkono	koungkohnoh	Crier

### 3.2.3. Compound words

All components of a compound word should be written together. Compounds may be formed with different word combinations, including:

a) Nouns with nouns

<b>Toneless</b>	<b>Tonal</b>	<b>English</b>
Kannodie	kannooxdie	classroom
nonyuu	nauqnyuuh	chicken neck; smelly mouth
bikuū	bikuuhng	dead child
ngmendie	ngmeqndie	House of worship
doozu	dawzuq	Proper name
ngmendaare	ngmeqndaahre	Day of worship
ponnyuo	Pawnyuox	Code name of any last-born female. (Literally: “woman navel”)

b) Nouns with adjectives

<b>Toneless</b>	<b>Tonal</b>	<b>English</b>
Bivela	bivelaax	Nice fellow
nempela	nehmpelaax	White person
pofaa	pofaah	Malice (Lit: bad stomach)
nɔnyanga	nauhnyaaqngaah	Hen
bodaa	bodaah	He-goat
zuzε	zuzεax	Red-haired person
pofaasoba	pofaaqsohbah	Malevolent person
nenlaanee	neqnlahneeh	worthless fellow

## c) Nouns with verbs

<b>Toneless</b>	<b>Tonal</b>	<b>English</b>
Vizoro	viqzohroh	shy fellow
daanyuuro	daahnyuuhro	drunkard
pɔɔboɔɔ	pawboahrau	womanizer

## d) Words formed through reduplication

All components of a word formed through duplication or onomatopoeically should be written together as one word

<b>Toneless</b>	<b>Tonal</b>	<b>English</b>
lomɔlomɔ	lohmauhlohmauh	soft and juicy
munomuno	muhnohmuhnoh	teeny weenie
kalakala	kalakala	a little bitter
mεlεmεlε	maihlaimaihlaih	sweet tasting
yomomo	youhmouhyouhmouh	succulent
morɔmorɔ	moramora	rotten (fruit)
maramara	maramara	mushy
gborɔgborɔ	gboragbora	hurriedly
kyengkyeng	kyeingkyeing	rushed; in a hurry
maarongmaarong	maahrongmaaqrohng	sluggishly
baalongbaalong	baaloxngbaaloxng	slowly
kamama	kamama	wide
wieongwieong	wioqngwioqng	quickly; hurriedly
tegteglε	teihgteiqglaih	always
virengvireng	vihreihngvihreihng	completely; entirely

EXCEPTION: reduplicated nouns involving the use of ‘lah’ should be written as separate words, e.g.

<b>Toneless</b>	<b>Tonal</b>	<b>English</b>
bie la bie	lah bieh	a boy is a boy
dɔɔ la dɔɔ	dawh lah dawh	a man is a man
kũũ la kũũ	kuuhng lah kuuhng	death is death

#### e) Sentential compounds

Most proper nouns indicating personal names or names of places fall in this category. All components of a sentential compound are to be written together as one word. E.g.

#### Proper nouns

<b>Toneless</b>	<b>Tonal</b>	<b>English</b>
Angbampoɔ	Axngbampoah	(Lit: Who knows interior)
Bampuorikombangpoɔ	Bampuorihkombahmpoah	An enigmatic fellow (Literally: Know exterior, won't know interior)
Bangfodeme	Bangfodeimeh	Mind your own business (Literally: Know your own stuff)
Ermong	Airmoqng	Name of village near Lawra (Literally: Talk on behalf of someone without consultation)
Buokangso	Buoqkansoh	What is in it for me? (Literally: Which one do I own?)

#### Other proper noun examples:

Pawpaaqlaahbangkaqntuoroh (lightwood).

Ngmeqnnakohmantoahreh (proper name meaning ‘May God give me my own’)

Axngnombaalah (proper name meaning ‘Who likes the afflicted?’)

Soaqnzeaxnagbahr (A noun designating any person whose tiny appearance camouflages some bigger qualities, such as age or strength. Literally: ‘shin of a red hare.’)

#### Names of titles and family relations

<b>Toneless</b>	<b>Tonal</b>	<b>English</b>
Tendaana	Tendaahnah	Landlord
nabie	Nabieh	Prince, princess
bondaana	Bohndaahnah	Richman
yidāādɔɔ	Yihdaandawh	Male head of household
yidāāpɔge	Yihdaampauhgeh	Female head of household
Yɔɔpuulee	Yawhpuuqleeh	Little sister
Mabile	Mabihleh	Maternal aunt; Stepmother
Mpkeε	Mkpeah	My elder sister
Sāābile	Saambihleh	Paternal uncle (younger than one's father); Stepfather (younger than one's real father)
Sāākpeε	Saamkpeah	Paternal uncle (older than one's father); Stepfather (older than one's real father)

### 3.2.4. Pronouns

Dagaahre personal pronouns and possessive adjectives:

	<b>Singular</b>	<b>1<sup>st</sup> person</b>	<b>2<sup>nd</sup> person</b>	<b>3<sup>rd</sup> person</b>
<b>Subject</b>	N	N	Fo	O
<b>Injunctive</b>	(kah) Nh	(kah) Nh	(kah) foh	(kah) oh
<b>Object</b>	mah	mah	boh .foh	oh
<b>Emphatic</b>	maaxqng	maaxqng	fooxqng	ohnah
<b>Possessive</b>	n	n	fo = ho	o
	<b>Plural</b>	<b>1<sup>st</sup> person</b>	<b>2<sup>nd</sup> person</b>	<b>3<sup>rd</sup> person</b>
<b>Subject</b>	Te	Te	Yai	Ba; A
<b>Injunctive</b>	(kah) teh	(kah) teh	(kah) yaih	(kah) bah; ah

<b>Object</b>	teh	yaih	bah; ah
<b>Emphatic</b>	teneeq	yaimayq	bahnah; ahnah
<b>Possessive</b>	te	yai	ba; a

- (a) Pronouns as subjects of verbs should be written as separate words. The first person subject pronoun, ‘I’, should always be written as an uppercase **N**, and the possessive adjective, ‘my’, as a lowercase **n** or equivalent when it is not at the beginning of a sentence.

<b>Toneless</b>	<b>Tonal</b>	<b>English</b>
O gaa daa	O gaax daax	(S)he is gone to market
N kong gaa	N kong gaah	I won't go
Ba a ma la	Ba aqmahlah	They hate me
Te gɛrɛ daa	Teh gairaih daax	Let us go to the market
Te gɛrɛ daa	Te gairaiqh daax	We are going to the market
Te gɛrɛ daa...	Te gairaih daax...	We were going to the market ...(when sth. happened)
Yɛ ba gɛrɛ be?	Yai bah gairaih beh?	Are you not going?
Fo yuori la bong?	Fo yuohri lah bohng	What is your name?

- (b) Pronouns as objects of verbs

Object pronouns are to be **written as one word with the verb** that immediately precedes them.

<b>Toneless</b>	<b>Tonal</b>	<b>English</b>
Dasaa ngmɛ ma la	Dasaah ngmaixmahlah	Dasaah beat me
Banang ko o	Bahnahng kooqh	<b>They</b> killed it/him
Ka te oge ba bare	Ka teh ougebah bare	And we lost faith in them (Literally: And we spit them out).

Object pronouns acquire their tones in relation to the final tone of the verb they follow, and that is the main reason why they need to be written as one word with their verbs. This recommendation deviates from that of the *Guide*.

### 3.2.5. *Function words*

<b>Toneless</b>	<b>Tonal</b>	<b>English</b>
bonso	bounsoh	therefore, why?
lenso	lainsoh	that is why
ananso	ahnahnsogh	that is why
ane, ne	aneq, neq	and; with; plus
lezaa	laixzaax	by then
lezaawaa	laixzaaxwaah	by then (emphasis on event)
lezaawaana	laixzaaxwaanah	by then (time emphasis)
aminekanga	aminehkangah	perhaps
kaapɔge	kaapauhge	maybe
azuing	azuiqhng	hence
bonzuing	bonzuiqhng	consequently; why?
lɛyɛng	laiyaiqng	in that case
kyɛbee	kyaihbeeh	or (emphatic)
anasangana	ahnahsahnganax	then; there and then
see...bee	seyh...beeh	either...or
kyɛ	kyaih	but; and; next
lɛ	laix	that way; thus
nga	ngax	here (deictic particle)
mine*	mineh	plural marker
deme*	deimeh	plural marker

#### Demonstrative adjectives, determiners

nga*	ngax	this (proximal demonstrative)
na*	nax	that (distal demonstrative)
mine	mineh	some (indefinite plural article)
kanga	kangah	certain (indefinite singular)
ama	ahma	these (non human, proximal)
bama	bahma	these (human, proximal)

#### Demonstrative pronouns

##### Singular

nganɛɛ nga	ngaxnayh ngah	this one here (proximal)
nganɛɛ na	ngaxnayh nah	this one there (medial)
onɔng na	oqnauhng nah	that one there (distal)

## Plural

annang ama	aqnnahng ahma	these here (non hum., prox.)
annang na	aqnnahng nah	those there (non hum. dist.)
bannang bama	baqnnahng bahma	these here (human, prox.)
bannang na	baqnnahng nah	those there (human, distal)

\*EXCEPTIONS: Write the demonstrative enclitics ngax (this) and nax (that) together with the noun they follow. When the words “mineh” and “deimeih” are used as plural markers, they should be written as one word with the noun they pluralize. Thus, “n dawmineh ” is the recommended spelling for “my friends,” while “n dawh mineh” is the recommended spelling for “Comrades!” Here are some NP spelling examples showing different values of “mineh”, “deimeih”, and other particles:

1. a bieqngah lah mahng yeileh nah (It is this child I talk about).
2. zuh-anganga ngax\_\_ ([your] awkward-looking head). Note that the hyphenation serves to clarify the role of “h” as a tone marker in the pronunciation.
3. N piehtoh naahneh (It is not my pant).
4. A daozuh-anganax waxlah kyaiq (That awkward-looking-headed man came here).
5. Duohmoh mineh lah wa zeng soorah fo yaihlaih (It is some people of Duong who are sitting here to ask of you).
6. A fo pawpaaqlaahbangkaqntuoroh daarehnah lah ka bah yeili kah fo wuo gaa ko a Axngnombaalah pauhgauh beh? (Is it that lightwood they asked you to go and give to Axngnombaalah’s wife?).
7. N beahremineh (my elder brothers).
8. N beahremineh bahma (these my elder brothers here).
9. N yawhmineh neh n beahremineh (my younger siblings and my elder brothers).
10. Faahramineh lah (It is “Fathers” i.e. priests).
11. A te diexdeimeih deamineh (The relatives-in-law of our household).
12. Te pauhgauqngah mineh (Some of these our women).
13. Duohmoh mineh lah wa zeng soorah fo yaihlaih (It is some people of Duong who have come and are asking about you).
14. N deamineqngah mineh (some of these my relatives-in-law).
15. N deamineqngah mineh biihrih maalah lah laahreh paah (Some of these my relatives-in-law are really hilarious).

16. N deamineqngah mineh bihriqngah mineh (Some of these children of some of these my relatives-in-law).
17. Gaahnadeimeih nihmkpoqng kangah yuohri dan lah Orauhle (One of the heads of state of the people of Ghana was ever called Rawlings).
18. Waxdeimeih or Waahlah (people of Wa).
19. N deimeih lah ahma (these are mine).
20. Waxdeimeih deimeih lah ahma or Waahlah deimeih lah ahma (These are the share of the people of Wa)

Other examples of how to write words within Phrases (with the NP's underlined):

21. N dawh (My friend).
22. N dawh lah (It is my friend).
23. A n dawqngah (this my friend).
24. A o dawqngah (this his/her friend).
25. A fo dawqnah lah (It is that your friend).
26. A fo dawqngah mexng gba! (This friend of yours too is something).
27. A dawzuhzeaxngah mexng gba (This red-haired man too is something).
28. A n dawqnah lah ka foh zaaqng nyaih (It is that my friend that you saw yesterday).
29. Fo zaumengkuuhngwanyaihbaaledaahnyuuhronax lah (It is that weakling of an alcoholic friend of yours).
30. Fo zaumengkuuhngwanyaihbaaldaahnyuuhronax yeili kah o nyaiqlah n dawzuhzeaxnah (That weakling of an alcoholic friend of yours said that he saw that my red-haired friend).

### 3.2.6. Verbal Particles

Verbal particles should be written as separate words. EXCEPTIONS: 'lah' (affirmative particle) should be written as one word with the verb that it follows. Likewise, 'heq' (with), when used with a verb, should be written as one word with it. Examples with 'heq':

<b>Toneless</b>	<b>Tonal</b>	<b>English</b>
waanane	waanahneq	bring it with you (Lit: coming with)
taa wane	taax waneq	bring it (Lit: keep come with)
taa gaane	taax gaaneq	take it there (Lit: keep go with)

When 'heq' is not used with a verb, it should be written separately. E.g.

**Toneless****Tonal**

N ne o la gaa a daa

N neq oh lah gaa a daax

I went to the market with him.

De o ne a boma wane

Deoqh neq a boqmah waneq

Bring him and the things.

Other verbal particles include:

Future: na (affirmation); kong (negation)

*These particles raise to high tones any low tones that immediately follow them in the sentence.*

Past: da (generic past); dang (once in the past)

Habitual: mahng (usually); nang (still)

Iterative: la (again); yaang (as usual)

Negation: - Clause Negation: bah (negation of the affirmative); tah (negative imperative); kong (negative future).

- Noun Phrase Negation: naahneh . naahng; bah...e.

Affirmation:\* lah (Used with all phrase types and clauses).

*This particle is to be written together with a preceding verb as one word.***3.2.7. Adjectives**

Predicate adjectives

Adjectives that do not suppress parts of the nouns they qualify should be written separately from their nouns. These are called predicate adjectives. E.g.:

**Toneless****Tonal****English**

A dɔɔ kpong

A dawh kpoqng

the man is big

N pɔɔgɔ zeɛ

N pauhgauh zeax

my wife is light-skinned

A dɔɔ sɔɔglaa

A dawh sauqlaah

the man is dark-skinned

**Epithets**

Adjectives that suppress parts of the nouns they qualify should be written as one word with their nouns. These are called epithets. E.g.

**Toneless****Tonal****English**

A dɔɔkpong

A dawkpoqng

the big man

N pɔɔzeɛN pawzeax            my light-skinned wife  
 A dɔɔsɔɔglaa A dawsauqlaah    the dark-skinned man

### 3.2.8. Adverbs

Adverbs should be written separately from the words they modify. E.g.

<b>Toneless</b>	<b>Tonal</b>	<b>English</b>
zoro velaa	zouroh velaax	Be careful as you run
yeli yaga k'a yi	yeili yahga k'a yih	Speak out audibly
dire gborɔɔgborɔ	direh gboragbora	eat fast
e kɔɔre	e kawre	do for a long time

Postpositions should not be joined to the nouns they follow, unless the combination is understood as one concept, e.g.

<b>Toneless</b>	<b>Tonal</b>	<b>English</b>
kogo puli	kouhgoh puhlih	beneath the seat
tee puli	teax puhlih	beneath the tree
pee zu	peah zuq	on top of the roof
godo zu	gouhdoh zuq	on top of the bed

Compare with the corresponding compounds:

<b>Toneless</b>	<b>Tonal</b>	<b>English</b>
kogopuli	kouhgoqpuhlih	seat bottom
teepuli	teaxpuhlih	tree bottom
piezu	piehzuq	rooftop
godozu	gouhdohzuq	bedtop

Note the vowel change in the case of piehzuq (rooftop), confirming the difference between the compound word and the phrase. Another interesting example is the subtle difference which some dialects make between gbaihkpɔqng (big leg) and gbeihkpɔqng (thigh).

### 3.2.9. Verbs

Verbs generally get conjugated when used non-serially in the sentence. Tonal changes occur the most in verbs, due to conjugation and to the effect of verbal particles. While

serial verbs should be written as separate words in the sentence, conjugated verbs should be written as one word with any affirmative verbal particles ‘lah’ or ‘-ng’ which follow them. Examples:

- (1) N yeixlfohlah kah te da bah toaqng gaa (I told you that we were unable to go).
- (2) N yeixlbuhng kah fo tah mahng eraih laih (I told you that you should not be doing that).
- (3) Bouxng lah ka foh zo te deq wa zenneq sehrehteh laih? (What is it that you so hurriedly went to bring back that is making you so quiet?)
- (4) Ngmeqn na koqmahng n toahreh (God will give me my own).
- (5) Ngmeqn na koqmahlah n toahreh (God will give me my own).
- (6) Ngmeqn na kohma n toahreh (May God give me my own).
- (7) Ngmeqn na koqbohng ho toahreh (God will give you (singular) your own).
- (8) Ngmeqn na koqbolah fo toahreh (God will give you your own).
- (9) Ngmeqn na kohbo fo toahreh (May God give you your own).
- (10) Ngmeqn na kohbo ho toahreh (May God give you your own).
- (11) Ngmeqn na kooqng o toahreh (God will give him his own).
- (12) Ngmeqn na kooqlah o toahreh (God will give him his own).
- (13) Ngmeqn na kooq o toahreh (May God give me my own).
- (14) Ngmeqn na koqtehg te toahreh (God will give us our own).
- (15) Ngmeqn na koqtehlah te toahreh (God will give us our own).
- (16) Ngmeqn na kohte te toahreh (May God give us our own).
- (17) Ngmeqn na koqyaihng yai toahreh (slow speech), or Ngmeqn na koaiqhng yai toahreh (fast) (God will give you (plural) your own).
- (18) Ngmeqn na koqyaihlah yai toahreh (slow) or Ngmeqn na koaiqlah yai toahreh (God will give you your own).
- (19) Ngmeqn na kohyai yai toahreh (normal speed), or Ngmeqn na koaiq yai toahreh (fast) (May God give you your own).
- (20) Ngmeqn na koqbahng ba toahreh (God will give them their own).
- (21) Ngmeqn na koqbahlah ba toahreh (God will give them their own).
- (22) Ngmeqn na kohba ba toahreh (May God give them their own).
- (23) N zaaqng da bah toaqng gaa a daax (I was not able to go to the market yesterday).
- (24) Fo moax yaang zaaqng la dangayqh gaaq beh? (Did you again go to bed early yesterday as usual?).
- (25) Fo moax yaang zaaqng la daxnglah gaaq beh? (Did you again go to bed early yesterday as usual?)
- (26) Beihraahyingax, te bah mahng la toaqnauh gairaih zenaih kyailaih a kannoox

buiqbuiq (These days, we are no longer able to go regularly to sit and listen to the preaching).

(27) da bah boahrau kah oh ngmaagaax (He did not want (her/him) to cut (or cross) them).

(28) Fo bang kah o yaang zaaqng da bah la boahrau kah oh ngmaagaa libieq mineh feehng kohmah wa? (You know that yesterday he was again not prepared to give me any part of the money, don't you?).

### 3.3. Words to be Joined

We summarize here points that have been developed earlier concerning words that need to be linked up with others in the sentence and written as one word.

- a) Compound words should be written in one piece. Cf. §3.2.3. and §3.2.5.
- b) When “mineh” is used as a plural marker, it should be written as one word with the noun it pluralizes. e.g. saaxmineh (fathers), maxmineh (mothers), purimineh (aunts), ahrehmineh (maternal uncles), yawhmineh (brethen). Also temineh (some of us), bamineh (some of them, human), amineh (some of them, non-human), yaimineh (some of you), axngmineh (who among you or them?). **Exception:** When “mineh” means “some”, it should be written as a separate word, e.g. nohba mineh (some people), yieq mineh (some houses), dambouhlo mineh (some fools), kyereh mineh (some ackee), saaqmah mineh (some strangers), karehkyereh mineh (some literates), pauhgbah mineh (some women). Cf. §3.2.5.
- c) When “deimeh” is used as a plural marker, it should be written as one word with the noun it pluralizes. e.g. zihnedimeh (People of today); naaloqngdeimeh (chieftains). Cf. §3.2.5.
- d) When “heq” (with) is used as part of a verb, it should be written as one word with the verb. E.g. waneq (bring sth. to the speaker); gaaneq (take sth. to someone else); gaqngneq (go to bed with).
- e) The assertive particle “lah” and its suffix variant “-ng” should be written as one word with the verb that immediately precedes them. Cf. §3.2.9.
- f) The demonstrative adjectives “ngax” (this) and “hax” (that) should be written as one word with the noun that immediately precedes them. E.g. daaxngah (this tree; this market); dawqnah (that man). **Exception:** When used after any other word category besides nouns, these words are to be written as separate words. E.g. pampahna ngax (now), sahnga nax (in those days), daindaihngai nax (at first); fo ngax (you here, a hostile address).
- g) Object pronouns are to be written as one word with their verb. E.g. songoox (help

him/her/it); N boaqrahbohng (I love you romantically, Literally: I am in search of you). Cf. §3.2.9.

### 3.4. Numerals and Spelling

Numbers in Dagaahre are written using the Arabic numeral set.

#### 3.4.1. Examples

1 yeinti = bohn-yeihni	11 pieh-neq-yeihni	
2 yeuh = ahyi	12 pieh-neq-ahyi	
3 tao = ahta	13 pieh-neq-ahta	
4 naahre = anaahre	14 pieh-neq-anaahre	
5 nuuh = anuuh	15 pieh-neq-anuuh	
6 yoaboh = ayoaboh	16 pieh-neq-ayoaboh	
7 poiqng = apoiqng	17 pieh-neq-apoiqng	
8 niiq = aniiq	18 pieh-neq-aniiq	
9 waeh = awaeh	19 pieh-neq-awaeh	
10 pieh = pieh	20 lezahre	
21 lezaqhr-neh-yeihni	22 lezaqhr-neh-ahyi	
30 lezaqhr-neh-pieh = pihta	31 lezaqhr-neh-pieh-neh-yeihni	
40 lezaaqhyi	41 lezaaqhyi-neh-yeihni	42 lezaaqhyi-neh-ahyi
50 lezaaqhyi-neh-pieh	51 lezaaqhyi-neh-pieh-neh-yeihni	
60 lezaaqhta	61 lezaaqhta-neh-yeihni	
70 lezaaqhta-neh-pieh	71 lezaaqhta-neh-pieh-neh-yeihni	
80 lezaaqnaahre	81 lezaaqnaahre-neh-yeihni	
90 lezaaqnaahre-neh-pieh	91 lezaaqnaahre-neh-pieh-neh-yeihni	
100 kawx	101 kaw-neq-yeihni	102 kaw-neq-ahyi
110 kaw-neq-pieh	111 kaw-neq-pieh-neh-yeihni	
120 kaw-neh-lezahre	121 kaw-neh-lezaqhr-neh-yeihni	
130 kaw-neh-lezaqhr-neh-pieh		
131 kaw-neh-lezaqhr-neh-pieh-neh-yeihni		
140 kaw-neh-lezaaqhyi	141 kaw-neh-lezaaqhyi-neh-yeihni	
150 kaw-neh-lezaaqhyi-neh-pieh		
151 kaw-neh-lezaahyi-neh-pieh-neh-yeihni		
160 kaw-neh-lezaaqhta	161 kaw-neh-lezaaqhta-neh-yeihni	

170 kaw-neh-lezaaqhta-neh-pieh	
171 kaw-neh-lezaaqhta-neh-pieh-neh-yeihni	
180 kaw-neh-lezaaqnaahre	
181 kaw-neh-lezaaqnaahre-neh-yeihni	
190 kaw-neh-lezaaqnaahre-neh-pieh	
191 kaw-neh-lezaaqnaahre-neh-pieh-neh-yeihni	
200 kawraahyi	201 kawraahyi-neq-yeihni
210 kawraahyi-neq-pieh	
300 kawraahta	
400 kawraaqnaahre	
1,000 tuqr	1,001 tuqr-neh-yeihni
2,000 tuqraahyi	2,001 tuqraahyi-neh-yeihni
10,000 turpieh	10,001 turpieq-neh-yeihni
10,011 turpieq-neh-pieq-neh-yeihni	
11,000 tuqrpieh-neh-yeihni	11,001 tuqrpieh-neh-yehn-neh-yeihni
500,000 turkawraaqhnuuh	
1,000,000 kombahnsauhreh (meaning “cannot be counted”)	

The Dagaahre numeral system literally ends at one million, whose English translation of “Cannot be counted” says it all. Obviously, knowing that counting is possible beyond one million, we must extend our numeral set to make it adequate for this time and age. The language has in place various productive morphological processes, including borrowing, to permit such extension.

### ***3.4.2. Proposal for an extended Dagaahre numeral system***

Since a million is a thousand thousands, and a billion is a million thousands (unless we want to go British and take a billion to be a million millions!), the basic word for thousand seems to be the logical word to use in coining words for a million and beyond. Quite frankly it would be so much easier to borrow the corresponding English terms and modify them to suit the sound patterns of the language. Thus, a million could be “mehlehyaung”, one billion, “behlehyaung”, and one trillion, “tehrehlyaung”.

1,000,000 could be “mehlehyaun g”	
1,000,001	mehlehyaung-neh-yeihni
Etc.	

Alternatively, keeping with multiples of thousand, a more ‘indigenous -sounding’ system might require neologisms like:

1,000,000	turtuqr
1,000,001	turtuqr-neh-yeihni
1,000,011	turtuqr-neh-pieh-neh-yeihni
1,000,101	turtuqr-neh-kaw-neh-yeihni
1,000,111	turtuqr-neh-kaw-neh-pieh-neh-yeihni
1,001,101	turtuqr-neh-tuqr-neh-kaw-neh-yeihni
1,001,111	turtuqr-neh-tuqr-neh-kaw-neh-pieh-neh-yeihni
1,011,101	turtuqr-neh-turpieh-neh-yeihni-neh-kaw-neh-yeihni
1,011,111	turtuqr-neh-turpieh-neh-yeihni-neh-kaw-neh-pieh-neh-yeihni
1,111,101	turtuqr-neh-turkaw-neh-pieh-neh-yeihni-neh-kaw-neh-yeihni
1,111,111	turtuqr-neh-turkaw-neh-pieh-neh-yeihni-neh-kaw-neh-pieh-neh-yeihni
2,000,000	turtuqraahyi
10,000,000	turturpieh
100,000,000	turturkawx
1,000,000,000	turturtuqr
Etc.	

The choice is a group decision.

### 3.5. Hyphenation

Words, including compounds, shall not be hyphenated unless doing so is necessary to ensure that they are pronounced correctly. The following situations call for hyphenation:

#### (1) High tone letter placement

Insert a hyphen between the tone letter ‘**h**’ and any immediately following vowel, if the sequence can be misread as the default ‘**V -hV**’ sequence rather than the ‘**Vh -V**’ intended. E.g.:

<b>Toneless</b>	<b>Tonal</b>	<b>English</b>
ɔ-ɔlaa	auh-auqlaah	Type of long fish
ɔ-ɔlle	auh-auhlle	Plural of auh-auqlaah
zu-anganga	zuh-anganga	awkward-looking head

These examples also qualify for hyphenation in situation (2)

## (2) Marking a hiatus

Some compounds have a built-in glottal stop, which needs to be marked with the hyphen. E.g.

<b>Toneless</b>	<b>Tonal</b>	<b>English</b>
bog-uuno	boug-uuhnoh	Undertaker
bɛn-uri	baihng-urih	halm of beans
dɔ-ɔng	dau-aung	dawadawa harvest
pɔɔ-ɔɔ	paw-awx	Infertile woman
DOO-aane	daw-aaneh	Infertile man
a-hãã	a-haaqng	Okay, that's what I thought!
a-hãã	a-haahng	Oh, I see!

## (3) Breaking up misleading consonant sequences

Use the hyphen to break up consonant sequences that could otherwise be confused with digraphs like ‘ny’, ‘gy’, ‘ky’.

<b>Toneless</b>	<b>Tonal</b>	<b>English</b>
bon-yeni	bohng-yeihni	One thing
dɔng-yiri	daung-yihri	House of trouble
yɛng-yɛng	yaihng-yaihng	Nearby
dang-yi	dang-yih	Code name for the first twin
yeg-yeg	yehg-yehg	Shivering

## (4) Writing numerals with ‘heq’

In writing numerals, separate with hyphens the conjunction ‘heq’ . ‘heh’ from its conjuncts. Cf. 3.4. E.g. pieh-**neq**-ahta (thirteen); pieh-**neh**-anaahre (fourteen)

## (5) Punctuation

Use the hyphen for normal hyphenation, i.e. breaking up a word which will not fit in the same line. When hyphenating a word, ensure that tone letters are not separated from their preceding vowels.

Example: Here is a possible hyphenation of the word *kyenkyempoqnaah* (a fire fly, lightning bug).

### 3.6. Elision

Elision in writing shall be limited to the combinations of functional morphemes only. The single quotation mark will be used to mark elision. Examples of allowable elisions: kah oh > k'oh; ka oh > k'o x; ka a > k'a; neq oh > n'oqh. Examples of elisions not recommended: ko oh (give to him/her) > koox (not \*k'ox); nyaiq oh (see him/her) > nyaioqh (not \*ny'oqh); Etc.

### 3.7. Text Punctuation

In this abridged version of the *Orthography*, we omit the discussion of text punctuation contained in the full version.

## 4. Sample Texts

In this section, we present two sample texts using both the toneless system and the tonal one. The English translations are published in the appendix. It would be best to consult these translations only after an attempt has been made to read and understand each passage. The purpose of the comparison is for you to determine the relative readability of each version.

### Text 1 (*Toneless version*)

*Story written by Dr Emmanuel Yiridoe*

Kɔŋ la le, ka dɔɔ kanga n'ò bidɔɔ a yi boɔɔ bundirii. Ba tiɛɛɛ yaarong meng daabo. A sori nang e tɔɔri zuing, ba de la bongɔ k'ò na te song ba tuo a tuobu na ba nang gɛɛ ka ba te da.

Ba nyɛɛ la bang ka a sori nang e tɔɔre zuing, ka banang zɔŋ a bongɔ gaa, o kong la taa fanga a tuo a ba tuobu wa ne yiri. Bang yeli ka ba na tag l'a bongɔ gaa kyɛ pãã te de a tuobu tuo o.

A dɔɔ n'ò bidɔɔ nang wa ka ba muro puori la ka sokyɛɛ dɛndiribe yele: “hyɛ dambolo nang taa bongɔ a ba zɔŋnɔ kyɛ tagra kyɛnɛne”.

Lɛ la k'a dɔɔ n'ò bidɔɔ, ba zaa bayi, goɔ a bongɔ, a do zɔŋ. Ba nang wa ka ba muro a tenne ayi soba la k'a sokyɛɛ dɛndiribe mine meng laara kyɛ yele: “OO, kyɛ ye boɔɔɛ ye bongɔ nga koobo wa?” A dɔɔ nang k'ò wono lɛ la k'ò vare sigi kyɛ vɛng k'a bie yong zɔŋ a bongɔ, kyɛ k'ò paang tuuro. Ba nang de kyɛnɛ, ba ba ta zie zaa

kyε ka sori dadiribe mine meng la kɔɔ eng: ‘Teng buo la k’a bie yi a ba zoro nemb εrε nyonono?’ L ε la ka vi ba sag, k’a bip ɔlee vare sigi, kyε e k’a o saa do z ɔng a bongɔ.

Lε la ka ba la de gεrε a te tara a tengε kanga ka bibiiri mine meng laara kyε yele: ‘Ny ε dɔɔ nang dɔgrɔ o bidɔɔ lε!’

Lε la k’a bip ɔlee n’o saa na zeng ngm ε ba gyenne lεεng a faang kyε iri gbare a bongɔ a zεl tuo kyεnεne. K’a yelyelba la maale k ɔɔ eng a yele: ‘hy ε n’ ε laadimee!’

### **Text 1 (Tonal version)**

Kauqng lah le, ka dawh kangah n’oq bidawh a yih boahra buhndiriiq. Ba teaqrayh yaaroxng mehng daahboh. A souhri naxng e tawreh zuiqhng, ba deqlah bongah k’ox na teh sombah tuo a tuobuqnah ba naxng gairaih kah bah te da. Ba nyayqlah bang kah a souhri naxng e tawreh zuiqhng, ka bahnahng zaung a bongah gaa, o kong lah taax fangah a tuo a ba tuobuh waneq yihri. Bahng yeili kah ba na taqqlah a bongah gaa, kyaih paaqhng te deq a tuobuh tuoguux.

A dawh neh o bidawh naxng wa kah ba muroh puorih lah ka souqkyaihraihdaindirihbeh yeileh: ‘Nyaih dambouhlo naxng taah bongah a bah zaungnah kyaih tagrah kyaiqnaihneq.’

Lailah k’a dawh n’oq bidawh, ba zaa bahyi, goa a bongah a douh zaung. Ba naxng wa kah ba muroh a tehneh ahyi sobah lah k’a souqkyaihraihdaindirihbeh mineh mehng laarah kyaih yeileh: ‘Owh, kyaih yai boaqrayh yai bongaqngah koohbo wa?’ A dawh nang kah o wounoqlaihlah ka oh vahreh sihgih kyaih vaiqng k’a bieh youhng zaung a bongah, kyaih k’oh paaqhng tuuroh. Ba nang deh kyaih nai, ba bah tah zieh zaax kyaih ka souhridadirbeh mineh mehng la kaw eng: ‘Teng buoq lah ka a bieh yih, a bah zouroh nehmbaihrai nyohnohnoh?’ Lailah ka viq bah sag, k’a bipauqleeh vahre sihgih, kyaih e k’a o saax doh zaung a bongah.

Lailah ka bah la deq gairaih a te tahra a tehngaih kangah, ka bibiirih mineh mehng laarah kyaih yeileh: ‘Nyaih dawh naxng dauqgrauh o bidawh laih!’

Lailah k’a bipauqleeh n’oq saaxnah zeng ngmai ba gyainneh layhng, a faang kyaih iri gbahreh a bongah a zail tuo kyaihnaineq. K’a yeilyeihlba la maale kaw eng a yeileh: ‘Nyaih n’ayq laahdihmeyh!’

**Text 2 (Toneless version)**

Te yeɛ nga moɔ zaa te nang erɛ nga ya, ma ye mine teɛrɛng ka kuntung zu la ka te ponɔ wa? N boɔrɔng ka N yeli ko ye pampana ka nimmizetomɔ la. N bang ka haale gba ka n dakeɛ ne o dakyeɛng da kyeerɛ gɔmɔ gɔmɔ ennɛ ye mine tobo poɔ gba, kyɛ a da nang e nga donne nang gaa daa te don ɔ dumni dumo; y ɛ da kong bang ka yeli erɛ.

Ka foong wa langne bannang na nang teɛrɛ ka ba ba ba ba ba sɛle, sanga na o nang wa Wa daa wa da a bodaa bare k'o are soglogo, ky ɛ k'o bar'o ky ɛ leɛ nyɛ kyɛne kyɛ kpaara ire nyuli-nyuli wa gɛrɛ, lɛyɛng fo meng gba waa la bernga.

Too! A wagre nga nang ta baare, N na boɔrɔng ka N sɔre sori ka te de bing bebiri kangang. Yɛzaa taa la ammoseɛrɛ!

**Text 2 (Tonal version)**

Te yaihlaiqngah moax zaax te naxng eraih ngah ya, mah yai mineh teaqraihng kah kuntungzuq lah ka teh ponah wa? N boaqrahng kahng yeili koaix pampahna kah nihmmihzetohmah lah. N bang kah haaxle gba ka n dakyeah n'oq dakyeaxng da kyeeraih gauhmauh gauhmau engnaih yai mineh touboqpoah gba, kyaih a dahnahng eh ngax dohneh naxng gaa daax te donauh duhnniqduhmoh; yai da kohng bahng kah yeihlih eraih.

Ka fooxqng wa langneh baqnnahngnah naxng teaqraih kah ba baq bah babah saileh, sahnganax o naxng wa Waxdaax wa da a bodaah bare k'ox are soglogo, kyaih k'oh baroox kyaih lea nyaih kyaihne kyaih kpaahra ireh nyulihnyulih wa gairaih, laiyaiqng fo mexng gba waaxlah behrngah.

Towq! A wahgengax naxng tah baahre, N na boaqrahng kahng saure souhri ka teh deh bing beibihri kangaqng. Yaizaax taaxlah axmmoseahrai!

**Appendix****Text 1**

There was a famine, and an old man and his son set out in search of food. They also wanted to buy salt. Because the journey was long, they decided to go with a donkey to help them bring home the goods they would be buying. They realized that due to the distance, if they rode the donkey there, it would not have enough strength left to carry back the goods for them. So they decided to walk along with the donkey and to put

their goods on it only on the return journey.

As the man and his son passed through the first village on their journey, roadside gossips queried: : “What fools are these people, having a donkey but not riding it?”

Thereupon, both father and son halted the donkey, hopped on it and rode comfortably along. As soon as they entered the next village, other roadside gossips chuckled saying: ‘Oh my! You really mean to kill the poor little donkey, don’t you!’ Upon hearing this, the man jumped down, leaving his son to ride along. They had hardly passed the crowd when they heard another set of voices yelling from across a roadside market: ‘From which planet has this boy fallen, who has no pity for the elderly?’ Feeling rather embarrassed, the young man jumped down and asked his father to mount the donkey for the remainder of the journey.

At the next town, a group of adolescents taunted, scandalized: AWhat good parent can be so cruel towards his own son?”

Distraught at the developments on the trip, father and son, after carefully weighing all options, decided that the right thing to do was to tie up the donkey and carry it on their head. And immediately they heard yet another remark: ‘Poor you! Which humans become beasts of burden?’

Note: *The source of this old adage “Whatever you do, people will talk of you” is unknown.*

### ***Text 2***

Is it not true that some of you believe that all that we are doing here amounts to a blatant waste of time (literally: amounts to shaving the head of a wolf)? I want to tell you right now that we mean business (literally: it is red eye business). I know that even if my sibling-in-law and his or her parrot were to be yelling desperately (literally: shouting chameleon noises) into the ears of some of you, it would still have appeared as if you were clueless (literally: it would look as if mosquitoes went to the market to bite the knees of animals); you would not have known that anything is happening.

If you are among those who think that their father did not perplex them, when he came to Wa market and bought the he-goat which he left standing confused while he galloped humpty-dumptily away, then you too are truly something.

Well, at this juncture, I would like to request leave and ask that we resume this matter another day. Thank you, all of you!