Dagara Orthography

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ABSTRACT

This paper is an attempt to describe the progress accomplished in Burkina Faso in the process of reforming the writing system of the Dagara language during the last three decades. After a quick description of the historical background, this paper explains the dominant features of the present Dagara orthography. The most important part of the paper focuses on, and is devoted to, a wide overview of the present state of Dagara orthography. In this regard, the reader will find a table which provides the entire alphabet of 38 letters (vowels and consonants). The alphabet is carefully compared with the French alphabet, and in this process, the main similarities and discrepancies existing between the alphabets of the two languages are highlighted. The most innovative section however, is where the rules governing the marking of the tones with only two accents are analyzed and explained in detail. This is followed by the set of rules concerning the combinations and sequences of vowels (i.e. long vowels, diphthongs, vowel harmony and nasalization). The rules related to the conditions of the distribution of the locative and diminutive morphemes are examined. Finally, compound nouns are analyzed to show how they are formed and written, with regard to hyphenation and word breaks.

1. INTRODUCTION

The aim of this paper is to present the standardized orthography which has been chosen and used by the Dagara people of Burkina Faso. The name 'Dagara' is used here to refer to the three major dialects of the Dagara language spoken in Burkina Faso, namely, Birifor, Lobr and Wule. Each one has its own sub-dialects. Despite the phonological, tonological and lexical differences existing between these dialects, all the rules described in this paper remain valid for all three dialects and their sub-dialects. As an illustration of this, a lexicon was published in one volume in 2002, using the standardized orthography for the three dialects (*Sous-Commission Nationale du Dagara* 2002).

This paper deals with the alphabet, the spelling rules and other writing devices which have been used in the inter-confessional translation of the Dagara New Testament, completed by a team of translators, in the Diocese of Diébougou (South-West of Burkina Faso)[1]. In writing this paper, my aim is three-fold. (1) First and foremost, I want to help the potential readers of the target audience in Burkina Faso by providing a motivation to learning the orthography used in the Dagara translation of the Bible. I hope that this will facilitate reading and understanding of the biblical message. (2) Secondly, I attempt to inform the Dagaare speakers of Ghana, our brothers and sisters across the frontier, about the characteristics of the orthography in use in Burkina Faso. (3) Finally, there are staff members of many organizations and institutions out there, who are interested or involved in literacy or educational activities linked to development programs. There are also students and scholars currently involved in research programs in universities or in private research institutions, who would be interested to know more about the Dagara spelling system. I have not forgot these individuals, who are looking for information that can help them better understand the explanation of the spelling rules of the Dagara modern orthography. I am writing this paper for all of them. This is why I am striving to write it in English, for the easy access of the widest target audience possible.

2. HISTORICAL BACKGROUND OF THE DAGARA ORTHOGRAPHY

In Africa, no orthography can claim to be complete and perfect. The Dagara orthography is no exception. The initial creation of an orthography for an African language characterized by oral tradition is generally a long process, marked by a number of stages of progress and improvement. Looking back to the short history of the existence and use of the Dagara orthography in Burkina Faso, one can clearly distinguish two major historical stages in its evolution. The first stage was the period of the preliminary orthography, and the second stage can be said to have been the period of the emergence of the scientifically based and standardized orthography.

The Dagara language started to be written in Burkina Faso by the colonialists, in making lists of names of people, of villages and towns, and of rivers and hills (Somé 2003). It is also worth mentioning that the first French Missionaries played an important role and made tremendous efforts to write hymn books, prayer booklets and catechism. Fr. B. Anastase Somé (2003:1) strongly believes that the first documents to be published in Dagara, in Upper Volta (today Burkina Faso), were done by or under the authorities of the former Apostolic Vicariat of Bobo-dioulasso in 1953 and 1961, and later from 1963 onward, by Fr. Louis Girault. Naturally, they all used the Latin alphabet and the French orthography, which involved an extensive use of accents (acute, grave, circumflex), not to indicate tones, but to indicate the timbre quality of vowels (e.g. open/closed).

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[1] The Dagara New Testament was translated during the period from July 1997 to November 2000 by a team composed of two Lobr speakers and one Wule speaker. A committee of reviewers consisting of fifteen men and women speaking the Lobr and Wule dialects also contributed to the translation work. Note that the Birifor New Testament has already existed since 1993.

However, the role of tones was completely concealed or underestimated. Most actors of this first phase of the history of the Dagara orthography were foreigners (French), whose language had no tones. This is why no attempt was made to mark them in the orthography. This was the first phase development of the writing system of the Dagara language in Burkina Faso. It must be observed that the level and impact of literacy efforts of the Church were very low and limited. At that time, only the Church was involved in the literacy of local languages. Besides, only catechists were taught how to read and write Dagara. In this situation, no genuine Dagara-printed literature emerged under the reign of this foreign and archaic, old preliminary orthography because it was completely inadequate.

The second period of development of the modern and standardized orthography of the Dagara language started in the early seventies. Was it a coincidence? The birth of the modern orthography was the result of the conjunction of various factors and events. A large number of the native Dagara Catholic priests became more and more aware of the inadequacy of the current orthography. Some of them became interested in Linguistics and took some courses in this discipline. Some did it in the Catholic major seminary of Koumi, near Bobo-Dioulasso, where a training workshop called 'Session de Linguistique' took place from 9th January to 15th January in 1972. A total of eighty-five seminarians enrolled and participated effectively in the workshop. But only a few received their linguistic training in France during their studies as priests (especially in phonetics and phonology). One of them was the late Fr. Kizito Hien, the first active promoter of the Dagara language through literacy courses. Since then, their eyes gradually opened up and they started understanding what orthography was all about.

Therefore, the feeling of the inadequacy of the old preliminary orthography started growing, and it became obvious in the eyes of the local priests that a lot of improvement could be made. In this regard, in 1972, a forum was called to meet in the Catholic parish of Mariatang. The purpose of this meeting was to reflect together, and to share views and ideas on the ways to improve the Dagara orthography, making it a more efficient tool. But the duration and scope of the forum were limited. It ended essentially by adopting a list of phonemes of the language, including both vowels and consonants. The tentative list of graphemes corresponding to these phonemes was also established, but the complex problem of spelling rules was left unexamined. This was the reason why, one year later, in 1973, a second forum was called to meet in the parish of Dissin. Two well known scholars attended this meeting. One was a well-known anthropologist, Bernard Bozie Somé, one of the first Dagara scientists in Burkina Faso. The other personality invited was a French linguist, Alain Delplanque, who was then a professor of English Language and Linguistics at the University of Ouagadougou (at that time known as the Center for Superior Studies). Thus, due to their rank and reputation, they were both invited to the meeting as the keynote speakers and resource persons. Their attendance as special guests surely gave remarkable authority, publicity and attraction to the event.

The report which came out of this meeting was quite detailed. It became a landmark in the progress and evolution of the Dagara orthography. As a result of its repercussion, two years later, on March 10th, 1975, the National Sub-Committee of the Dagara Language was officially created by a decree taken by the Ministry of Education of Upper Volta (today Burkina Faso). The decree made a special reference to the report which came out of the forum of Dissin in 1973. It highlighted the historic importance of the report as one of the main motives leading to the creation of the National Sub-Committee of the Dagara Language. As a matter of fact, for many years to come until 1998, the report was the only reference on Dagara orthography. In 1998, the general secretary of the National Sub-Committee compiled the rules adopted by the forum of 1973, added a few comments, and published a booklet called *Dagara sɛbrʋ mira* (Kambouole 1998). It became, for many years, the

only code and norm of the Dagara modern spelling system. This paper draws heavily on this report, as well as on the reports of the meetings of 1972 and 1973.

Presently, the modern and standard orthography of the Dagara language is being tested and experimented by the translation of the Bible. After the New Testament, the Old Testament is now being translated. According to the tentative schedule of the translators, the full Bible will be completed by the year 2011. In the process, the spelling rules are being corrected, refined and reformulated to make them more efficient, and, if possible, to make them encompass more data pertaining to the three dialects of the Dagara language spoken in Burkina Faso (Birifor, Lobr and Wule). Thus, the performance and validity of the rules are being put to test in the light of the huge piece of literary work which is the Word of God, the Holy Bible. The Dagara orthography is far from being finalized.

3. MAJOR CHARACTERISTICS OF THE DAGARA ORTHOGRAPHY

3.1 Characteristic 1: The Emphasis on Tone-Marking

The modern and standard orthography emphasizes the importance of the use of accents to indicate tones over the vowels. However, not all tones have to be marked in the orthography. Only deep structure tones (basic, stable and meaningful tone units) are represented, as will be seen later in section 5. Variations of tones caused by constantly changing contexts are ignored. Phonetic tones resulting from the pronunciation of individual words cannot and must not be the target of the representation of tones. At the surface level, Dagara is a three-tone language (High = H, Mid = M, Low = L), but this is misleading for two reasons. First, the Mid tone is not found at the deep level. It only appears at the surface level, being the result or signal of a morpho-tonemic transformation. Second, the punctual Mid tone never intervenes in a set of three different words forming minimal pairs with one another, in which it would stand in contrast to the High and Low tones. Even though it appears in tonal minimal pairs opposing it with the High and Low tones respectively, it is not found in any tonal minimal triple pair. Therefore, only the two pertinent tonemic elements (i.e. the High tone and the Low tone) are indicated by accents, but the Mid tone resulting mostly from assimilation (regressive or progressive), down-drift, apocopation, down-fall or other contextual phenomena affecting the Dagara tonal system, is not materialized in the orthography. Furthermore, deep structure tones are not systematically represented. Lexical tones and some major grammatical morphemes or particles are the focus of tonal representation in the orthography. They are given priority in the tonal marking. What this means is that tone-marking is selective. Only the most distinctive tones, i.e. those playing a core role in the meaning of the written messages, are indicated. This will be further illustrated in section 5.

3.2 Characteristic 2: The Use of Phonetic Signs

Another principle emphasized by the new orthography is that the Dagara orthography uses graphemes drawn from the International Phonetic Alphabet (IPA). Unlike the old tradition of using only the Latin alphabet, the transcription signs of IPA have been introduced to represent the phonemes which the Latin alphabet is unable to represent adequately. For example, the Dagara orthography borrows the signs such as *ɓ, ŋ, ɪ, ɛ, ʊ, ɔ, ɣ.* The reason why the French Missionary alphabet and orthography was at odds with the writing of the Dagara language was that one grapheme could represent two or several sounds (phonemes), and conversely one sound could be represented by two or several graphemes. That is why there was a lot of confusion in the way of writing. In the present spelling system, practical measures have been found in solving these problems.

In the earlier spelling system, the word for 'light' was written in at least six different ways in Dagara – *tchian, tchan, kyian, kyan, tyian, tyan*. Today, there is only one way of writing it - *cã* 'light'**.** Two basic letters fulfill perfectly the need of writing this word correctly together with the use of the tilde (˜) over the vowel letter *a*, indicating nasalization. Instead of four to six letters that were required by the old orthography, these three elements are fit for the right communication of the meaning 'light'. Thus, *cã* is easier and more economical to write and learn than the older forms. As a result, time and physical or mental activity and effort which are involved in the process are substantially cut down.

On the other hand, in French, the words like *cela* 'that', *son* 'his, her', and *ça* 'this, that' are spelled respectively with the initial letters *c , s , ç*. These three letters are different in form, but they have the same pronunciation [s]. Thus these letters share the same phonetic value. At school, children have to learn to associate the pronunciation of [s] with each of the three letters. But at the same time, they must always remember that the letter *c* can sometimes be pronounced like [k], as in the word *coton* 'cotton'. This implies that the two letters *c* and *k* share the same pronunciation. To avoid these complications and difficulties in the modern Dagara orthography, it was decided to apply the principle of one grapheme per sound (phoneme). In Dagara, no phoneme may have two or more different alphabetical representations. Conversely, one letter cannot have two or several different pronunciations. One letter (grapheme) may only have one phonetic realization. In short, the leading equation is simple - one phoneme = one grapheme.

3.3 Characteristic 3: Separation by Space

Finally, concerning word boundaries, isolation and separation by a space is the dominant feature in the Dagara writing. Most morphemes and particles are written in isolation. Some of them are very short, i.e. they can be a single vowel or a consonant.

(1) Examples

    a. (i) *à*
              DEF[2]. (definite article)

        (ii) *à*   *yír*
            DEF.   house
            'the house'

    b. (i) *a*
              AFF. (morpheme of verbal affirmation)

        (ii) *ʋ*   *kúl*   *a*
            3.SG.SJ.IND.   go home   AFF.
            'S/he went.'

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[2] Symbols and abbreviations used in this paper:
1 = first person; 2 = second person; 3 = third person; AFF. = affirmation morpheme; DEF. = definite article; HAB. = habitual particle; IMP. = imperative, volitive; IND. = indicative mood; INT. = interrogative morpheme; Neg1 = first marker of negation; Neg2 = second marker of negation; OJ. = object; PL. = plural; REL. = relataive pronoun; SJ. = subject; SG. = singular.

c. (i) ***m***
         1.SG.OJ. (first person singular objective pronoun)

    (ii) *ʋ̀*   *tʋ́*   ***m***   *a*
         3.SG.SJ.IND.   insult   1SG.OJ.   AFF.
         'S/he insulted me.'

d. (i) ***b***
         2.SG.OJ. (second person singular objective/accusative pronoun)

    (ii) *ʋ̀*   *tʋ́*   ***b***   *a*
         3.SG.SJ.IND.   insult   2.SG.OJ.   AFF.
         'S/he insulted you.'

Note that certain combinations of words can also be obtained in Dagara by using two other devices - the apostrophe and the dash (or hyphenation mark). Rules pertaining to the use of these devices will be described in later sections.

4. DAGARA ALPHABET

The Dagara alphabet is presented below in (2):

(2) List and Order of the Letters

No.	Upper Case	Lower Case	Example	Meaning in English
1.	*A*	*a*	*ár*	'to pull'
2.	*B*	*b*	*bá*	'a friend'
3.	*Ɓ*	*ɓ*	*ɓa*	'to slap'
4.	*C*	*c*	*cĩɛ*	'to tear off'
5.	*D*	*d*	*dé*	'to receive'
6.	*E*	*e*	*ɓe*	'to mend'
7.	*Ɛ*	*ɛ*	*bɛr*	'to leave'
8.	*F*	*f*	*fáa*	'to save'
9.	*G*	*g*	*gúr*	'to sleep'
10.	*GB*	*gb*	*gbɔr*	'a canoe'
11.	*H*	*h*	*háa*	'to open'
12.	*'H*	*'h*	*'har*	'to take in quantity'
13.	*I*	*i*	*ír*	'to remove'
14.	*ɪ*	*ɪ*	*íba*	'caiman'
15.	*J*	*j*	*jɛ*	'to protest'
16.	*K*	*k*	*kɔr*	'a bag'
17.	*KP*	*kp*	*kpʋr*	'tobacco pot'
18.	*L*	*l*	*lɔ́b*	'to throw'
19.	*'L*	*'l*	*'lɔ̀r*	'to dip'
20.	*M*	*m*	*ma*	'a mother'
21.	*N*	*n*	*nʋ́ɔr*	'a mouth'
22.	*NY*	*ny*	*nyé*	'to see'
23.	*Ŋ*	*ŋ*	*ŋà*	'this'
24.	*ŊM*	*ŋm*	*Naaŋmɪn*	'God'
25.	*O*	*o*	*do*	'to climb'
26.	*Ɔ*	*ɔ*	*bɔ̀r*	'to lose'
27.	*P*	*p*	*pɛ*	'to draw milk'
28.	*R*	*r*	*ar*	'to stand'
29.	*S*	*s*	*séb*	'to write'
30.	*T*	*t*	*tá*	'to arrive'
31.	*U*	*u*	*ùr*	'to surprise'
32.	*Ʋ*	*ʋ*	*ʋ̀r*	'to abound'
33.	*V*	*v*	*vɔ́l*	'to swallow'
34.	*W*	*w*	*wɔ́b*	'an elephant'
35.	*'W*	*'w*	*'wobli*	'to deform'
36.	*y*	*y*	*yér*	'to spread'
37.	*Ƴ*	*ƴ*	*ƴér*	'to grind'
38.	*Z*	*z*	*zélɪ*	'to sieve'

4.1 Comparison of the Dagara Alphabet and the French Alphabet

I. There are 20 letters which are common to the Dagara and French alphabets. They also have similar pronunciations in the two languages:

(3)

No.	Letter	Example in French	Meaning in English	Example in Dagara	Meaning in English
1.	*a*	*un appel*	'a call'	*gàr*	'a terrace'
2.	*b*	*balle*	'a ball'	*bìe*	'a child'
5.	*d*	*donner*	'to give'	*ɖì*	'to eat'
8.	*f*	*femme*	'a woman'	*fáa*	'to save'
9.	*g*	*gomme*	'a rubber'	*gúr*	'to sleep'
11.	*h*	*haricot*	'bean'	*hél*	'conscience'
13.	*i*	*pile*	'a battery'	*jìl*	'xylophone'
16.	*k*	*képi*	'a hat'	*kɔ̀r*	'a bag'
18.	*l*	*lune*	'moon'	*lò*	'to fall'
20.	*m*	*moine*	'monk'	*mὲ*	'to build'
21.	*n*	*nez*	'noze'	*nvɔr*	'mouth'
25.	*o*	*odeur*	'odor'	*pòr*	'to name'
27.	*p*	*porte*	'door'	*péle*	'a lamp'
28.	*r*	*paresseux*	'lazy'	*bùra*	'a blade'
29.	*s*	*seau*	'bucket'	*sù*	'to wear'
30.	*t*	*taille*	'size'	*tὲr*	'to keep'
33.	*v*	*vélo*	'bicycle'	*vɔ́l*	'to swallow'
34.	*w*	*wagon*	'wagon'	*wà*	'to come'
36.	*y*	*yaourt*	'yogourt'	*yá*	'to pay'
38.	*z*	*zèle*	'zeal'	*zὲl*	'a tongue'

II. There are fourteen (14) signs which are not used in French at all, but are introduced in the Dagara alphabet :

(4)

No.	Letter	Example	Meaning in English
3.	ɓ	ɓíl	'entire'
7.	ɛ	pér	'bottom'
10.	gb	gbòr	'a canoe'
12.	'h	'hàb	'to hold'
14.	ɪ	ì-ìrɪ	'behaviour'
17.	kp	kpìɛʋ	'suffering'
19.	'l	'lɛ́	'to indulge oneself'
22.	ny	nyɛ̀	'to defecate'
23.	ŋ	ŋà	'this, that'
24.	ŋm	ŋmáam	'monkey'
26.	ɔ	kɔkɔr	'voice'
32.	ʋ	bùrʋ	'milk'
35.	'w	'wɔ̀r	'to gain weight'
37.	ɣ	ɣɛ̀rʋ	'word, speech'

III. There are two letters which exist in French, but not in Dagara:

(5)

Upper Case	Lower Case	Example	Meaning in English
Q	q	queue	'tail'
X	x	xylophone	'xylophone'

IV. There are four letters which exist both in Dagara and in French. However, the pronunciation of that letter in each language is different:

(6)

No.	Letter	Example in French	Meaning in English	Example in Dagara	Meaning in English
4.	c	corps	'body'	cí	'millet'
6.	e	pile	'battery'	pele	'a basket '
15.	j	jeu	'game'	jàju	'a spider'
31.	u	bulle	'bubble'	zú	'a head'

4.1.1 The French and Dagara Alphabets

The French alphabet contains twenty-six letters:

(7)

a	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*i*	*j*	*k*	*l*	*m*
n	*o*	*p*	*q*	*r*	*s*	*t*	*u*	*v*	*w*	*x*	*y*	*z*

The Dagara alphabet contains thirty-eight letters:

(8)

a	*b*	*ɓ*	*c*	*d*	*e*	*ɛ*	*f*	*g*	*gb*	*h*	*'h*	*i*
ɩ	*j*	*k*	*kp*	*l*	*'l*	*m*	*n*	*ny*	*ŋ*	*ŋm*	*o*	*ɔ*
p	*r*	*s*	*t*	*u*	*ʋ*	*v*	*w*	*'w*	*y*	*ɣ*	*z*	

5. RULES GOVERNING TONE-MARKING IN DAGARA ORTHOGRAPHY

5.1 The Dagara Approach

It is important to understand that the main goal of the following rules is to devise a 'user-friendly' system of marking tones with accents in Dagara orthography. Thus, the basic principle behind the marking of tones by means of accents is simplicity. The approach described below is 'selective'. It does not aim at marking all the tones on all the syllables. It is not possible and not recommended to mark every tone. It would be neither necessary nor aesthetic to do so.

Instead, the approach presented below identifies a selected number of tones which are basic for the interpretation, understanding and readability of the written message. It is advocated that these tones be marked by means of accents. Only these tones which form 45% to 60% of all tones in the discourse in Dagara, according to the nature of the text, are major landmarks of the meaning of any text, and therefore they ought to be marked in the orthography. They function as indicators and signals, designed to show the path of the discourse. They appeal to the reader, thus leading him/her to the full understanding of the meaning of the written message. That is why this method is presented here as a 'selective approach' to tone-marking. Those tones which are not marked by accents remain hidden and latent. It does not mean that they are useless in the spoken discourse. By all means, they must be pronounced by the reader during the actual reading of the written message, in the Church or in public. In fact, all native speakers of Dagara know them intuitively, and they are all able to produce them correctly, automatically and almost unconsciously.

The underlying idea which supports this method of 'selective marking of tones' is that there are two categories of tones in Dagara. One category is composed of the basic tones, those which play the key role of bringing about comprehension. Their function is to trigger communication and thus facilitate the process of reading the written texts. These are like the road-marking stones. They mark the road towards the meaning of the discourse. They look like the rail which leads the train to to the destination. That is why it is necessary to mark them in the orthography. On the other hand, the other group of tones, though they are important in the context of oral and read texts, have a minor role to play in the written text. In this matter, the ideal would be to mark all of them. However, various sorts of constraints call for a selection, a limitation of their number of occurrence in the text. These include time constraints, space constraints, physical constraints, financial constraints and

cultural constraints. All these constraints are real and they call for the reduction of the accents in the text.

Therefore, it is not necessary for native speakers and those who learn Dagara as a second language to have all accents marked explicitly in the orthography. The second category of tones does not call for marking. To some extent, if they were all marked, there would be worries that the excess of accent marks in the text would be a hindrance to readability and comprehension. Orthography is basically a conventional selection of signs and rules, made in a cohesive way to represent a language for the purpose of communication. In this respect, orthography is a collection of choices geared to effective writing. In this regard, free grammatical morphemes and particles on the one hand, and words belonging to tonal minimal lexical pairs on the other, are all given priority in the tone-marking of Dagara. They pertain to the first category of tones.

In the last analysis, the concern behind the selective approach is economy. The principle of economy applies to physical as well as mental efforts. Human beings all desire to spend the least effort to gain the highest profit from their activity. As to orthography, writing, typing, reading and comprehending a text on the one hand, and teaching and learning a language through literacy classes on the other, are all activities requiring physical as well as mental efforts in various degrees, like any other human activity. Humans are always concerned with the amount of effort they must put into writing, typing or reading, and compare these to the quality of the written message they produce or read. They aim at putting in the least effort in order to obtain the best text in terms of its understandability by the potential readers or hearers. With regard to tone-marking in particular, an orthography advocating the marking of all tones (a maximalistic way) would be less economical, as it would require maximum effort and energy for both the text-writer and the reader. On the contrary, an approach advocating the marking of tones in a selective way would appear to be more economical and simple. In this Dagara orthography, the latter way has been adopted.

Rule 1: The Use of Accents

- There are only two accents in the Dagara orthography. They are:-
  - the acute accent á, which marks the high tone; and
  - the grave accent à, which marks the low tone.
- The mid tone is never marked.

Rule 2: Accents of Free Morphemes and Particles

Whether they are grammatically linked to the nominal form or to the verbal form, all free morphemes and particles separated by space in orthography must always be marked by the acute or grave accent corresponding to their basic tone. Their inventory in the language is very small. But some of them have exactly the same forms with different meanings and grammatical functions. That is why they need to be marked with their specific basic tones. Another rather crucial feature of this category of words which needs to be emphasized is that they have a very high frequency of use in the discourse. The percentage of their use in any kind of speech and about any topic is high. Therefore, when the tones of these words are marked in a text, they shed full light on the meaning of the whole message.

(9) Examples: Particles occurring with verbal forms (roots or stems)

a.   (i) ***mí***
         HAB. (habitually, usually, normally)

     (ii) *kpɛ̃́ɛ*   ***mí***   *ì*   *n*   *sɑ̃̀a*
         elder   HAB. be   AFF.   father
         'An elder is usually a father (proverb).'

b.   (i) ***mì***
         'also; too'

     (ii) ***mì***   *wà*   *a*   *fù*   *táabɛ*   *nyɛ́*   *b*
         also   come   COMP.   2.SG.POSS.   friends   see   2.SG.
         'Come also, that your friends (will) see you.'

c.   (i) ***í̂***
         1.SG.SJ.SUB. (first person singular subjunctive subject)

     (ii) ***í̂***   *wà*   *bʊ*
         1.SG.SJ.SUB.   come   INTER.
         '(May) I come?'

d.   (i) ***ì̃***
         1.SG.SJ.IND. (first person singular indicative subject)

     (ii) ***ì̃***   *wà*   *na*
         1.SG.SJ.IND. come   AFF.
         'I have come.'

e.   (i) ***fʋ́***
         2.SG.OJ (second person singular object*)*

     (ii) *bè*   *yèl*   *kɛ́*   ***fʋ́***   *cén*
         3.PL.SJ.IMP.   V   REL   2.SG.OJ.   V
         'They ask you to go.'

f.   (i) ***fʋ̂***
         2.SG.SJ.IND. (second person singular indicative subject)

     (ii) ***fʋ̂***   *dìrɛ*   *na*   *zùo*
         2.SG.SJ.IND. eat   AFF.   too much
         'You eat too much.'

Other items occurring either with nominal forms or verbal forms are as follows:

(10) a.. *ŋà, ŋàn*   'this, that'
     b. *ʋ́l, ál*   'that'
     c. *bɛ́l*   'these, those'
     d. *mìnè*   'kinds (classifier)'

Note that some verbal moods occurring with personal pronouns (subjunctive, indicative, imperative, etc.) are indicated by means of various specific tones borne by the subject personal pronouns – the indicative (IND.) with the low basic tone; the imperative (IMP.) with the high basic tone, etc.). That is why tones differ so much on subject personal pronouns in Dagara.

(11) Exceptions:
     a. *Negation*   *bɛ...ɛ*
     b. *Interrogative marker*   *bʋ*
     c. *Copula*   *n' ʋ, n'ɩ, n'a, n'ɛbɛ*
     d. *Expressive particle*   *kɛ*

These exceptions are explained by the fact that, though they are free forms (separated by space), they have mid basic tones. That is why they are not marked.

(12) Examples:

     a. *wà kɛ*   'Come, okay.'
     b. *tá wà , kɛ*   'Do not come, okay.'

Rule 3: Words in Pairs

For words existing in pairs which belong to the same grammatical category (nouns, verbs, adverbs, adjectives, etc.) and having different meanings due to the contrast of their tones only, all the basic tones of both words must always be marked in the orthography, except the mid tones.

(13) Examples:
     a. *wɛ́r*   H[3]   'to walk in the bush'
            wèr   L   'to operate on (a sick person)'

     b. *da*   (M)[4]   'to push for a long period of time'
            dà   L   'to buy'

     c. *nyɛ̃́*   H   'to see'
            nyè   L   'to defecate'

---

[3] Abbreviations: H = High tone; L = Low tone; M = Mid tone (never marked).
[4] Parentheses enclose capital letters representing tones which are not marked in the orthography. They do not mean that the tones represented by the capital letters are optional. Sometimes parentheses are used in Linguistics to indicate a form or a structure which is optional. This is not the case here.

d. *gúr*   H   'to sleep'
   gùr   L   'to fold'

e. *gbɛ́r*   H   'a leg'
   gbɛr   (M)   'a lame person'

f. *nyím*   H   'a tooth'
   nyìm   L   'you (indicative)'

g. *zèlı*   L.(L)   'to ask'
   zélı   H.(H)   'to sieve'

h. *zùmɛ*   L.(L)   'intuition'
   zúmɛ   H.(H)   'insults'

i. *baa*   (MM)   'a dog'
   bàa   L(L)   'a river'

j. *bíe*   H (H)   'grains'
   bie   (MM)   'a child'

k. *kʋ́ɔr*   H(H)   'a gourd'
   kʋ̀ɔr   L(L)   'a relative'

l. *sɑ̃́an*   H(H)   'a foreigner'
   sɑ̃̀a   L(L)   'a father'
   sɑ̃a   (MM)   'a forge, a blacksmith's workshop'

m. *yàa*   L(L)   'a grave'
   yaa   (MM)   'a loop, a handle'

n. *dɛ́r*   H   'a scale'
   dɛr   (M)   'a twin brother'

o. *yàwra*   L.(M)   'termite'
   yawra   (M.M)   'clay'

p. *pàl*   L   'to plait'
   pal   (M)   'to jump'

q. *séw*   H   'to equal'
   sèw   L   'to calm (while dancing)'

r.	*pùlá*	L.H	'a fear'
	pùla	L.(M)	'white'
s.	*dùrʋ*	L.(M)	'right hand'
	dúrʋ	H.(M)	'urine'
t.	*páw*	H	'to get'
	pàw	L	'to cover'
u.	*dàa*	L(L)	'a market'
	daa	(MM)	'a male'
v.	*núu*	H(H)	'a hand'
	nuu	(MM)	'five'
w.	*paala*	(MM.M)	'a mortuary chair'
	páala	H(H.M)	'new, newly'
x.	*vùla*	L.(M)	'goodness'
	vúla	H.(H)	'a desire'
y.	*bèlʋ*	H.MM)	'a surname'
	bɛlʋ	(M.M)	'a joke'

Minimal (or quasi-minimal) pairs involving only contrasts of tones abound in Dagara. Lexical tones have an important part to play in differentiating words which have different meanings or assume different functions in the grammar. Note that the few examples involving adjectives and adverbs is not deliberate. This is partly due to the fact that this list is not complete. It has been given randomly. It is also possible that such pairs are rare or unattested in the language. However, this rule remains theoretically valid as long as there is no example which contradicts it.

Rule 4: Single Vowels with Complex Tones

When a single vowel bears a complex tone (high-low or low-high), whether it is rising (low-high) or falling (high-low), only the first half tone is marked. The second half tone is left unmarked.

(14) Examples:

a.	*gbêl*	HL	→	*gbél*	'ear (of grain)'
b.	*bɔ̂l*	HL	→	*bɔ́l*	'a ball'
c.	*bûl*	HL	→	*búl*	'a bud'
d.	*kpǎwr*	LH	→	*kpàwr*	'a belt'

Rule 5: Long Vowels and Diphthongs with Even Tones

In monosyllabic words with long vowels or diphthongs, if the tones of the two vowels are identical or even (HH or LL), only the first tone is marked. If the tone of the second element is high, the acute accent is used. If it is low, then the grave accent is used.

(15) Examples:

a.	*zíír*	HH	→	H	*zíir*	' places'
b.	*yéé*	HH	→	H	*yée*	'nouns'
c.	*nɛ́ɛ́*	HH	→	H	*nɛ́ɛ*	'mouths'
d.	*yíé*	HH	→	H	*yíe*	'houses'
e.	*síɛ́*	HH	→	H	*síɛ*	'souls'
f.	*nʊ́ɔ́r*	HH	→	H	*nʊ́ɔr*	'a mouth'
g.	*púór*	HH	→	H	*púor*	'a belly'
i.	*pɨ́ɨ́*	HH	→	H	*pɨ́ɨ*	'an arrow'
j.	*dɨ̀ò*	LL	→	L	*dɨ̃o*	'a room'
k.	*gʊ̀ɔ̀ra*	LL	→	L	*gʊ̀ɔra*	'a tree (specific)'
l.	*pʊ́ɔ́*	HH	→	H	*pʊ́ɔ*	'to be among'
m.	*zã́á*	HH	→	H	*zã́a*	'to be away'
n.	*sĩɔ*	(MM)			*sĩɔ*	'rainy season'
o.	*sĩ́ɔ́*	HH	→	H	*sĩ́ɔ*	'in the/during the rainy season'

(16) Exception :

    dɨ̃ɔ́   BH   →   H   *dɨ̃ɔ́* (from *dɨ̀ò*)   'in a room'

This exception below is due to the effect of the locative marker.

Rule 6: Long Vowels and Diphthongs with Uneven Tones

In monosyllabic words with long vowels or diphthongs, if the tones of the two vowels are different (HL or LH), it is mandatory to mark both tones.

(17) Examples :

a.	*kɨ̀ɨ́*	LH	→	LH	*kɨ̀ɨ́*	'a cradle'
b.	*zʊ̀ʊ́r*	LH	→	LH	*zʊ̀ʊ́r*	'smoke'
c.	*zɨ̀ɨ́*	LH	→	LH	*zɨ̀ɨ́*	'blood'
d.	*gùórò*	LH	→	LH	*gùórò*	'cola nut'
e.	*gàá*	LH	→	LH	*gàá*	'fruit (specific)'
f.	*pɨ̃́ò*	HL	→	L	*pɨ̃́ò*	'in the farm'
g.	*zã̀á*	LH	→	LH	*zã̀á*	'yesterday'
h.	*mʊ́ɔ̀r*	HL	→	HL	*mʊ́ɔ̀r*	'fighting'
i.	*díɛ̀r*	HL	→	HL	*díɛ̀r*	'taking'
j.	*zàʊ́*	LH	→	LH	*zàʊ́*	'in the cowshed'

# 6. RULES CONCERNING VOWELS

Rule 1: Long Vowels

Any short vowel which is attested in Dagara has a long vowel counterpart. As there are nine short vowels, there are also nine long vowels in Dagara.

## Rule 2: Vowel Harmony and Diphthongs

Not all possible combinations of vowels, i.e. diphthongs, are attested. Only a few are attested, taking into consideration the strong constraint imposed by vowel harmony. Any short vowel which is attested in Dagara cannot form a diphthong with any other vowel. At this point, it is necessary to classify the nine short vowels of Dagara, in groups and sub-groups. As any vowel combination is subject to the rule of vowel harmony, the paramount division among vowels is the division according to the value of the feature[±ATR], i.e. the positive or the negative value of the Advanced Tongue Root feature. This feature is also known as the [±Tense Vowel] feature. This determines the compatibility or incompatibility of combinations of vowels in diphthongs, in the same words or in phrases. Only vowels pertaining to the same group can be combined with one another within diphthongs, within the same words (nouns, verbs, etc.), or within phrases. Furthermore, vowel harmony operates across word boundaries (forward or backward, progressively or regressively) under certain specific conditions (see section 7 on diminutives below).

Another major division among vowels is based on the contrastive feature [front (vowels)] as opposed to [back (vowels)]. A minor feature is [closed (vowels)] as opposed to [open (vowels)]. All these divisions are shown below. (The vowle charts were obtained from the International Phonetic Association website at < http://www.arts.gla.ac.uk/IPA/vowels.html >.)
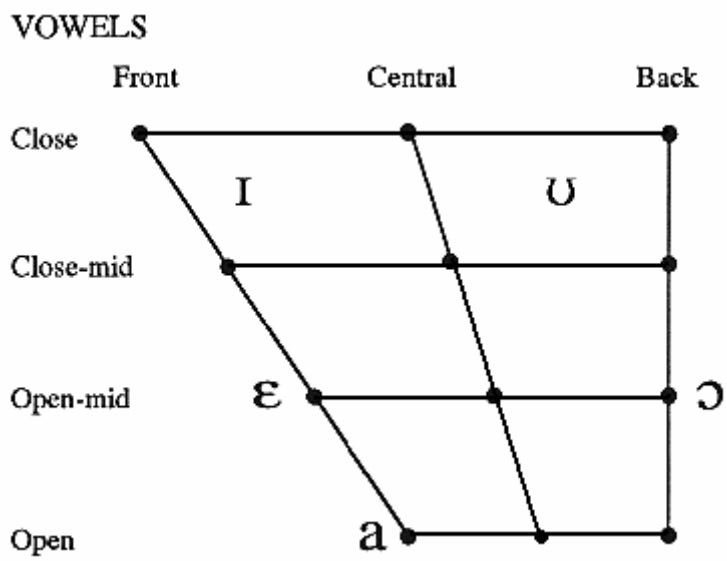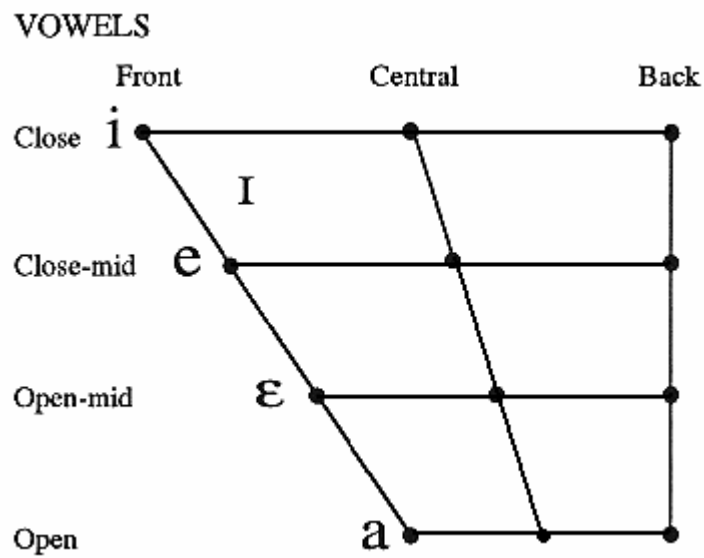
(18) The Nine Short Vowels
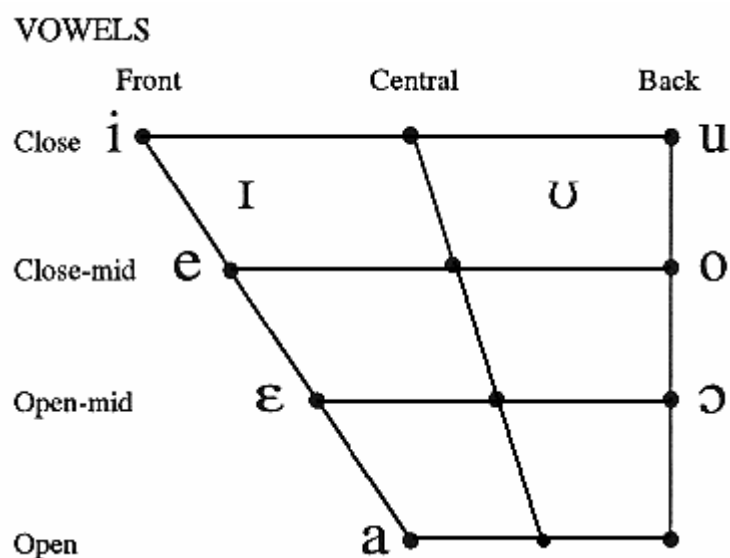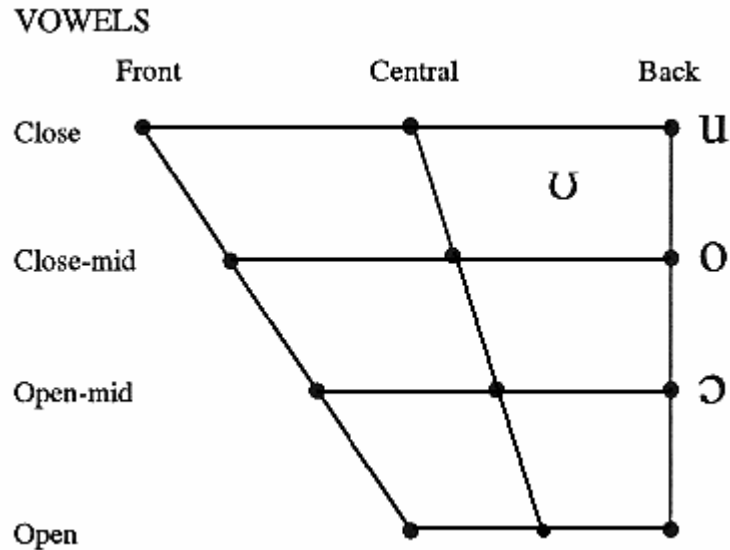
(19) [+ATR] Vowels
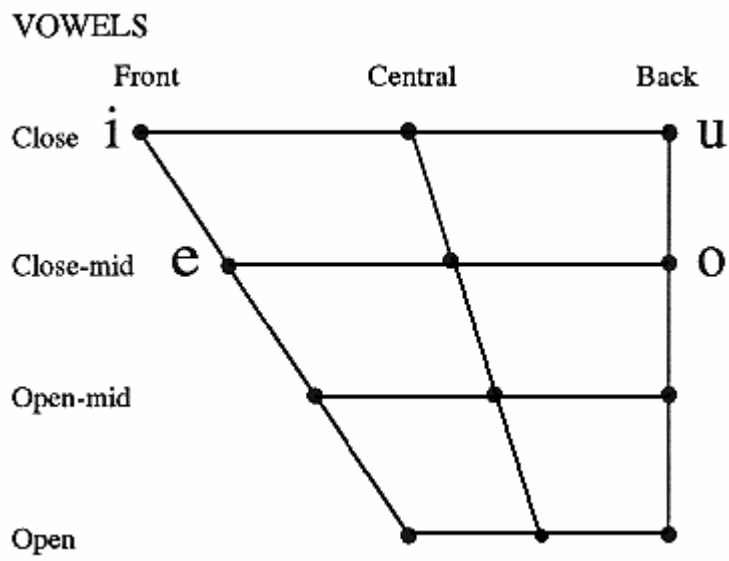
(20) - ATR Vowels

(21) Front Vowels

VOWELS

	Front	Central	Back
Close	i		
	I		
Close-mid	e		
Open-mid	ɛ		
Open	a		

The closed front vowels are: *i, ɪ.*
The front vowel diphthongs which are attested are: *ie, ɪɛ, ɪa, aɪ.*
The combinations which are not attested are: **iɛ, *ɪe, *ia*[5]**.**

(22) Back Vowels

VOWELS

	Front	Central	Back
Close			u
			ʊ
Close-mid			o
Open-mid			ɔ
Open			

The closed back vowels are: *u, ʊ.*
The back vowel diphthongs which are attested are: *uo, ʊɔ.*
The combinations which are not attested are: **uɔ, *ʊo, *ou (ow), *ɔʊ (ɔw).*

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[5] The asterisk sign indicates that the form it precedes is not attested or concretely realized in the language by speakers.

6.2.1 Diphthongs involving Front and Back vowels

Diphthongs involving front and back vowels are also attested, provided that they obey the rule of [±ATR]. The following front-back or back-front combinations are found in the language: *io, ɪɔ, ɔɪ, ɔɛ, ue, oe*. Mixed-vowel combinations forming diphthongs are not attested: **iu, *ɪʋ, *aʋ (aw), *ʋa, *ua, *au (aw), *ui, *ʋɪ, *ʋɛ*.

(23) Examples of attested diphthongs:
a.	*bie*	'a child'
b.	*sàw*	'to accept'
c.	*síɛ*	'a hip'
d.	*día*	'today'
e.	*bio*	'tomorrow'
f.	*cíɔ*	'a squirrel'
g.	*pʋɔ*	'a belly'
h.	*zùo*	'to surpass'
i.	*kùe*	'a hoe'
j.	*kɔ̀ɛ*	'bags'
k.	*pɔ́ɪ / pɔ́ɛ*	'oath, vow'
l.	*zʋ́kpáɪ*	'proverbs, riddles (plural)'
m.	*loe*	'sides, areas'
n.	*ców*	'a nest'
o.	*bɔ̀w*	'a hole, a grave'

Rule 3: Progressive Vowel Harmony

The general rule for vowel harmony is that it operates progressively (forward, i.e. from left to right). When the first vowel of a word is [-ATR)], it is predictable that all vowels are [-ATR] throughout, from left to right, without any exception. On the contrary, if the first vowel of a word is [+ATR], the rest of the vowels which follow must also be [+ATR], throughout, from left to right.

Note that in some cases, the progressive vowel harmony can operate across word boundaries. One typical case is the second component (*ɛ, ɪ, e, i*) of the split negation morpheme (*bɛ...ɛ; bɛ...e; bɛ...ɪ; bɛ...i*) in the indicative or its imperative negative counterpart with *tá* 'do not' (*tá...ɛ; tá...e; tá...ɪ; tá...i*). It is good to keep in mind that only the variants *ɪ* or *ɛ* are represented in the orthography.

(24) Examples[6]:

a.　　*ʋ*　　　　*bɛ*　*kɔ̀* *i　　→ *ʋ bɛ kɔ̀ ɪ*
　　'He/she did not cry.'

b.　　*ʋ*　　　　*bɛ*　*bɔ̀r*　*ɛ*　　　　→ *ʋ bɛ bɔ̀r ɛ*
　　'He/she did not get lost.'

---

[6] Neg = Negation (negative). Neg1 is the first component of the split morpheme which constitutes the negative form used in Dagara to express grammatical negation. In the indicative mood, the first component is *bɛ*. In the imperative, the first particle is *tá*. Neg2 represents the second particle of the split morpheme of negation. The variant forms are the same both in the indicative and the imperative moods.

c. *ừ   bɛ wà   ı*   → *ừ bɛ wà ı*
   'He/she did not come.'

d. *tá   wà   ı*   → *tá wà ı*
   'Do not come.'

e. *tá   bèr   ɛ*   → *tá bèr ɛ*
   'Do not abandon.'

f. *tá   do   *i*   → *tá do ı*
   'Do not go up.'

g. *tá   dé   *i*   → *tá dé ı*
   'Do not take it.'

h. *tá   kúl   *e*   → *tá kúl ɛ*
   'Do not go home.'

Rule 4: Nasalization

In principle, any oral vowel (whether short or long including diphthongs) which is attested in Dagara can have its nasalized counterpart. The sign used to indicate nasalization is the Spanish superscript called tilde (~) marked on the top of the vowel. Sometimes, both the sign of the nasalization and the accent indicating the tone have to be fully marked on the same vowel. Then the accent is put above the tilde.

(25) Examples:
     a. *fã̀w*   'strength'
     b. *fɔ̃́w*   'quickly'
     c. *sã̀a*   'father'
     d. *dĩ̀o*   'a room'
     e. *pĩ́ĩ*   'arrow'
     f. *dã́a*   'drink, beer, pito'
     g. *dĩ́a*   'today'

However, when, in the same word, a vowel follows immediately either one of the five nasal consonants of the Dagara language (*m, n, ny, ŋ, ŋm*), or any vowel which is genuinely nasalized, it must not take the tilde. Its nasalization is only automatic (phonetic), due to the nasal context which precedes it. This automatic nasalization is entirely predictable. Consequencely, a genuinely nasalized vowel must not be surrounded by a nasal consonant or vowel. If this is not the case, then nasalization is doubtful and may not be genuine.

(26) Examples:

	Genuine Nasal Vowels The tilde is required.			Doubtful Nasal Vowels The tilde is not required.	
	Example	**Meaning in English**		**Example**	**Meaning in English**
a.	*sõw*	'to help'	m.	*màn*	'a river, a sea'
b.	*sɛ̃*	'to grill'	n.	*nyím*	'a tooth'
c.	*sĩɛ*	'a witch'	o.	*zʋ́m*	'a fish'
d.	*sãa*	'father'	p.	*Naaŋmɪn*	'God'
e.	*dɔ̃̀*	'hatred'	q.	*sòn*	'holy ones'
f.	*gɔ̃*	'to scold'	r.	*sɛn*	'girlfriend, boyfriend'
g.	*gbɛ̃w*	'a lion'	s.	*sàm*	'to rinse'
h.	*lɔ̃w*	'a frog'	t.	*sánɪ*	'to heal'
i.	*ṹu*	'to bend oneself'	u.	*ṹòn*	'dry season'
j.	*pʋ̃́ɔ*	'to spoil'	v.	*hánɪ*	'to sweat'
k.	*tʋ̃́ɔ*	'to beat'	w.	*háma*	'a hammer'
l.	*tɔ̃̀*	'to send'			

There are a few words in Dagara, the vowels of which could be considered as genuine nasal vowels despite the fact that the environment is influenced by the nasalization of another segment in the same word or in the proximity. These words form a very small group in the language, and therefore, they seem to represent exceptions to the general rule above. However, some of them exist in pairs for which the nasal feature is contrastive with the oral feature. In this case, the nasal vowels are genuine. They must have the tilde.

(27) Examples:

    a. (i)   *ŋmɛ̃̀*   'to resemble'   (ii) *ŋmɛ̀*   'to hit'

    b. (i)   *nyɛ̃́*   'to find'   (ii) *nyɛ̀*   'to defecate'

    c. (i)   *mɛ̃̀*   'like, as'   (ii) *mɛ̀*   'to build'

    d. (i)   *sʋ̃́ɔmɪ* 'to dare'   (ii) *sʋ̀ɔ mì*   'a knife also'

(28) Exceptions:

    a. *mã̀*   'mother'

    b. *mɛ̃̀mɛ̀*   'a sort of basket'

    c. *mɔ̃́*   'to wrestle'

    d. *mã́-nyɔ́w* 'to share bush meat'

Many people claim with a strong and clear conscience that the above words have genuine nasal vowels, and therefore, they advocate putting the tilde on them in the orthography. I personally do not agree for a reason of economy. It has to be noted, however, that one of the dominant phonetic habits or pronunciation tendencies of spoken Dagara is nasalization. Many people in some areas or dialects tend to nasalize all vowels. This habit or tendency needs not be represented in the orthography. It is only to be noted as a phonetic phenomenal characteristic of some idiolects.

Orthography does not need to deal absolutely with all such matters having no function in the real communication realm.

7. RULES CONCERNING DIMINUTIVES AND LOCATIVES

7.1 Rules Governing the Use of Diminutives

To express the sense of smallness of humans, animals and things, the Dagara language uses two different forms: *le, bile*. These particles follow the terms which they modify. There are two rules for diminutives.

Rule 1: Unite 'le'

The diminutive form *le* always follows immediately the noun it modifies. Since the concept they form is a single entity, it is recommended to write them as one word without any space in between. They must form a single word. Besides, vowel harmony applies regressively to the entire stem thus formed. This is one of the rare contexts in which vowel harmony applies across word boundaries. Note that it operates here regressively (backward, i.e. from right to left). It also involves other morpho-phonological transformations of the nominal root which precedes *le*.

(29) Examples:

a.	*nále*	**(náàb + le)*	'a calf'
b.	*dèble*	**(dɛb + le)*	'a boy'
c.	*pówle*	**(pɔw + le)*	'a baby girl'
d.	*líle*	**(nɔ̋ɔ + le)*	'a chick'
e.	*péle*	**(púrá + le)*	'a lamb'
f.	*bìle*	**(bʊɔ + le)*	'a young goat'
g.	*nóle*	**(nʊ́ɔr + le)*	'a little mouth'
h.	*sóle*	**(sɔ́r + le)*	'a small path'
i.	*gbéle*	**(gbér + le)*	'a small leg'
j.	*bále*	**(bá + le)*	'a young friend'
k.	*bàle*	**(bàa + le)*	'a pup, baby dog'

Rule 2: Write 'Bile' As a Separate Word

Note that the vowel harmony rule does not necessarily apply between the vowels of *bile* and that/ those of the word its follow and modifies.

(30) Examples :

a.	*bə̀w bile*	'a baby donkey'
b.	*nằw bile*	'a small scorpion'
c.	*dòbàa bile*	'a small pig'
d.	*ŋmấam bile*	'a small monkey'
e.	*náàb bile*	'a baby cow'
f.	*sɔ́w bile*	'a small rabbit'
g.	*wɔ́b bile*	'a small elephant'
h.	*nyằanyũo bile*	'a small cat'
i.	*gbẽw bile*	'a lion cub'
j.	*wáàb bile*	'a young snake'

(31) Exceptions:

a.	*pòw-**bile***	'younger wife, new wife'
b.	*bì-**bile***	'a child'
c.	*sằa-**bile***	'a younger uncle (father's brother)'
d.	*mằ-**bile***	'a younger maternal aunt (mother's sister)'
e.	*yé-**bile***	'a younger brother (of a man)'
f.	*pó-**bile***	'a young man'

These words take a dash. It is to be observed that they all have a common lexical semantic feature. They are diminutive terms indicating family relationships (see Section 9.1.2).

7.2 Rules Regulating the Expression of Locative

To express the sense of place, site, location, or spot, the Dagara language uses a variety of particles. Taking into consideration the effect of vowel harmony which influences the form of the particles, the most frequent variants are: *-í, -í, -mí, -mí, -rí, -rí,* ˜ (including the tilde as vowel nasalization). They all have a high tone and are considered as suffixes. Therefore, for a rational and economic way of writing, each must be adjoined to the noun it follows and modifies forming a single word with it without any dash or space.

Rule 1: Unite the Locative Particle and the Noun

Rule 2: Mark the High Tone of the Last Vowel

Sometimes, the marking of high tones remains the only feature signaling the presence of the locative morpheme and function of the word.

(32) Examples:

a.	*kʋ̀ɔmí*	LL.H	'in the water'
b.	*púorí*	HH.H	'in the belly'
c.	*pùorí*	LL.H	'behind'
d.	*wʋ́ɔmí*	HH.H	'in the goatskin'
e.	*dʋ̀ó*	L.H	'in a room (final high tone)'
f.	*zìɛmí*	LL-H	'in the potash'
g.	*vũ̀ùmí*	LL-H	'in the fire'

(33) Exception:

    a.   *zúu*   'a head'
          H(H)

    b.   *zúú* +   ~ (the locative form)   →   zúù   'in / on the head'
          H(H)   HL

This example is a genuine locative noun. It has the tilde only for vowel nasalization, as the morpheme of the locative. However, it constitutes an exception because it does not have the final high tone as it should according to rule 4 above. Instead, the final tone is the reverse (the opposite low tone). In this regard, it is an exception.

It is important to note that the word *zúu* 'head' is sometimes spelled with only a short vowel like zú. The two forms are correct. They are local lexical variants.

8. RULES OF HYPHENATION IN DAGARA (WORD BREAKS)

The rules below are designed to help typesetters and computer users who work on Dagara texts. The New Testament translators found them very useful as they had been asked by their typesetters to provide a set of rules governing word breaks at the end of lines. These rules here are simple enough to be understood and handled successfully by any typesetter who has no notion of linguistics and who does not know Dagara at all. The absence of rules for word breaks encourages some typesetters to do it their own way. In this case they can make a lot of mistakes, and sometimes, this results in redoing the typesetting altogether, which is very costly. Besides, if there are no word breaks in a long text, there may be numerous 'holes' (big spaces between words) in the lines of the text.

8.1 Where and When not to Break?

Rule 1: Never Insert a Break in the Middle of a Monosyllabic Word

(34) Examples:

    a.   *wà*   →   **w-à*   'to come'
    b.   *cén*   →   **cé-n / *c-én*   'to go'
    c.   *dʋ̀ɔr*   →   **dʋ̀-ɔr / *d-ʋ̀ɔr / *dʋ̀ɔ-r* 'yellow'
    d.   *bàal*   →   **bà-al / *b-àal / *bàa-l* 'a sick person'

Rule 2: Never Insert a Break in the Middle of a Disyllabic Word

Rule 2a: Never Insert a Break Between a Consonant and the Following Vowel

Never cut between a consonant and the vowel which follows it immediately, especially in the same final syllable.

(35) Examples:

a.	*sóre*	→	**Sór-e / *Só-re*	'Lord'
b.	*bárɪ*	→	**bár-ɪ / *bá-rɪ*	'friends'
c.	*pɔwbɛ*	→	** pɔwb-ɛ*	'women'
d.	*zèlɪ*	→	**zèl-ɪ*	'to ask'
e.	*bóme*	→	**bóm-e*	'things'
f.	*sámɛ*	→	**sám-ɛ*	'debts'
g.	*bɛ́rmɛ*	→	**bɛ́rm-ɛ / *bɛ́-rmɛ*	'to become big'

Word-ending is morphologically a sensitive area in Dagara. It is the place for class suffixes of nouns, and the place for aspect or modality suffixes of verbs. Very often the boundary between the noun and the class suffix is not clear. Similarly, the boundary between the verb and the aspect or modal suffix is not always clear.

Therefore, none of the words in example (35) should have a break between a consonant and the vowel which follows it immediately. It is forbidden to make such a cut because it distorts the word and thus is an obstacle to comprehension and reading.

Rule 2b: Never Insert a Break Between Before the r Consonant

(36) Examples:

a.	*bɛra*	→	**bɛ-ra*	'a trap'
b.	*lòre*	→	**lò-re*	'be falling'
c.	*kàarɛ*	→	**kàa-rɛ*	'be watching over'
d.	*mɔ̀wrɛ*	→	**mɔ̀w-rɛ*	'be sucking'
e.	*pùre*	→	**pù-re*	'aunt (father's sister)'
f.	*dìrɛ*	→	**dì-rɛ*	'be eating'

The consonant *r* never appears in the initial position of a word. In this position, it is difficult to pronounce for a Dagara native speaker. Breaking a word like above is equivalent to putting the *r* consonant in the initial position at the beginning of a line in a text. This is why it should be avoided.

Rule 2c: Never Insert a Break Between Two Consonants

Never insert a break between the two letters of a digraph or a typical consonant cluster occurring in the same word. Such a group is inseparable and must not be split apart. Any cut is a potential source of danger and trouble. The word gets so spoiled that it appears to be a new word to some new readers, whose skills in reading are still weak. The identity of the word must be preserved as much as possible to make reading easier for new readers.

(37) Examples:

    a.   *kpènʋ*   'strength'
    b.   *gbã̀alɛ*   'thin'
    c.   *bràle*   'he-goat'
    d.   *blá̃*   'a little'
    e.   *prále*   'a baby ram'
    f.   *ŋmáam*   'a monkey'
    g.   *nyím*   'a tooth'

The combinations of consonants (i.e. *kp, gb, ŋm, ny*) appearing in the words above are allowed in the Dagara orthography as digraphs pertaining to the alphabet and considered as single sign units. In the same way, the groups of consonants formed by an occlusive with a liquid (e.g. *br, bl, pr, pl...*) are becoming more and more frequent in Dagara words, resulting generally from the drop of a vowel, a consequence of the rapid speed of the elocution of some speakers in the oral discourse. Typesetters must be warned not to touch these stereotyped groups of consonants when these are put into writing, and if the decision is made to publish them as they are. The lost vowels should not be restored.

8.2 Where and When to Break?

When there is the absolute obligation to insert a break somewhere a word at the end of a line of a text to avoid holes because there is no other solution, the following instructions should be followed.

Rule 1: Always Divide a Compound Noun at a Dash

(38) Examples:

    a.   *tẽ-vla*   'heaven'
    b.   *ní-kpẽɛnʋ* 'law of primogeniture'

Rule 2: Divide Words with Three or More Syllables

At the end of a line, if it is necessary to divide a word, it is better to do it in a word of at least three syllables, if there is any. The break must occur between the first vowel and the consonant of the following syllable.

(39) Examples:

    a.   *kɔ̃̀tɔmɛ*   →   *kɔ̃̀-tɔmɛ*   'fetishes'
    b.   *zã̀zule*   →   *zã̀-zule*   'a worm'
    c.   *gɔ́zɔ̀mɛ*   →   *gɔ́-zɔ̀mɛ*   'fruits (specific)'
    d.   *gbá̃gbala* →   *gbá̃-gbala*   'clearing'
    e.   *sã̀sowe*   →   *sã̀-sowe*   'crickets'
    f.   *nyànyuwe* →   *nyà-nyuwe*   'thieves'
    g.   *bɔ̀rfɔrɔ*   →   *bɔ̀r-fɔrɔ*   'English language, papaya'
    h.   *jã̀gboro*   →   *jã̀gboro*   'grass (specific)'

9. CATEGORIES OF COMPOUND NOUNS

There are several categories of compound nouns in Dagara. Each category has its own set of orthographic rules. These rules are explained below.

Rule No. 1: Unite (No Word Break and No Dash)

Rule 1a: Terms Designating Body Parts

Most of them are compound nouns which are always written as one word, without any space or dash in between.

(40) Examples:

a.	*zúkɔbr*	'a hair'
b.	*gbébir*	'a toe'
c.	*nóbir*	'a finger'
d.	*kpã̀kpãnyugbiel*	'elbow'
e.	*zúŋman*	'skull'
f.	*mímigbil*	'globe of eye'
g.	*dù̃sele*	'knee bone'
h.	*nàkɔr*	'heel'
i.	*nɔ́gban*	'mouth (familiar)'
j.	*nɔ́pʋɔ*	'mouth'
k.	*nɔ́ŋman*	'jaw'
l.	*nɔ́gbãbir*	'lip'
m.	*kɔ̀kɔr*	'throat'
n.	*kɔ̀kɔpʋɔ*	'inside part of the of throat'
o.	*kɔ̀kɔlaalẽw*	'inside part of the throat (specific)'
p.	*sɔ̀wdaa*	'back'
q.	*sɔ̀wdaakɔbr*	'spine'
r.	*nóbigã̀fıl*	'nail'

(41) Exception:
    sɔ̀wdakɔbr kã́a   'spinal cord'

This exception is explanable by the fact that other words of expansion or qualification could be inserted in the space between the two words.

Rule 1b: Terms Designating Family Relationships

Most terms designating family relationships are complex nouns which are nonetheless always represented as one word in writing. Others are written with a dash. These are a few exceptions.

(42) Examples:

a.	*sã̀akʋm*	'grandfather'
b.	*mã̀kʋm*	'grandmother'
c.	*yékpɛ̃ɛ*	'elder brother'
d.	*yébɛrɛ*	'elder brothers (plural)'
e.	*pùre*	'aunt (father's sister)'
f.	*tosob*	'fellow'
g.	*yísob*	'owner of the house'
h.	*yɛdɛd*	'woman's brother'
i.	*mã̀dɛb*	'maternal uncle (mother's brother)'
j.	*nàkpɛ̃ɛ*	'a paramount chief'
k.	*níkpɛ̃ɛ*	'an ancestor, elderly person'
l.	*sã̀akpɛ̃ɛ*	'paternal uncle (father's elder brother)'
m.	*yìbtɔ*	'sibling'
n.	*mã̀kpɛ̃ɛ*	'maternal aunt (mother's elder sister)'
o.	*yéèpúule*	'sister'

(43) Exceptions (see section 7.1 on diminutives):

a.	*sã̀a-bile*	'younger uncle (father's brother)'
b.	*mã̀-bile*	'younger maternal aunt (mother's sister)'
c.	*yé-bile*	'younger brother (of a man)'

Rule 1c: Family Names (Surnames)

There is a closed list of family names currently used in Burkina Faso and Côte d'Ivoire - *Da, Dabire, Hien, Kambire, Kambou, Kambouole, Meda, Kpoda, Somda, Some*. These names are always represented as one word in writing, even though the oral tradition may sometimes propose theories explaining their old composition as compound phrases or expressions. Colonialists originally put accents on the [e] vowel of some of them and the representation of these names in writing remains in such a way even today (e.g. *Dabiré, Kambiré, Kambouolé, Mèda, Somé*). These accents do not represent tones. The grave accent indicates the 'open' (or [–closed]) vowel feature of the vowel as opposed to the acute accent which indicates the [+closed] vowel feature. Note that this feature [± closed] is sometimes used as a valid and pertinent feature in the vowel system of French.

Rule No. 3: Use a Dash

Rule 3a: Dagara Given Names (Patronymics)

This expression refers to names in Dagara which are received at birth, describing the circumstances of birth, the philosophical or theological interpretation of the event by one of the parents who does the naming, etc. These names must be written with a dash between the different words and particles combined to form the name. These names can be full sentences.

(44) Examples:

    a.   *ãán-'wɔbr-mʋ̃ɔ?*
        who-eat-grass
        'Who eats grass?'

    b.   *wà-líɛr-mɛ*
        come-replace-1.SG.
        'Come replace me!'
        'Come and replace me!'

    c.   *dɔ̃-jíl-mɛ*
        hatred-enclose-1.SG.
        'There is hatred around me (= all people around me hate me).'

Rule 3b: Compound Nouns Designating Concepts, Ideas and Notions

These terms are complex combinations (or chains) of a least two words in which the roots, except the last one in the chain, is altered in one way or another (generally by vowel-shortening, final consonant loss). In this case, the two or three components are separated from one another by a dash.

(45) Examples:

a.	*ní-kpɛ̃ɛ*	(person+ great)	'adult, elder'
b.	*tɛ̃-vla*	(country + good)	'heaven'
c.	*bʋ̃́-faa*	(thing + bad)	'a bad thing'
d.	*zu-faa*	(head + bad)	'misfortune'
e.	*dá̃-yí-paala*	(beer + house + new)	'a new drinking place'
f.	*bà-fʋ́ɔla*	(river + hole)	'a valley'
g.	*yèl-vla*	(word + good)	'a good thing, a good news'

Rule 3b: Compound Nouns Designating Categories of Workers

Rule 3b(i): By Reduplication of the Same Root

All words formed by the reduplication of the same verbal root must have a dash separating the two roots. The first root does not take the verbal morphemes. Only the second root takes the verbal morphemes which mark aspect and modality.

(46) Examples:

a.	*tõ̀-tõne*	'a worker'	→	*tõ̀*	'to work'
b.	*yè-yɛrɛ*	'a merchant'	→	*yèr*	'to sell'
c.	*dì-dɪrɛ*	'a glouton'	→	*dì*	'to eat'
d.	*ŋmìɛ-ŋmɪɛrɛ*	'a musician'	→	*ŋmè*	'to play a music (instrument)'
e.	*dà-daarɛ*	'a buyer'	→	*dà*	'to buy'
f.	*zɔ̀-zɔrbɛ*	'a fugitive'	→	*zɔ̀*	'to run, to flee'
g.	*kã̀-kanɛ*	'a reader'	→	*kànɪ*	'to read'
h.	*pùo-puore*	'a Christian'	→	*pùori*	'to pray'

Rule 3b(ii): By Joining a Noun and a Verbal Noun Together

For example, in (47a), the generic meaning is 'a musician'. The first noun will specifies the kind of instrument which is used (a xylophone), and the verbal noun specifies the way in which the instrument is played (a hitter).

(47) Examples:

a.	*j̀l-ŋmɪɛrɛ*	'a xylophonist'
b.	*ná-cʋnɛ*	'a shepherd'
c.	*nɔ́-ŋmarɛ*	'a part cutter'
d.	*nɛ̃́-ŋmarɛ*	'a butcher (a meat cutter)'
e.	*dã-daarɛ*	'a beer buyer'
f.	*dã-dʋ́ʋrɛ*	'a beer cooker'
g.	*yír-mɪɛrɛ*	'a house builder'

(48) Exceptions:

a.	*bɛ̀baal*	a sick person'
b.	*gbɛ̀gbaa*	'a slave'
c.	*tẽtẽ*	'only'
d.	*cʋmcʋm*	'completely (to crush)'
e.	*daadaa*	'immediately'
f.	*yãayãa*	'please'
g.	*lɔ̀lɔ̃w*	'a drum'
h.	*towtow*	'never'
i.	*zɛ̃̀zɛ̃̀*	'impatience'
j.	*mɛmɛ*	'a cover (of a cradle)'
k.	*gbɛ̀gbɛ̀*	'a basket'
l.	*mɛ̀mɛrɛ*	'mud'
m.	*tɔ̃tɔl*	'underpants'

These exceptions can be explained by the theory that it is not possible to separate the two discernable parts of any of these words in (48). They are inseparable single units. None of the discernable parts means anything. Only the whole unit has a meaning. One part has no semantic value on its own. This reason requires the writing of these words as a single unit without any dash.

Rule 4: Technical Terms

There are compound words forming a unit of meaning equivalent to a single concept, in which the different constituents remain unaltered. The quality of tones, consonants and vowels remain unchanged. Most often, translators are compelled to create new terms either by derivation or by compounding nouns, when translating passages referring to things, worldviews or cultures which are alien to the target language. The newly created words designate new ideas or new cultural items which are the quasi-equivalents for precise terms expressing concepts, things or abstract ideas which are attested in other languages and cultures. In the past, these technical concepts were unknown in the Dagara culture and language. The words are written with a dash separating the different components of the words. These words can be classified into two groups. The largest group consists of the key terms of the Bible (e.g. Sabbath Day, synagogue, Passover festival,

unleavened bread, etc.). The other category consists of technical terms in the realms of sciences, technology, law, geography, biology, medical sciences, law, philosophy, meteorology, mathematics, etc.

(49) A few examples from the Bible:

a.	*wɔ̰̀-taa*	'covenant'
b.	*pɪ́ɔ̀-yele*	'adultery'
c.	*sù-nʋ̰̀ɔ*	'(divine) goodness
d.	*wɛ̀ja-kpalɛ*	'desert'
e.	*vɪɛlʋ-danʋ*	'glory'
f.	*yúor-vɪɛlʋ-danʋ*	'glory'
g.	*naaŋmɪn-yɛ̀r-manɛ*	'a prophet'
h.	*ŋmín-wɔ̰̀taa-daga*	'ark of covenant'
i.	*bàw-màal-kúur*	'altar'
j.	*Dɛ̀-kʋɔr-lɛ-jãw*	'The Great Bear (star)'
k.	*yèl-sɔ́wlɪ-sòwri-bãwnɛ*	'a spy'

Rule 5: Figurative Expressions Used in Proverbs

In proverbs and sometimes in proverbial formulas, elements involved in expressions used figuratively must always be joined together by a dash. These expressions (indicated in the examples below in **boldface**) often generate new concepts, unexpected images, and poetic styles.

(50) Examples:

a. **ŋmɛ̰̀a-dà-sɛ̰̀a**   *bɛ́   dɛ̰́w bɛ̀w* **nà-ì-ŋmín**   *gúu   e*
monkey-male-father   Neg1 Aux   know   what-to-do? fail   Neg2
'A chief never fails to find his way out.'
'A boss always knows the solutions of problems.'

ŋmɛ̰̀a-dà-sɛ̰̀a (It means literally: 'a monkey-male-father').
nà-ì-ŋmín (It means literally: 'what to do?', 'how to manage?', 'what solution to apply?')

A male monkey is generally the head of its family. It is the first monkey to give the signals to the others, such as yelling to warn others of danger. The survival of its family depends on its vigilance, agility and cleverness. All these qualities are important for the whole group. Each member of the group counts on the cleverness of the head of the family to avoid calamities. As such, it should be the model to be followed by all fathers or persons in charge of the welfare of a group (especially among humans).

b. **vʋ̰̀u-dì-ꞌwɔ̰̀w**   *bɛ́   bɛ̀w*   **bɔ̀w-faa** *ɪ*
a-rat-caught-by-bush-fire Neg1   know   hole-bad   Neg2
'A rat in death danger does not know which hole is good to take refuge in.'
'When death is near, any protection can fit.'

c. **bì-bì-tõ-zàwrʋ-sob**   *bɛ   dìrɛ* **bú-kɛ̰́a**   *ɪ*
a-child-who-refuses-to-help   Neg1 eat   thing-fat   Neg2
'A person who does not help others, does not eat good things.'
'A person who does not care for others, has no friend.'

10. TYPES OF LANGUAGE AND ORTHOGRAPHY

Five major types of language have been clearly identified in Dagara discourse. One can identify 'child language', 'familiar language', 'common language', 'literary language' and 'griotic language'[7]. Elision of vowels exists and is frequent in Dagara. There are two kinds of vowel elision in Dagara, the optional kind and the compulsory kind (non-optional). Optional vowel elisions are possible, but not necessary. On the contrary, compulsory vowel elisions are indispensable. There is a close relationship between vowel elision and the type of language.

10.1 Compulsory Vowel Elisions (The Copula 'it is')

The expression of 'it is' has many variant forms due to the effect of the vowel harmony: *n'ʋ, n'ú, n'a, n'ɩ, n'i, n'ɛbɛ* 'it is'. We are bound to respect them and keep them in the orthography, even if we do not know for sure what these fossilized forms really mean and what they originate from. The apostrophe marks the elision.

(51) Examples:

a.	*gbàá n'ʋ*	'It is a cobra.'
b.	*báa n'ʋ*	'It is a dog.'
c.	*zúu n'ú*	'It is a head.'
d.	*pɔ́w n'ʋ*	'She is a woman.'
e.	*bélɛ n'ɛbɛ*	'It is them.'
f.	*úlɛ n'í a nyànyuwe*	'He is the thief.'

10.2 Optional (Free) Vowel Elisions

(52) Examples:

    a.   (i) 'Familiar Language' (Elision)
          fʋ yèl a k'ʋʋ wà
          'You asked him/her to come.'

        (ii) 'Literary Language' (No elision)
          fʋ yèl a kɛ́ ʋ wà
          'You asked him/her to come.'

    b.   (i) 'Familiar Language' (Elision)
          ʋ tì yèl k'ɩ́ɩ vɛ̃́, tá wà ɩ
          'He/she told me not to come.'

        (ii) 'Literary Language' (No elision)
          ʋ tì yèl kɛ́ ɩ́ vɛ̃́, tá wà ɩ
          'He/she told me not to come (no elision)'

---

[7] 'Griotic language' is a literary genre which has flourished at the University of Abidjan during the last three decades (1970-2000).

The situation is different for these free vowel elisions. According to Nida (1967), it is better to ban free vowel elisions from writing. Therefore, following Nida (1967), I would also recommend personally not to write forms in which vowel elisions are manifested. Writing in full forms, i.e. avoid the vowel losses and the many vowel assimilations which occur in the spoken discourse, seems more useful for the ease of comprehension of the written texts, as well as for the ease of readability for new readers. My preference is to write with 'literary language' rather than with 'familiar language', unless there is a good reason to do otherwise. The rule of thumb here is to write according to the rules of 'literary language' (without vowel elisions and regressive assimilations).

11. PUNCTUATION SIGNS AND OTHER USEFUL SIGNS

In the table below, a list of the punctuation marks used in Dagara orthography is shown. There are only minor differences compared with the punctuation marks used in French. The only sign which is left out in the table below is the three points of suspension (**...**). Its use is yet to be tested.

(53) Table of Punctuation Signs

Name in Dagara	Signs	Comments / Functions
kpãakpul	.	End of sentence. Long stop. Without space.
kpãakpul-ɓéra	:	Long stop. Enumeration. Introduce direct discourse. Without space.
fébra *vúvrʊ-bɔ̀w* *àr-blɑ́* *àr-blɛ́*	,	Short stop at end of clause or expression. Without space.
ír-bèrʊ bɑ́wfʊ *(ŊMɩn-yɛ̀rʊ pʊɔ yele)*	[ ]	Without space. Indicate a special phrase, verse or passage in the Bible, which misses in some ancient manuscripts.
lʊ́ɔrà	--	No stop. Adds side account or comment or explanation.
kpãakpul-í-gɔ́ra	;	Long stop. End of clause or sentence. Without space. Separates chapters in references (Bible).
dàbɔ̀l	!	Long stop. Exclamation mark. Firm and high intonation. Without space.
sòwru-bɑ́wfʊ *sòwru-dàkʊra*	?	Long stop. Special intonation. High pitch. End of sentence. Interrogative form. Without space. Question mark.
yɛ̀r-sɔ̀wra-bɑ́wfʊ	«...» "…"	Quotation. Direct discourse markers. Long stop. Without space.
yɛ̀rdɔwla-bɑ́wfʊ	( )	Parentheses Expansion. Information. Explanation. Space outside and no space inside.
dʊ̀rʊ-loor dà-gbíɛla	/	No space. Equivalent to "or". Also used in references in official correspondence (letter, decree, law). Mathematics.

12. CONCLUSION

The development of the modern Dagara orthography has made good progress in Burkina Faso since the seventies. It undergoes the test of translating the Bible. This exercise is likely to confirm certain rules, but at the same time, it will probably raise new questions regarding the orthography, which have been unforeseen or overlooked so far. A perfect or finalized orthography seldom exists on earth. Most orthographies, however old they might be, still call for improvement or adjustments today. Similarly, there is no doubt that the Dagara orthography still needs some adjustments too, especially in the area of tone-marking. The way to go remains long. However, it is important to remember that the success of any orthography, is a matter of discipline of the users. If the Dagara people all unite with the Sub-Committee of the Dagara Language in Burkina Faso, if they all accept and apply consistently these spelling conventions, and if the literacy personnel and agencies teach them seriously and efficiently, literature will soon start to emerge and develop. It is hoped that this paper will contribute to the further development of the Dagara orthography.

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