

The Use of Tone in the Verbal Morphology of the SaraBagirmi Languages

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Introduction

. Three even tones in Sara-Bagirmi languages (examples from Mbay):

- (1) **là** ‘to be wide’
 bā ‘river’
 ká ‘noise’

. Tone-bearing phonemes are vowels and sonorant consonants (examples from Mongo):

- (2) **bàr̄** ‘warthog’
 tāā ‘to take’
 áí ‘not’

. Contour tones on a single tone-bearing element are very rare except in Bagirmi (examples from Mbay):

- (3) **-ñ** ‘with it’
 nà-tâ ‘otherwise’

. Tone is used in all of the Sara-Bagirmi languages to indicate changes in the subject of the verb. The following example is from Bagirmi:

- | | |
|--|--|
| <p>(4) mā mē-ndā ‘me, I set’ ī-ndā ‘you set’ né ndáà ‘he/she sets’ ṅōn ndà ‘a child sets’</p> | <p> jè jì-ndà ‘we set’ sè ndā-kī ‘you set’ jé jí-ndáà ‘they set’ ṅán-gē ndà ‘children set’</p> |
|--|--|

Recordings for most of the conjugations contained here are available from the “sound dictionaries” for the Sara-Bagirmi Language Project web site:

<http://morkegbooks.com/Services/World/Languages/SaraBagirmi/SoundDictionary/SaraSoundDictionary.htm>

1. Verbal Morphology in the Sara Languages

. The subject pronominal prefixes:

- | | |
|---|---|
| <p>(5) m̄- ‘I’ ī- ‘you (sing. and pl.)’ null/ ṅ- ‘he/she/it’</p> | <p> k̄-/j- ‘we’ null/d̄- ‘they’</p> |
|---|---|

. Subject plurality is indicated by a suffix (**-ñ** or **-ī**).

. With few exceptions, tonal change is only used with verbs that begin with a vowel.

1.1 Mbay

1.1.1 Low-High verbs stems that begin with a vowel and which contain *Low-Low* tone.

- | | | |
|----------------------------------|---|--------------|
| (6) <u>3rd person</u> | <u>1st sing./2nd person</u> | <u>Gloss</u> |
| èl | él | ‘to speak’ |
| ùr | úr | ‘to dig’ |
| òsè | ósé | ‘to pierce’ |
| òt̄ | ót̄ | ‘to smell’ |

. The tone of 1st person plural and 3rd person singular and plural forms is the same.

. One exception: **àn** 'to say' becomes High-Low (**áñ**) in the 1st person singular and 2nd person.

1.1.2 Mid verb stems that begin with a vowel and which contain *Low-Mid* tone:

- | | | |
|----------------------------------|---|--------------|
| (7) <u>3rd person</u> | <u>1st sing./2nd person</u> | <u>Gloss</u> |
| àdī | ādī | ‘to give’ |
| ùr̄ | ūr | ‘to sew’ |
| òr̄ | ōr | ‘to remove’ |

1.1.3 No Tonal Change verb stems begin with a consonant:

| | | | | |
|-----|---------------|-----------------------|---------------------------|----------------------------|
| (8) | <u>sāng</u> | ‘to look for’ | | |
| | <u>m-sāng</u> | ‘I look for’ | <u>j̄-sāng/j̄-sāng-n̄</u> | ‘we look for (incl/excl.)’ |
| | <u>ī-sāng</u> | ‘you look for (sg.)’ | <u>ī-sāng-n̄</u> | ‘you (pl.) look for’ |
| | <u>sāng</u> | ‘he/she/it looks for’ | <u>sāng-n̄</u> | ‘they look for’ |

One exception: **ḃày/ḃáy** ‘to rise, get up’. There also a class of apparent exceptions:

| | | | |
|-----|------------------------------|---|--------------|
| (9) | <u>3rd person</u> | <u>1st sing./2nd person</u> | <u>Gloss</u> |
| | <u>là</u> | <u>lá</u> | ‘to send’ |
| | <u>sà</u> | <u>sá</u> | ‘to eat’ |
| | <u>gà</u> | <u>gá</u> | ‘to chop’ |

1.2 Other Sara Languages

1.2.1 Low-High verbs stems beginning with a vowel with *Low-Low* tone in 3rd person singular:

| | | | | | | | |
|------|---------------|--------------|---------------|---------------|---------------|----------------|------------------------|
| (10) | <u>Mbay</u> | <u>Daba</u> | <u>Sar*</u> | <u>Mango</u> | <u>Gulay</u> | <u>Kaba</u> | <u>Gloss</u> |
| | <u>às/ásí</u> | <u>às/ás</u> | <u>às/ásì</u> | <u>às/ásī</u> | <u>às/ásí</u> | <u>às/ásī</u> | ‘to be able (he/you)’ |
| | <u>òd/ódí</u> | <u>òd/ód</u> | <u>òd/ódì</u> | <u>òd/ódī</u> | <u>òd/ódí</u> | <u>òrù/órū</u> | ‘to touch (he/you)’ |
| | <u>òr/ór</u> | <u>òr/ór</u> | <u>òr/òr̄</u> | <u>ò/ó</u> | <u>òr/ór</u> | <u>òr/ór</u> | ‘to be tired (he/you)’ |

Explanation for the Mbay exceptions in (8):

| | | | | | | | |
|------|-------------|------------------|-------------|--------------|--------------|----------------|-----------------------------|
| (11) | <u>Mbay</u> | <u>Sar</u> | <u>Daba</u> | <u>Gulay</u> | <u>Mongo</u> | <u>Ngambay</u> | <u>Gloss</u> |
| | <u>là</u> | <u>l̄à/ilà</u> | <u>ùlà</u> | <u>ùlò</u> | <u>ùlò</u> | <u>ùlà</u> | ‘he/she/it sends’ |
| | <u>ndà</u> | <u>ìndà/indà</u> | <u>ùndà</u> | <u>ùndò</u> | <u>ìndò</u> | <u>ùndà</u> | ‘he/she/it hits’ |
| | <u>ḃà</u> | <u>ìḃà/ibà</u> | <u>ùḃà</u> | <u>ibò</u> | <u>ùḃò</u> | <u>ùḃà</u> | ‘he/she/it stamps, presses’ |

In the Eastern Sara language Ngam, forms with and without the initial vowel are possible. My initial impression is that **ìḃà** is required initially, in isolation and when following a consonant, while **ḃà** can be used when immediately following a vowel.

With languages that use **ń** for ‘he/she/it’ and **d-** for ‘they’, the tone is the same tone as the second person singular (e.g. **úlā /d-úlā** ‘you/they send’ in Ngambay, **óy/d-óy** ‘you/they die’ in Kaba).

Tonal differences between languages are general, and not specific to Verb Conjugations:

| | | | | | | | | | |
|------|-------------|-------------------|-------------|-------------|--------------|--------------|-------------|----------------|--------------|
| (12) | <u>Mbay</u> | <u>Bebote/Gor</u> | <u>Daba</u> | <u>Sar</u> | <u>Mango</u> | <u>Gulay</u> | <u>Kaba</u> | <u>Ngambay</u> | <u>Gloss</u> |
| | <u>ḃál</u> | <u>ḃál</u> | --- | <u>ḃál</u> | <u>ḃál</u> | <u>ḃál</u> | --- | <u>ḃál</u> | ‘color’ |
| | <u>kújí</u> | <u>kóy</u> | <u>kúj</u> | <u>kúj̄</u> | <u>kóy</u> | <u>kóy</u> | <u>kóy</u> | <u>kóy</u> | ‘house’ |
| | <u>tátí</u> | <u>tátī</u> | <u>tát</u> | <u>tát̄</u> | <u>tátī</u> | ---- | <u>tátī</u> | <u>tádī</u> | ‘be wide’ |
| | <u>kádí</u> | <u>kádī</u> | <u>kád</u> | <u>kád̄</u> | <u>kádī</u> | <u>kádí</u> | <u>kárī</u> | <u>kár*</u> | ‘sugarcane’ |

1.2.2 Mid verb stems beginning with a vowel with *Low-Mid* tone:

| | | | | | | | | | |
|------|------------------|-------------------|----------------|-----------------|----------------|----------------|----------------|----------------|--------------|
| (13) | <u>Mbay</u> | <u>Bebote/Gor</u> | <u>Daba</u> | <u>Sar</u> | <u>Mango</u> | <u>Gulay</u> | <u>Kaba</u> | <u>Ngambay</u> | <u>Gloss</u> |
| | <u>ùt̄/ùt̄</u> | <u>ùt̄/ùt̄</u> | <u>ùt/ùt</u> | <u>ùt̄/ùt̄</u> | <u>ùt̄/ùt̄</u> | <u>ùt̄/ùt̄</u> | <u>ùt̄/ùt̄</u> | <u>ùd̄/ùd̄</u> | ‘to cover’ |
| | <u>àd̄/àd̄</u> | <u>àd̄/àd̄</u> | <u>àd/àd</u> | <u>àd̄/àd̄</u> | <u>àd̄/àd̄</u> | <u>àd̄/àd̄</u> | <u>àr̄/àr̄</u> | <u>àr̄/àr̄</u> | ‘to give’ |
| | <u>àl̄/àl̄</u> | <u>àl̄/àl̄</u> | <u>àl/àl</u> | <u>àl̄/àl̄</u> | <u>àl̄/àl̄</u> | <u>àl̄/àl̄</u> | <u>àl̄/àl̄</u> | <u>àl̄/àl̄</u> | ‘to go up’ |
| | <u>* s̄ò/s̄ò</u> | <u>òs̄/òs̄</u> | <u>ìs̄/ìs̄</u> | <u>ìs̄/ìs̄*</u> | <u>ùs̄/ùs̄</u> | <u>òs̄/òs̄</u> | <u>òs̄/òs̄</u> | <u>òs̄/òs̄</u> | ‘to fall’ |

Unlike **Low-High** class, forms with **ń-** ‘he/she/it’ **d̄-** are not the same as the 1st person singular and the 2nd person:

| | | | | | |
|------|---------------------|----------------------|----------------------|----------------------|------------------------|
| (14) | <u>Gulay*</u> | <u>Mongo</u> | <u>Kaba</u> | <u>Ngambay</u> | <u>Gloss</u> |
| | <u>òò, ò, d-ó</u> | <u>òò, ò, d-ó</u> | <u>òò/n-ó, ò, dó</u> | <u>òò, ò, d-ó</u> | ‘to see (he/you/they)’ |
| | <u>ìl̄/ìl̄/d̄l̄</u> | <u>ìl̄/ìl̄/d-ìl̄</u> | <u>ìl̄/ìl̄/d-ìl̄</u> | <u>ìl̄/ìl̄/d-ìl̄</u> | ‘to throw, put’ |
| | <u>òs̄/òs̄/dósó</u> | <u>ùs̄/ùs̄/d-úsū</u> | <u>òs̄/òs̄/d-ósó</u> | --- | ‘to fall’ |
| | <u>àw̄/àw̄/dáv</u> | <u>ò w̄/òw̄/d-ów</u> | <u>àw̄/àw̄/d-áv</u> | <u>àw̄/àw̄/d-áv</u> | ‘to go’ |

1.2.3 No Tonal Change, beginning with a consonant (examples here show the 3rd person singular and 2nd person singular for the selected verbs):

| | | | | | | | | |
|------|-------------|-------------|------------|--------------|--------------|-------------|----------------|----------------------------|
| (15) | <u>Mbay</u> | <u>Daba</u> | <u>Sar</u> | <u>Mango</u> | <u>Gulay</u> | <u>Kaba</u> | <u>Ngambay</u> | <u>Gloss</u> |
| | tél/tél | tél/tél | tél/ tél | tál/tál | tál/tál | tél/tél | tél/tél | ‘to return’ |
| | kúl/kúl | kúl/kúl | kúl/kúl | kúl/kúl | kúl/kúl | kúl/kúl | kúl/kúl | ‘to cook (<i>sauce</i>)’ |
| | tèt/tèt | tèt/tèt | tèt/tèt | tèt/tèt | tèt/tèt | tèt/tèt | tòdì/tòdì | ‘to break’ |

1.2.4 Laga

A large number of words in the core vocabulary of the Western Sar language Laga (traditionally referred to as Laka) bear a tone that is different from that found in all the other Sara Languages. The most important difference is one where *Low-Mid* tone appears in Laga with *Low-Low* tone:

| | | | |
|------|-----------|-----------------------|-------------|
| (16) | | <u>Sara Languages</u> | <u>Laga</u> |
| | to see | òò | ò |
| | water | màñ | màn |
| | to go up | àl̄ | àl |
| | feather | bə̀l̄, bəl̄ | bəl |
| | body hair | bì | bì |

Low-Low tonal verbs are confusing, and depend on whether stem has 1 syllable or 2:

- (17) **kàw** ‘to go’
m-āw, āw, n-áw, ngōn àw
 I go, you go, he goes, a child goes
j-àw, j-àw-jēy, āw-jē, d-áw
 we go, we (incl.) go, you (pl.) go, they go.
- kày** ‘to drink’
m-āy, āy, n-áy, ngōn ày
 I drink, you drink, he drinks, a child drinks
j-ày, j-ày-jēy, āy-jē, d-áy
 we drink, we (incl.) drink, you (pl.) drink, they drink
- kàl** ‘to go up’
m-āl, āl, n-ál, ngōn àl
 I go up, you go up, he goes up, the child goes up
j-àl-jē, āl-jē, d-ál
 we (excl.) up, you (pl.) go up, they go up.

- (18) **kòr** ‘to be tired’
m-ór, ór, n-ór, ngōn òr, j-òr-jēy, d-ór
 I am tired, you are tired, he is tired, the child is tired, we (incl.) are tired, they are tired
- kà** ‘to see’
m-á, á, n-á, ngōn à, j-à-jēy, d-á
 I look, you look, he look, the child looks, we (incl.) look, they look

With verb stems having bi-syllabic roots, on the other hand, the tonal patterns are identical:

- | | | |
|------|------------------------------------|------------------------------------|
| (19) | kilà ‘to throw’ | kìngà ‘to find’ |
| | m-ílā ‘I throw’ | m-íngā ‘I find’ |
| | ílā ‘you (s.) throw’ | íngā ‘you (s.) find’ |
| | n-ílā ‘he/she/it throws’ | n-íngā ‘he/she/it finds’ |
| | ngōn ilà ‘the child throws’ | ngōn ìngà ‘the child finds’ |
| | j-ilà ‘we throw’ | j-ìngà ‘we find’ |
| | ílā-ì-jēy ‘you (pl.) throw’ | íngā-ì-jēy ‘you (pl.) find’ |
| | d-ilā ‘they throw’ | d-íngā ‘they find’ |

In other cases *Low-Mid* stems are identical in tone to that found in other Sara Languages (e.g. **āndī, ngōn āndī, n-āndī, d-āndī** ‘you/the child/he/they enter/s’). In others it is the tone patterns are the same as bi-syllabic Low-Low verbs (e.g. **úndā, ngōn úndā, n-úndā, d-úndā** ‘you/he/the child/they set/s’).

2. Verbal Morphology in the Sara Kaba Languages

Subject Pronoun synopsis:

| | | | | | | | |
|------|--------------------|-----------|------------|---------------|-----------|-----------|---------------|
| (20) | I | you | he/she/it | we incl. | we. excl. | they | |
| | Before vowels: | m- | ī/í | (null) | j- | d- | (null) |
| | Before consonants: | mí | í | (null) | jì | dí | (null) |

In Deme, **í** becomes **ú** before stems containing ‘**o**’ or ‘**u**’. We will look at three Sara Kaba languages: Na, Kulfa and Deme.

2.1 Na (Sara Kaba Na)

Four principal classes of verbs:

2.1.1. Low-High verb stems where Low-Low varies with High-Low:

| | | |
|------|---|---|
| (21) | èngè ‘to find’ | |
| | m-éngè, éngè, nè èngè, j-éngè | ‘I find, you find, he/she finds, we (incl.) find’ |
| | d-éngè, éngèe, èngèe | ‘we (excl.) find, you (pl.) find, they find’ |
| | ùwà ‘to see’ | |
| | m-úwà, úwà, nè ùwà, j-ùwà | ‘I see, you see, he/she sees, we (incl.) see’ |
| | d-úwà, úwàa, ùwàa | ‘we (excl.) see, you (pl.) see, they see’ |
| | jìrò ‘to ask’ | |
| | m-jìrò, jìrò, nè jìrò, jégè jìrò | ‘I ask, you ask, he/she asks, we (incl.) ask’ |
| | dí jìrò, ségè jìrò, négè jìrò | ‘we (excl.) ask, you (pl.) ask, they ask’ |

This class includes verb stems beginning with both consonants and vowels. It also includes stems consisting of a single syllable in *Low* tone:

| | | |
|------|--------------------------------------|---|
| (22) | to die: ò | |
| | m-òò, óò, nè ò, j-ò | ‘I die, you die, he/she dies, we (incl.) die’ |
| | d-òò, ségè óò, négè ò | ‘we (excl.) die, you (pl.) die, they die’ |
| | to stand: | |
| | mí ráà, í ráà, nè rà, jégè rà | ‘I stand, you stand, he/she stands, we (incl.) stand’ |
| | dí ráà, ségè ráà, négè rà | ‘we (excl.) stand, you (pl.) stand, they stand’ |

2.1.2 Mid verb stems where *Low-Mid* tone varies with *Mid-Mid* tone:

| | | |
|------|------------------------------------|---|
| (23) | kàbē ‘to go’ | |
| | m-ābē, ābē, àbē, j-ābē | ‘I go, you go, he/she goes, we (incl.) go’ |
| | d-ābē, ségè ābē, àbēe | ‘we (excl.) go, you (pl.) go, they go’ |
| | kisō ‘to fall’ | |
| | m-īsō, īsō, nè isō, j-īsō, | ‘I fall, you fall, he/she falls, we (incl.) go’ |
| | d-īsō, īsōo, isōo | ‘we (excl.) go, you (pl.) fall, they fall’ |
| | gēy ‘to know’ | |
| | mí gēy, gēy, nè gēy, jì gēy | ‘I know, you know, he/she knows, we (incl.) know’ |
| | dí gēy, gēyī, gēyī | ‘we (excl.) know, you (pl.) know, they know’ |

2.1.3. A class of verbs where *Low-Mid* varies with *High-Mid*:

| | | |
|------|--|---|
| (24) | nāw ‘to like’ | |
| | mí nāw, í nāw, nè nāw, jégè nāw | ‘I like, you like, he/she likes, we (incl.) like’ |
| | dí nāw, nāwū, nāwū | ‘we (excl.) like you (pl.) like, they like’ |
| | tākā ‘to take’ | |
| | mí tākā, í tākā, nè tākā, jégè tākā | ‘I take, you take, he/she takes, we (incl.) take’ |
| | dí tākā, tākāa, tākāa | ‘we (excl.) take, you (pl.) take, they take’ |

| | |
|---|---|
| injī ‘to sit’ | |
| m-ínjī, injī, nè injī, jégé j-injī | ‘I sit, you sit, he/she sits, we (incl.) sit’ |
| d-injī, injī, injī | ‘we (excl.) sit, you (pl.) sit, they sit’ |

Most verbs in this class begin with a consonant.

2.1.4. No tonal change verb stems. This large class includes all verb stems where the first base tone is not *Low* (e.g. **ndélé** ‘to return [intrans.]’, **télé** ‘to pour, turn, drive, etc.’), **téhè** ‘to partially pluck’, **bī** ‘to twist’, **baà** ‘to get mixed up in’, etc.

2.1.5 Exception: to give: ipā

| | | |
|------|----------------------------------|---|
| (25) | m-ipā, ipā, nè ipā, j-ipā | ‘I give, you give, he/she gives, we (incl.) give’ |
| | d-ipā, ipā, ipā | ‘we (excl.) give, you (pl.) give, they give’ |

2.2 Kulfa

The verb principal verb classes of Kulfa are identical to those found in Na:

2.2.1. Low-High verb stems where *Low-Low* contrasts with *High-Low*:

| | | |
|------|---|---|
| (26) | m-údyà, údyà, nè údyà, j-údyà, d-údyà | ‘to cut (I, you, he, we (incl.), we (excl.))’ |
| | m-ádyà, ádyà, nè ádyà, j-ádyà, d-ádyà | ‘to have not yet done’ |
| | m-ávò, ávò, nè ávò, j-ávò, d-ávò | ‘to come’ |
| | m-ímvè, ímvè, nè ímvè, j-ímvè, d-ímvè | ‘to find’ |
| | mí dígì, í dígì, nè dígì, jì dígì, dí-dígì | ‘to answer’ |
| | m̄-váà, í fáà, nè fá, jì-fà, dí- fáà | ‘to speak’ |
| | mí-déè, í í-déè, nè dé, jì-dè, dí-déè | ‘to come’ |
| | mí démè, í démè, nè démè, jì démè, dí-démè | ‘to grow big’ |

Like Na, this class is used with verb stems beginning with vowels and consonants.

2.2.1. Mid verb stems, where *Low-Mid* contrasts with *Mid-Mid*:

| | | |
|------|---|------------|
| (27) | m-āpā, āpā, nè āpā, j-āpā, d-āpā | ‘to run’ |
| | m-īsō, īsō, nè īsō, j-īsō, d-īsō | ‘to fall’ |
| | m-ītō, ītō, nè ītō, j-ītō, d-ītō | ‘to carry’ |

Like Na, this class is most commonly found with verb stems beginning with a vowel.

2.2.3. A verb class with *Low-Mid* contrasting with *High-Mid*:

| | | |
|------|--|-----------------------|
| (28) | mí géè, í géè, nè géè, jéè jì géè, dí-géè | ‘to know’ |
| | m-injī, injī, nè injī, j-injī, d-injī | ‘to sit’ |
| | mí jóō, í-jóō, nè jòō, jì jòō, dí- jóō | ‘to wait’ |
| | mí dīngā, í-dīngā, nè dīngā, jì-dīngā, dí-dīngā | ‘to complete, finish’ |

Like Na, this class is most commonly found with verb stems beginning with a consonant.

2.2.4. No tonal change verb stems. Like Na, this includes all verbs whose first syllable does not bear *Low* tone. Some examples: **naṅà** ‘to remain behind’, **téè** ‘to open’, **tóò** ‘to wash’ and **tíni** ‘to call’. Our limited data for Kulfa also includes one case where *Low-Low* varies with *High-Mid* tone:

mí júfā, í-júfā, nè jùfā, jéè jì-jùfā, d-égé dí júfā, s-égé í-júfā, négè jùfā ‘to split’

2.3 Deme

Data is from Palayer (2006: 84-96). Three of the verb classes found in Koulfā and Na are also found in Deme.

2.3.1. A verb class with *Low-Low* contrasting with *High-Low*:

| | | |
|------|-----------------------|------------------------------|
| (29) | ùndò, úndò | ‘he hits, you hit’ |
| | àgà, ávà | ‘he crawls, you crawl’ |
| | nòò, ú-nóò | ‘he is well, you are well’ |
| | mbùtù, ú-mbùtù | ‘he pierces, you pierce’ |
| | tòdò/ú-tódò | ‘he is lying, you are lying’ |

2.3.2. A verb class with *Low-Mid* contrasting with *Mid-Mid*:

- | | | |
|------|------------|--------------------------------|
| (30) | àdā, ādā | ‘he/she/it gives, you give’ |
| | ùndō, ūndō | ‘he/she/it sets, you set’ |
| | àlē, ālē | ‘he/she/it goes up, you go up’ |

Palayer indicates that this class is only found with verb stems beginning with a vowel.

2.3.3. A verb class with no tonal change. This class appears to include only verbs that begin with a consonant, including some whose first syllable bears *Low* tone. Some examples: **nāhā** ‘to do’, **tōdē** ‘to say’, **ndālē** ‘to wait’ and **tī** ‘to leave’, and **hèté** ‘to be green’.

2.3.4. A verb class with *High-Mid* contrasting with *Mid-Mid*. The verb class *Low-Mid* to *High-Mid* found in Na and Koulfā is limited to a single verb in Deme: **ìgī/ígī** ‘he knows/you know’.¹ Instead there is a class where the 3rd person form is *High-Mid*, but the 2nd person is *Mid-Mid*:

- | | | |
|------|--------------|----------------------------|
| (31) | dábē, í-dābē | ‘he/she sells, you sell’ |
| | túdē, ú-túdē | ‘he/she vomits, you vomit’ |

3. Verbal Morphology in the Bagirmi Languages

Only data for Bagirmi and Kenga is currently available.

3.1 Verbal Morphology in Bagirmi

Verb classes show greater variation than do the classes in Sara Kaba and Sara languages, and they tend to be tied to specific syllabic shapes.

3.1.2. A verb class with *High-Low* contrasting with *Low-Low*:

This class corresponds to the *Low-Low* to *High-High* of Sara Languages and *Low-Low* to *High-Low* of Sara Kaba languages.

- | | | |
|------|---------------------------------|--|
| (32) | m-úyù, úyù, n-úyù, ngàb úyù | ‘to marry: I, you, he, the man’ |
| | m-úpù, í úpù, né n-úpù, ηōn úpù | ‘to blow: I, you, he, the child’ |
| | m-únù, únù, n-únù, ηōn únù | ‘to take: I, you, he, the child’ |
| | m-ákà, ákà, n-ákà, ηōn àkà | ‘to see: I, you, he, the child’ |
| | mā m-déè, í déè, né déè, ηōn dè | ‘to come: I, you, he, the child’ |
| | mè-gòò, í gòò, né gòò, ηōn gò | ‘to throw: I, you, he, the child’ |
| | mè-kòò, í kòò, né kòò, ηōn kò | ‘to seize, catch: I, you, he, the child’ |
| | mè-làà, í làà, né làà ηōn là | ‘to say: I, you, he, the child’ |
| | mè-mòò, í mòò, né mòò, ηōn mò | ‘to find: I, you, he, the child’ |

3.1.2.1. A subclass where *HighLow-Low* occurs with 3rd person pronominal subjects when verb stem is bi-syllabic and begins with a vowel:

- | | | |
|------|--|------------------|
| (33) | mè-bókò, í bókò, né bókò, ηōn bókò | ‘to rob’ |
| | mè-jútù, í jútù, né jútù, ηōn jútù | ‘to pull’ |
| | mè-làlà, í làlà, né làlà, ηōn làlà | ‘to lay’ |
| | mè-nápò, í nápò, né nápò, ngàb nápò | ‘to plow’ |
| | mè-núηò, í núηò, né núηò, ηōn núηò | ‘to burn’ |
| | mè-njàηà, í njàηà, né njàηà, ηōn njàηà | ‘to write’ |
| | mè-njèlè, í njèlè, né njèlè, ηōn njèlè | ‘to know’ |
| | mè-núηò, í núηò, né núηò, ηōn núηò | ‘to grill, burn’ |
| | mè-dápò, í dápò, né dápò, ngàb dápò | ‘to lend’ |
| | mè-dàrà, í dàrà, né dàrà, ηōn dàrà | ‘to stop’ |

3.1.2. A verb class where *Mid-Mid* contrasts *High-Low* and *Low-Low*:

- | | | |
|------|--|--|
| (34) | m-ādā, ādā, n-ádà, j-àdà, ād-kī, j-ádà | ‘to give: I, you, he, we, you (pl.) they’ |
| | m-āpā, āpā, n-ápà, j-àpà, āp-kī, j-ápà | ‘to flee: I, you, he, we, you (pl.), they’ |

¹ Palayer (2006:85) states that the tone change is *Low-Mid* to *High-Mid*, but his example is **ìgī** ‘you know’ instead of **ígī**. In the dictionary portion (p. 236), however, he has the correct form for ‘you know’ **ígī**, suggesting that **ìgī** is a typing error.

| | |
|--|--------------------------------------|
| mè-yā, ī yā, né yáà, ηōn yà | ‘to hide: I, you, he, the child’ |
| mè-ndā, ī ndā, né ndáà, ηōn ndā | ‘to put, set: I, you, he, the child’ |

3.1.2.1 A small subclass with *Mid-Mid* contrasting with *High-HighLow* and *Low-Low*:

| | | |
|------|---|------------------|
| (35) | m-ācā, ī ācā, né n-ácā, ngàb àcà | ‘to chop, cut’ |
| | m-ōcō, ōcō, né n-ócō, j-òcò, ōcō-kī, j-ócō | ‘to fall’ |
| | m-ōrō, ōrō, né n-órō, ηōn òrō | ‘to trap, catch’ |

3.1.3 A verb class with no tonal change. This class includes a smaller number of verbs than in the Sara and Sara Kaba languages. They include a fair number of the verbs in High-Mid tone (e.g. **njípā** ‘to bother’, **píyā** ‘to play’ **súñō** ‘to be hot’), a few verbs in High-HighLow tone (e.g. **sílê** ‘to turn around, jump over’, **pólê** ‘to mix’), and a few verbs in Mid-Mid tone (e.g. **cālā** ‘to remain’, **ndūgō** ‘to buy’, and **ndōtō** ‘to meet’).

3.1.4 Small exceptional class: *Mid-Mid* contrasting with *HighLow-Mid*:

| | | |
|------|---|--------------|
| (36) | mè-mbōcō, ī-mbōcō, né mbōcō, ηōn mbōcō | ‘to measure’ |
| | mè-ndērē, ī ndērē, né ndērē, ηōn ndērē | ‘to limp’ |
| | mè-tūkō, ī tūkō, né tūkō, ngàb tūkō | ‘to weave’ |
| | *mì-līl, ī līl, né līl, ηōn līl | ‘to hang’ |

3.1.5 Tone change in future aspect

Future aspect in Bagirmi is formed with a distinct set of personal subject pronouns:

| | | | | |
|------|------------------|-------------------|--------------------------|---------------------|
| (37) | mó-kábè | ‘I will go’ | jì-kàb, jì-kàb-kī | ‘we will go’ |
| | kó-kábè | ‘you will go’ | kó-kàb-kī | ‘you (pl.) will go’ |
| | né-kábè | ‘he/she will go’ | jí-kábè | ‘they will go’ |
| | ngōn kábè | ‘a child will go’ | | |

When the verb stem in simple aspect begins with a vowel, the tone for future aspect is not the same as the tone in simple aspect. For example, the verb **ābē** ‘to go’ belongs to the verb class Mid-Mid described in section 3.1.2 (e.g. **m-ābē** ‘I go’, **ābē** ‘you go’, etc.) But in future it behaves like a verb of the shape CVCV (the verb class HighLow-Low described in section 3.1.3).

3.1.6 Other comments

Two important verbs, **dígā** ‘to say’, and **njúgō** ‘to bathe’, bear the tone *High-HighLow* in the 1st and 2nd person singular, switch to *High-Low* tone for the 3rd person with pronominal subject, and to *Low-Low* tone for the 1st person plural and the 3rd person with a specified subject:

| | | |
|------|--|-------------------------------------|
| (38) | mè-dígā, ī dígā, né dígā, ηōn dīgà, jì-dígà | ‘to say: I, you, he, the child, we’ |
| | mè-njúgō, ī njúgō, né njúgò, ηōn njùgò | ‘to bathe: I, you, he, the child’ |

As noted above, the majority of multi-syllabic Bagirmi words ending in a vowel drop the final vowel in non-final position in a clause or sentence. When this occurs, the tone of the final vowel is normally lost. The followings examples are with the High-Low verb **tódò**:

| | | |
|------|-------------------|--------------------|
| (39) | mè-tód fī | ‘I sleep’ |
| | ī tód fī | ‘you sleep’ |
| | né tód fī | ‘he sleeps’ |
| | ηōn tód fī | ‘the child sleeps’ |

3.2 Verbal Morphology in Kenga

The person subject pronouns are (before a vowel/consonant): **ím/mí** ‘I’, **null form/ ǎ** ‘you’, **null form** ‘he/she/it’ and **j-/kǎ** ‘we’. Data is from Neukom (1993) and Palayer (2004).

3.2.1 A verb class where *Low-Mid* contrasts with *High-Low*:

| | | |
|------|------------------|-----------------------------|
| (40) | ààkā, ákà | ‘he/she/it sees, you see’ |
| | ààjā, ájà | ‘he/she/it saves, you save’ |
| | ògǎ, ógò | ‘he/she/it hits, you hit’ |

3.2.2 A verb class where *Low-Mid* contrasts with *Mid-Mid*:

- | | | |
|------|------------|-----------------------------------|
| (41) | òòcō, òòcō | ‘he/she/it falls, you fall’ |
| | àànā, āānā | ‘he/she/it arrives, you arrive’ |
| | òògō, òògō | ‘he/she/it prevents, you prevent’ |

3.2.3 Verb stems beginning with a consonant undergo no tone change:

Examples include **dòsō** ‘to shave’, **dùùbū** ‘to bury’, **bóóyò** ‘to listen’, **bùùtū** ‘to pierce’ and **dūūdū** ‘to prepare *boule*’. Comparing **bùùtū** ‘to pierce’ with Bagirmi **mbùtù/mbútù** exemplifies the important tonal differences between these languages.

3.2.4 Other comments

Like Bagirmi, when the final stem vowel is dropped in non-final position in the sentence or clause its tone is lost.

Both Neukom and Palayer note the effect that the completion marker, **-gà**, has on the tone of the verb stem. Neukom considers **-gà** a suffix added to the end of the fully inflected verb (after all pronominal and pronominal number suffixes).

- | | | | | |
|------|------|---------------------|--------|---------------------|
| (42) | òòsō | ‘he/she/it pierces’ | òòs gà | ‘he/she/it pierced’ |
| | òsō | ‘he/she/it eats’ | òs gà | ‘he/she/it ate’ |
| | òògō | ‘you refuse’ | òòs gà | ‘you refused’ |

4. Conclusions:

. Where cognates exist between stems beginning with a vowel, there is a high degree of cross-language consistency as to which verb stem belongs to which class:^{2 3}

(43) The *High/Low Tone Verb Class*

Sara Languages

LL to HH/HM

Sara Kaba Languages

LL to HL

Bagirmi Languages

LL/LM to HL

- . *eat* (MB sà/sá, GU ùsə/úsá, MO ùsò/úsò, NG ùsà/úsā=ùsò/ úsō, NA isà/ísà, KU ùsà/úsà, DE ùsò/ úsò, KG òsō/ósò, BG sà/sáà)
- . *give birth* (MB òjè, GU òjè, MO òjè/ójè, LK ùjì/újì, NA òyò/óyò, KU òdyò/ódyò, DE òyò/óyò, KG òòjò/ójò, BG òyò/óyò)
- . *touch* (MB òdè/ódé, GU òdè/ódé, MO òdè/ódé, KB òrù/órù, NA òdò/ódò, KU òdò/ódò, DE òdò/ódò, BG: òdò/ódò)
- . *die* (MB òy/óy, GU òy/óy, MO òy/óy, NG òy/óy, NA ò/óò, KU òyò/óyò, DE òò/óò, KG òòyò/óóyò, BG òyò/óyò)
- . *hit* (MB ndà/ndá, GU ùndə/úndá, MO ùndə/úndā, NG ùndà/úndā, NA* òpī/òpī, KU* ìfī/ìfī, DE ùndò/úndò, BG* mbàlà/mbála, KG òndò/óndò)
- . *see* (BG àkà/áká, KG àakā/ááká)
- . *get up* (MB* fày/fáy, GU ì/í, MO ì/í, NG ì/í, NA* àgà/ágà, KU* NA* àgà/ágà, DE* ìbì/ìbì, KG ìjì/íjì, BG ìjì/íjì)
- . *take* (MB ùn/ún, GU ùn/ún, MO ùn/ún, NG ùn/ún, NA ùnù/únù, KU ùnù/únù, DE ùnù/únù, KG ùnū/úúnù, BG ùnù/únù)
- . *seize, catch* (MB hò/hó, GU ùwə/úwá, MO ùwə/úwá, NG ùwà/úwā, NA ùkà/úkà, KU ùhà/úhà, DE ùkò/úkò, KG òkò/ókò, BG kò/kóò)
- . *find* (MB ngà/ngá, GU ìngə/íngá, MO ìngə/íngā, NA èmbè/émbè = èngè/éngè, KU èmvè/émvè, DE èmbè/émbè, BG* mò/móò, KG òjè/ójè)

² MB = Mbay, GU = Gulay, MO = Mango/Mongo, NG = Ngambay, LK = Laga, NA = Na, KU = Kulfa, KB = Kaba (Goré), DE = Deme, KG = Kenga, BG = Bagirmi

³ * indicates that the word for a language is not a cognate with other Sara-Bagirmi languages.

(44) **The Mid Tone Verb Class**

Sara Languages

Sara Kaba Languages

Bagirmi Languages

LM to MM

LL to MM

LM/LL to MM (and HL)

fall (MB sō/sō, GU òsō/òsō, MO* ùsī/ùsī, NG òsō/òsō, NA isō/ìsō, KU isō/ìsō, DE ùsō/ùsō, KG òcō/òcō, BG òcō/òcō/òcō)

set (MB ndā/ndā, GU ùndā/ùndā, MO ìndā/ìndā, NG ùndā/ùndā, NA ìndā/ìndā, KU ùndā/ùndā, DE ùndā/ùndā, KG òndā/òndā, BG ndā/ndā/ ndáà)

remove (MB òr̄/òr̄, GU òr̄/òr̄, MO òr̄/òr̄, NG òr̄/òr̄, NA òr̄/òr̄, KU òr̄/òr̄, DE òdē/òdē, KG: òdē/òdē, BG òdō/òdō/òdō)

flee (MB ày/ày, GU ày/ày, MO ày/ày, NG ày/ày, NA ànā/ànā, KU ànā/ànā, DE ànā/ànā, KG ànā/ànā, BG ànā/ànā/ànā)

drink (MB ày/ày, GU ày/ày, MO ày/ày, NG ày/ày, NA èè/èè, KU àyē/àyē, DE èè/èè, KG àyē/àyē, BG* àyò/àyò/àyò)

give (MB àdī/àdī, GU àdī/àdī, MO àdī/àdī, NG àr̄/àr̄, NA* ìnā/ìnā, KU itō/itō, DE àdā/àdā, KG èdē/èdē, BG àdā/àdā/àdā)

weave (MB jō/ jō, GU òjō/òjō, MO òjī/òjī, NG òjī/òjī, NA òyō/òyō, KU idyō/ìdyō, DE ùyō/ùyō, KG ùjū/ùjū)

raise, nourish (MB ùl̄/ùl̄, GU ùl̄/ùl̄, MO ùl̄/ùl̄, NG ùl̄/ùl̄, NA ùlū/ùlū, DE ùlū/ùlū, KG ùlū/ùlū)

sew (MB ùr̄/ùr̄, GU ùr̄/ùr̄, SR ùr̄/ùr̄, MO ùr̄/ùr̄, NG ùr̄/ùr̄= ùrū/ùrū, NA ùy/ùy, KU ùyū/ùyū, DE ùrū/ùrū, BG ùrū/ùrū, KG ùrū/ùrū)

Few exceptions (e.g. BG **yô/yô** ‘to weave’ which is a *High/Low* tone verb in Bagirmi but a *Mid* verb stem in the other languages, KG **ààlà/áàlà**, ‘to go up’, which is a *High/Low* tone verb in Kenga, but a *Mid* verb in other languages [including Bagirmi]).

. Bagirmi and Sara Kaba languages use tonal change in verb classes beginning with a consonant, while the Sara languages and Kenga do not.

. With verb stems that begin with a consonant and under go tonal change, there does not appear to be any evidence linking any Bagirmi verb classes beginning with consonants to any verb classes in the Sara Kaba languages. For example the Na verb **tākā/tākā** ‘to take’ belongs to the small class *Low-Mid* with *High Mid*, while Bagirmi **tākà/tākà** ‘to take’ belongs to the common *High-Low* verb class. Even among the Kaba languages (Na, Kulfā and Deme) cognates with an initial consonant do not always belong to the same verb class. For example, in Deme **tāā/tāā** ‘to take’ as opposed to Na **tākā/tākā**.

. Bagirmi, Western Sara languages and a few Central Sara languages differentiate between a 3rd person form with a specified subject and those with a pronominal subject (e.g. Bagirmi **jé j-áb** ‘they went vs. **néé gē àb** ‘the women went’, where the tone of the verb **àbē** ‘to go’ is low with a specified object and high with a pronominal object. Eastern Sara Languages, Kaba Languages and Kenga do not make this differentiation.

. More conjugations are needed. In some languages, we do not know the base form for a verb until we have examples of it in the 1st person or 2nd person, the 3rd person with a specified subject, and the 3rd person with a pronominal subject.

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