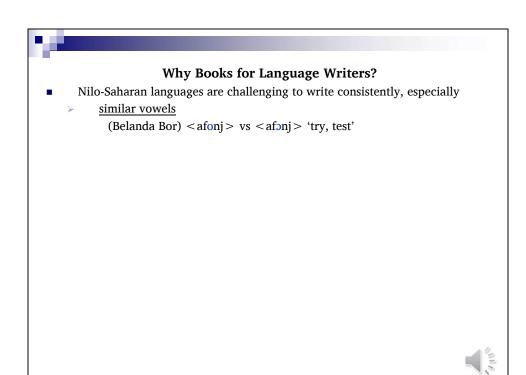# Documenting Language Structures for Language Writers

**Timothy M. Stirtz**

**SIL International**

My talk is about making books that help language users write more consistently.

**Why Books for Language Writers?**

- Nilo-Saharan languages are challenging to write consistently, especially
  - <u>similar vowels</u>
    (Belanda Bor) <afonj> vs <afɔnj> 'try, test'

So why do language communities need help writing their language? Well, we all familiar with many complexities in Nilo-Saharan languages, and these complexities make writing a challenge, even when a well-chosen writing system has been decided. I want to mention 5 common challenges for writers of Nilo-Saharan languages. The first is similar vowels. I've seen Belanda Bor writers go back and forth trying to decide if certain words are plus or minus ATR. Sometimes the sound actually differs from one speaker to the next, but usually it's just a matter of the writer learning which letter goes with which sound.

**Why Books for Language Writers?**

- Nilo-Saharan languages are challenging to write consistently, especially
  - <u>similar vowels</u>
    (Belanda Bor) <afonj> vs <afɔnj> 'try, test'
  - <u>tone representation</u>
    (Jur 'Bëlï) <dɔ-gbe> 'on the son' vs <dɔ gbe> 'head of the son'
             [dɔ̄ gbɛ̀]                 [dɔ̀ gbɛ̀]

Many Nilo-Saharan languages need at least some marking for tone in the writing system in order to distinguish meaning. Beli has a few prepositions derived from body parts, like the word 'on, above' that comes from the word 'head', and some of these are only distinguished by tone. So the Beli decided to hyphenate all prepositions to make this distinction clear in writing.

**Why Books for Language Writers?**

- Nilo-Saharan languages are challenging to write consistently, especially
  - similar vowels
    (Belanda Bor) <afonj> vs <afɔnj> 'try, test'
  - tone representation
    (Jur 'Bëlɪ̈) <dɔ-gbe> 'on the son' vs <dɔ gbe> 'head of the son'
                [dɔ̄ gbɛ̀]             [dɔ̀ gbɛ̀]
  - word-breaks
    (Bongo) <bilehi ji> 'our worshiping' vs <bi lehi ji> 'he worships us'
          /bi-lehi ɟi/  NMLZ-verb 1PL     /bi lehi ji/  3SG verb 1PL
          [bìlɛ̀hì ɟ̄ī]                 [bílɛ̀hì ɟ̄ī]

Word breaks are another challenge for writers. In Bongo, there is a nominalizer prefix that is identical to the third singular pronoun 'he' except for tone. For this and other reasons, the Bongo choose to attach the nominalizer and separate the pronoun, but it is challenging for writers to remember which to separate.

**Why Books for Language Writers?**

- Nilo-Saharan languages are challenging to write consistently, especially
  - <u>similar vowels</u>
    (Belanda Bor) <afonj> vs <afɔnj> 'try, test'
  - <u>tone representation</u>
    (Jur 'Bëlï) <dɔ-gbe> 'on the son' vs <dɔ gbe> 'head of the son'
               [dɔ̄ gbɛ̀]              [dɔ̀ gbɛ̀]
  - <u>word-breaks</u>
    (Bongo) <bilehi ji> 'our worshiping' vs <bi lehi ji> 'he worships us'
          /bi-lehi ɟi/ NMLZ-verb 1PL     /bi lehi ji/ 3SG verb 1PL
          [bìlɛ̀hì ɟ̄ī]            [bílɛ̀hì ɟ̄ī]
  - <u>sound changes at morpheme boundaries</u>
    (Gəəmg) <wirí> 'he kills' vs <wirrí> 'in order for him to kill'
          /wīr-î/ verb-3S    /wīr-da-î/ verb-SBJV-3SG
          [wīrî]          [wírî]

Sound changes at morpheme boundaries can also be a challenge for writers. In Gaahmg, the subjunctive suffix –da sometimes assimilates to a root-final /r/. Then with vowel elision, the verb 'in order for him to kill' is the same as 'he kills' except for tone. The Gaahmg decided to write all subjunctives with two medial consonants to make this distinction clear, but this rule is still a challenge to remember.

**Why Books for Language Writers?**

■ Nilo-Saharan languages are challenging to write consistently, especially

➢ <u>similar vowels</u>

(Belanda Bor) <afonj> vs <afɔnj> 'try, test'

➢ <u>tone representation</u>

(Jur 'Bëlɪ̈) <dɔ-gbe> 'on the son' vs <dɔ gbe> 'head of the son'

[dɔ̄ gbɛ̀]          [dɔ̀ gbɛ̀]

➢ <u>word-breaks</u>

(Bongo) <bilehi ji> 'our worshiping' vs <bi lehi ji> 'he worships us'

/bi-lehi ɟi/ NMLZ-verb 1PL      /bi lehi ji/ 3SG verb 1PL

[bìlɛ̀hì ɟ̄ī]                  [bílɛ̀hì ɟ̄ī]

➢ <u>sound changes at morpheme boundaries</u>

(Gəəmg) <wirí> 'he kills' vs <wirrí> 'in order for him to kill'

/wīr-î/ verb-3S      /wīr-da-î/ verb-SBJV-3SG

[wīrî]                  [wírî]

➢ <u>similar consonants</u>

(Belanda Bor) 'only' <gbɛl> vs <ngbɛl> 'only'

Similar consonants can also be a challenge for writers, such as at the beginning of the word 'only' in Belanda Bor. As with vowels, this is often a matter of the writers learning which letter to write for which sound.

**Why Books for Language Writers?**

- To be true owners of the language, speakers must
  - decide their writing system (Stirtz 2015)
  - consistently use their writing system (Stirtz 2018)

We want language speakers to be the owners of their language. But in order to be the true owners, they need to both decide their writing system and consistently learn to use it. I've facilitated participatory workshops for 10 language projects, and written about this in a 2015 paper. In these workshops, the community representatives become well-informed of their language patterns and then decide writing choices accordingly. But I've learned that in order to consistently write their language, they also need to have ongoing guidance after the workshops. So, as reading books and other materials are drafted, I check each word and remind them of the writing rules they decided to use. Through this checking process, their writing skills significantly improve in a relatively short time. I've written about in a 2018 paper.

**Why Books for Language Writers?**

■ Language developers need reference tools to remind them of the writing decisions they made and why

➢ Beginning Dictionaries
➢ Consonant and Vowel (and Tone) Books
➢ Grammar Books

Belanda Bor-English Dictionary

Authors:

John Baptist Asan
Elias Khamis Kpoyo
Hon. Zitta Sabino Gume
Batista Ucin Utengo
Philip Thomas Singo
Anthony Ngangi Mara
Anas Mahbus Mbolo
Willaim Vaikando Tibur
John Gorgori Rabi
Lino Taban

1500 words

Caning
Consonant and Vowel Book

Authors:

David Abbi Alfira
Timothy Kuku Kafi
Hassan Kuwa Kaki
Ali Alaliim Hasan
Anjo Kuku Anjo
Dayan Kuku Jas
Sadik Kafi Sarukh

First Edition
Sudan Workshop Program

50 pages

Bongo Grammar Book

Authors:

Daniel Rabbi Moi
Mario Lau Babur Kuduku
Sister Mary Mangira Michael
Simon Hagimir John
Rapheal Zakenia Paul Mafoi
Nyoul Gulluma Kuduku
James Guil Juma

Trial Edition
SIL-South Sudan

150 pages

But in order to remind community representatives of how they decided to write and why, there needs to be some documentation. So everything that we learn and decide in the participatory workshops is presented in three books—a beginning dictionary of about 1500 words, a consonant and vowel book of about 50 pages, and a grammar book of about 150 pages. On the last slide of this PowerPoint, I list a link for the books I will be showing examples from the rest of this talk.

**Beginning Dictionaries**

- All headwords are in the orthography.
- Writing choices have previously been agreed-upon in participatory workshops.

**W**

**wa** [wá] *adv* no, not

**waa** [wāā] *n* water, lake, pond

**waar** [wáár] *n* insect name

**waasaa** [wáásāā] *n* stone name

**waayaa** [wááyáá] *n* like wild chicken

**wadaboog** [wàɖàbɔ́ɔ̄g] *n.sg* village name

**wag ?** (pl. **wageeg**) *n* place

**wageeg** pl. of **wag ?** place

**waj** [wāɟ] *v.i* 1) go, go out in search for something 2) act, behave 3) enter

**wal** [wál] *v.i* fall, descend

**war₁** [wàr] 1) *con* but, since, or, even 2) *expres* oh!

**war₂** [wár] *v.t* 1) bring, carry, take 2) marry

Gəəmg Dictionary

The beginning dictionaries use the orthography for all headwords. These are spelled the way speakers decided in the participatory workshops. Since the dictionary is uploaded to Webonary, the words can easily be searched, and writers can check spelling as they produce new reading books.

**Beginning Dictionaries**

■  The introduction explains how to read entries and what each word means

**How to Read an Entry in this Dictionary**

When you look in the dictionary, you will see many lines of words. Some look similar to the example below:

**bukutu**  *n*  pot for sauce  **ka bukutu**

Here's what the words mean:

- The word **bukutu** in **bold** is called the 'entry'. All the words after it give information about this word. All entries are listed according to the order of the Belanda Bor alphabet letters. See the **Belanda Bor Aphlabet Order** below for the list of letters in order. Entries that are nouns are in the singular form (only one of the noun). Entries that are verbs are in the incomplete form of the verb (following **nà** 'be, is').
- Next, the letter *n* in *italics* shows the word category (type of word) of the entry is a noun. See the **Word Category Abbreviations** below for a list of all possible word category abbreviations.
- Next, the words pot for sauce is the definition of the entry and shows its meaning in English.
- The next words **ka bukutu** in bold is the plural of the entry. It is how to say more than one of the noun. Only entries that are nouns have a plural form. The words **ka**, **nying**, or **nyi** before a noun show it is plural. Many nouns do not have a plural form.

Belanda Bor Dictionary

The dictionaries also have an introduction that explains how to read the entries and what each word means.

**Beginning Dictionaries**

- The introduction lists the alphabet, abbreviations and relevant grammar

**Laarim Alphabet**

| a | [a] | athan | thigh |
|---|-----|-------|-------|
| b | [b] | bōwōl | tortoise |
| c | [c] | ciith | house |
| d | [d] | dōwōm | adze (grass cutter) |
| e | [e] | eeta | people |
| ē | [ɛ] | ēēth | goat |
| g | [g] | gōōla | path, road |
| h | [h] | ahaat | tongue |

The following are the most common singular suffixes.

**Singular noun suffixes**

| | Singular | Plural | |
|------|----------|--------|---------|
| -it/ | aweenit | awēēna | rat |
| -c/ | kavūrēēe | kavūrēē | feather |
| -oc/ | baroc | barō | rope |
| -nit/ | cuudenit | cūūdē | twin |
| -ec/ | doolec | dōōlī | child |
| -īt/ | caavīt | caava | shoe |

Laarim Dictionary

Here is a list of all word category abbreviations in the dictionary, and what they mean:

| adj | adjective | describes a following noun |
|-----|-----------|----------------------------|
| adv | adverb | describes a verb |
| clas | classifier | makes a new noun from a noun or other word category |
| con | connector | joins clauses, phrases or sentences |
| dem | demonstrative | points to or shows which noun is talked about |

Belanda Bor Dictionary

The introduction also includes the alphabet, with letters paired with the IPA. There is also a list of abbreviations for the word categories and their definitions. And some relevant grammar is also included, such as the singular and plural noun suffixes that are listed in some entries.

**Consonant and Vowel (and Tone) Books**

- All data examples are in the orthography.
- Writing choices have previously been agreed-upon in participatory workshops.
- Concepts are explained with simple English.
- Simplified terminology is initially defined and then listed in a glossary.

### Heavy and Light Vowels

The words **hę** 'break' and **hȩ̈** 'return, open' have different vowel sounds. In **hę** 'break', the vowel is <u>light</u>. In **hȩ̈** 'return, open', the vowel is <u>heavy</u>.

There are 10 vowels in 'Bëlï, as shown in the list below. Most heavy vowels are marked with dots above the vowel. /**u**/ is the only heavy vowel without dots.

Vowels

| Light | Heavy |
|-------|-------|
| E e | Ë ë |
| I i | Ï ï |
| Ɔ ɔ | Ö ö |
| O o | U u |
| A a | Ä ä |

'Bëlï Reading and Writing Book

Now, let me talk about consonant vowel books, which also may includes tone, depending on the language. These books present the root level phonology relevant to writers. Again, all data examples are in the orthography, and speakers decided the spelling of all words in previous workshops. Concepts are explained with simple English and terminology is simplified. For example, the words "heavy and light" is used instead of plus and minus ATR. These words underlined here in this lesson are also listed in the glossary with a definition and example.

**Consonant and Vowel (and Tone) Books**

- Words with potentially confusing sounds are compared and contrasted, such as
  - Similar consonants
  - Similar vowels

The following words have the vowel **e** or **ë**. Say each of these words and listen to the sound of the vowels **e** and **ë**.

| e | | ë | |
|---|---|---|---|
| rek | *pen (of cows)* | lëk | *word, speaking* |
| mer | *tear (of eye)* | gëm | *cheek* |
| pen | *town* | gër | *back (of body or something)* |
| dep | *trap* | mël | *oath, promise* |
| rel | *termite mound* | yër | *river, lake* |
| del | *goat* | cëk | *wife* |
| jeth | *scorpion* | cër | *bright star, morning star* |
| rel | *fox* | cël | *elbow* |
| nyet | *rib* | lël | *net for carrying container* |
| ceŋ | *strap* | jëp | *axe* |

Reel Consonant and Vowel Book

The main reason for the consonant and vowel book is to teach potentially confusing sounds, such as similar consonants and vowels, including ATR and consonant and vowel length. We try to list at least 10 words for each similar sound in a table like this. Then, as writers read down the list, the sound becomes more clearly cemented in their minds. They can also read across to more clearly hear the difference in the two sounds. When they find new words with one of the sounds, they can compare it with these lists and choose the correct letter for that sound.

**Consonant and Vowel (and Tone) Books**

- Words with potentially confusing sounds are compared and contrasted:
  - Neutralized consonants

The consonants t and d sound similar at the beginning of words. When we listen carefully, we hear that the sound of t in _taba_ 'tobacco' is different than the sound of d in _dakabug_ 'groundnut'. Say each of the words below. Listen carefully to the difference in sound between t and d.

| T t | | D d | Gloss |
|---|---|---|---|
| taba | tobacco | dakabug | groundnut |
| tamic | blood | daraga | shield |
| . . . | | . . . | |

The letters t and d can also be in-between vowels. When we listen carefully, we hear the sound of t in _atapige_ 'spear' is different than the sound of d in _ba<u>d</u>an_ 'palm'.

| T t | | D d | Gloss |
|---|---|---|---|
| atapige | spear type | Badan | palm of hand |
| aratamug | baboon | Amkadad | carving chisel |
| . . . | | . . . | |

At the end of words, we only write the letter d, and never t.

| Correct | Wrong | Gloss |
|---|---|---|
| ed | et | wood, tree |
| awad | awat | bird |
| . . . | . . . | |

Spelling Rule: Write t and d at the beginning of words and between vowels. At the end of words, only write d, and <u>not</u> t.

Caning Consonant and Vowel Book

Other lessons deal with the neutralization of consonant contrast. Here the lesson shows the contrast at the beginning and middle of words, but not at the end. So the writer should only use one of the letters in this final position.

There are also lessons for distinguishing vowel sequences from glides and how to represent tone. In Beli, there are is no vowel length distinction, so long vowels are used in the orthography to show falling tone instead of level tone. (Many of the tone minimal pairs are between verbs and other word categories, so all verbs have an underlined vowel to reduce this ambiguity.) Here, the verbs are grouped according to their tone pattern. So, when writers don't know the tone of a new verb, they just compare it with these groups to decide.

## Consonant and Vowel (and Tone) Books

■ Exercises give practice hearing and writing the sound-letter correspondence.

### Exercise 7

Carefully read and say the test words between the lines below. The **bold** vowel in the middle of each test word may or may <u>not</u> be written correctly. Test the sound of the bold vowel by comparing it with the vowel sound in the words on the left and right. If the sound for the bold vowel is the same as in the word on the left, write the word correctly with that vowel. If the sound for the bold vowel is the same as in the word on the right, write the word correctly with that vowel. The first one has been done as an example.

| | | Test Word | | | | Write correctly |
|---|---|---|---|---|---|---|
| daŋ | *elder* | mäc | *family* | ŋät | *oil* | mac |
| daŋ | *elder* | mäth | *drink* | ŋät | *oil* | _____ |
| daŋ | *elder* | kar | branches | ŋät | *oil* | _____ |
| daŋ | *elder* | jal | *guest, visitor* | ŋät | *oil* | _____ |
| kaak | *field* | kaaŋ | proverb | ŋääth | *illness* | _____ |
| kaak | *field* | bääc | *calf (of leg)* | ŋääth | *illness* | _____ |
| kaak | *field* | määl | wealth | ŋääth | *illness* | _____ |

Reel Consonant and Vowel Book

At the end of each lesson, there is an exercise for practice hearing and writing the sound-letter correspondence.

**Consonant and Vowel (and Tone) Books**

■     Ends with a list of writing rules with page numbers where they are explained.

**Spelling Rule 1** (page 13): *The light vowels **a, e, i, o, u** and the heavy vowels **ö, ë, ï, ü** are not mixed together in the same words.*

| Light vowels | | Heavy vowels | |
|---|---|---|---|
| cokkare | otter | küöndïö | wife |
| logilie | bird type | pörï | bed |
| kabelo | sheep (pl) | mïrü | lion |
| lilun | lamb | gülöm | grave |
| kiren | cow | to'ïjö | honor |
| lo'duluk | squirrel | köbükön | wings |

**Spelling Rule 4** (page 18): *Write **p, t, c, k** at the ends of words and not **b, d, j, g.***

| | Correct | | Wrong | | |
|---|---|---|---|---|---|
| p | ne'dep | ne'depan | ne'deb | ne'depan | tongue, tongues |
| t | ku'dat | ku'datan | ku'dad | ku'datan | bread, breads |
| c | a toc | Toce! | a toj | Toce! | picked (nuts), Pick! |
| k | jurak | jurakan | jurag | jurakan | bag, bags |

Mundari Reading and Writing Book

The book ends with a list of writing rules presented earlier in the book, with page numbers where they are further explained. Here there is a rule for how plus and minus ATR vowels are not mixed in the same word, and another rule for only writing certain consonants at the end of words because of neutralization.

**Grammar Books**

- All data examples are in the orthography.
- Writing choices have previously been agreed-upon in participatory workshops.
- Language structures are explained with simple English.
- Lessons incrementally build upon previous lessons.

---

## Demonstratives

Demonstratives point to or show a noun. A demonstrative always follows the noun it points to. In (1), **na** 'this' is a demonstrative.

(1) Yïkölu **na** ka̱ yi.      *This person is coming.*

The demonstrative **na** shows which **yïkölu** 'person' is coming. Maybe the speaker is even pointing a finger at the person while saying the sentence.

When pointing to more than one noun, the plural demonstrative word **ndiya** is added before the demonstrative **na**.

(2) Anji̱ yïkölu **na** ni.      *They saw **this** person.*
(3) Anji̱ yïkölu **ndiya na** ni.      *They saw **these** people.*

'Bëlï Grammar Book

---

Now, let me talk about grammar books, which are the most extensive of the three books. Again, all data examples are in the orthography with previously chosen spelling. The morphemes, word categories and other structures are explained in simple and brief English, followed by examples of the morpheme in context. Lessons incrementally build upon previous lessons and only a few technical terms are introduced in each lesson.

**Grammar Books**

- Simplified terminology is initially defined and then listed in a glossary.

Receiver pronouns (dative)

Receiver pronouns take the place of a person spoken to, receiving something, or benefiting from the action. Receiver pronouns are often suffixes attached to verbs, but can also be separate from the verb. When a receiver pronoun follows a verb, there cannot also be a receiver noun. We write a snake ~ on the first vowel of all receiver pronouns.

Gəəmg Grammar Book Lesson

| special object pronoun | -ê 'him, it' in Jen e ŋaŋjê paren-e, â lee warsê. 'If the person has sanded the leather bag, I will come take it.' | A pronoun that takes the action in the result of a condition; has the down mark ` . |
|---|---|---|
| receiver pronoun | -īn 'to him' in Jen gəwsīn kolodo. 'Person gave the egg to him.' | A pronoun spoken to, receiving something, or benefiting from the action; can be attached as a verb suffix or separate after the verb; has the snake mark ~. |
| possessor pronoun | iini 'his', ëg 'their' | A word used in place of a possessor noun. |

Gəəmg Grammar Book Glossary

Terms are sometimes simplified. For example, the words "receiver pronoun" is used instead of "dative".  They are initially defined and underlined when introduced in the lesson, then in the glossary are again listed with a definition and example.

## Grammar Books

- Example phrases and sentences are taken from natural texts, which are shown in full in the appendix.

**Wiiw ke    Bääm (Bääm)**
fox    and dove
The Fox and the Dove

1.  Ñomuk  ku on,    Wiiw näkä käñ,  aŋ attä  laay    woo
    long.ago time.past fox  feel    hunger and go    roam    out
        /nä̈k-cä̈/PT.SVO.TW /ä̈ät-ñä̈/PT.ST.AW  /laay-Ø/NP.ST.NR
    A long time ago, Fox was hungry and went out roaming

2.  luummuk. Aŋ käññä Bääm a  giidon     jaan wic.
    grassland and find  dove  be bear      tree up
        /kañ-ñä̈/PT.SVO.NR  /giit-on/VA.SG
    in the grassland.  He found a Dove had given birth up in a tree.

3.  Aŋ  taaññe  ogo, "Ïkï  näŋä ŋaaka jaan wic wina?"
    and ask     that   you make what  tree  up  like.that
        /taac-ne/PT.SOV.NR   /nä̈ŋ-yä̈/NP.SVO.TW.2s?
    He asked him, "What are you doing up in the tree?"

4.  Aŋ  kiini Bääm ogo, "Ika  tïïcä       merkä    yeeki."
    and kiin  dove that  I     look.after  children  my.PL
        /kiin-i/PT.OVS.NR    /tïïc-cä̈/NP.SVO.TW.1s?
    And Dove told him, "I am caring for my children."

Jumjum Grammar Book Text

The examples of each lesson are often taken from natural texts. Although there is just a free gloss of the example in the lesson, the full interlinear of the entire text is presented in the appendix.

**Grammar Books**

- Begins with a list of writing rules with page numbers where they are explained.

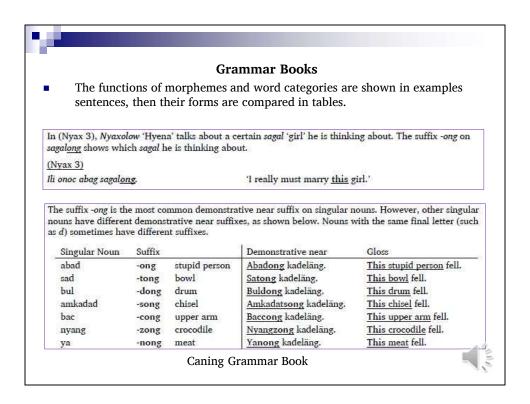| Spelling rule 9 (page 88-89): The command marker ˈba is connected when directly following a verb, but separate after *je* or *he*. | | | |
|---|---|---|---|
| Önyüˈbä | Eat! | Gaˈba | Chase! |
| Önyü he ˈba | Eat (pl)! | Ga he ˈba | Chase (pl)! |
| Önyü je ˈba | Let us both eat! | Ga je ˈba | Let us both chase! |
| Önyü je he ˈba | Let us all eat! | Ga je he ˈba | Let us all chase! |

Bongo Grammar Book

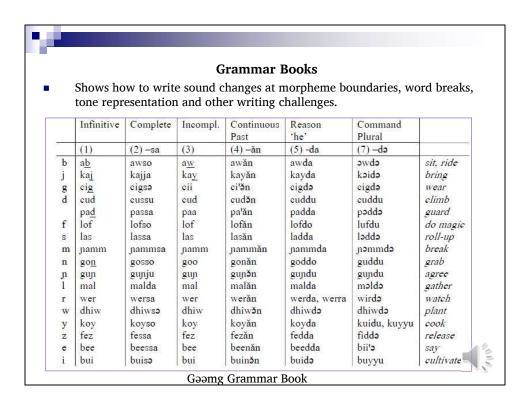| Comparing pronouns and prepositions | | | | |
|---|---|---|---|---|
| Pronouns | 'he' | [ē] | Jafarin e naam kolodo. | *Jafari (he) eats the egg.* |
| | 'he will' | [ê] | Jafarin ê naam kolodo. | *Jafari (he) will eat the egg.* |
| | 'his' | [ě] | Jen tursɔ ě ɲaan. | *Person saw his daughter.* |
| Prepositions | 'with, by, to' | [é] | Jen leen é nams. | *Person came with food.* |
| | 'of' | [é] | Ɲaan é Jafarin leen tu. | *Daughter of Jafari went out.* |
| | 'with, and' | [è] | Jafarin è ɲaawe leen tu. | *Jafari and a cat went out.* |
| Pronouns | 'I' | [á] | A bellda toon. | *I beat the cow.* |
| | 'I will' | [â] | Â bellda toon. | *I will beat the cow.* |
| | 'in order to' | [ā] | Jen leen ā bellda toon. | *Person came in order to beat the cow.* |

Gəəmg Grammar Book

The grammar book also has a list of writing rules with page numbers where each rule is further explained. Here we see a writing rule that shows when the Bongo imperative morpheme is bound and when it is free, based on ATR spreading.  The Gaahmg table is not a writing rule, but shows the importance for several writing rules following this table that specify grammatical tone marking. The table lists several sentences where the pronoun or preposition could be confused if the marking wasn't written.

**Grammar Books**

- Periodic overview lessons help organize and guide the reading.

In this book, we learn about many types of Lopit words. These words are in **bold** in the sentences below. The names of the words are <u>underlined</u> on the left.

Types of Lopit words

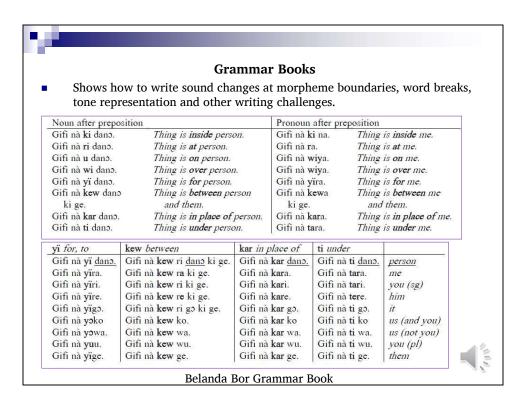| <u>Noun</u> | Owolo **hiteŋ moriŋ**. | *Cow saw **dikdik**.* |
| <u>Verb</u> | **Owolo** hiteŋ moriŋ. | *Cow **saw** dikdik.* |
| <u>Preposition</u> | Ottu moriŋ **de** hiteŋ. | *Dikdik comes **to** cow.* |
| <u>Possessor connector</u> | Ottu hiŋohu **no** tohoni. | *Dog **of** person comes.* |
| <u>Relative connector</u> | Ottu hiŋohu **nafa** lohonya hinee. | *Dog **that** bites goats comes.* |
| <u>Pronoun</u> | Owolo **inyieja** moriŋ. | *__He__ saw dikdik.* |
| <u>Demonstrative</u> | Ottu hiŋohu **inaŋ**. | *__This__ dog comes.* |
| <u>Number</u> | Ottu hiŋohu **naboite**. | *__One__ dog comes.* |
| <u>Quantity</u> | Afanu ŋohe **daŋ**. | *__All__ dogs come.* |
| <u>Indefinite</u> | Ottu hiŋohu **nabo**. | *A **certain** dog comes.* |
| <u>Adjective</u> | Ottu hiŋohu na **hitok**. | *Dog that **is big** comes.* |
| <u>Adverb</u> | Owolo hiteŋ **dee**. | *Cow watched **silently**.* |
| <u>Question word</u> | Hihuma iye **nyo** niya? | *__What__ are you doing there?* |
| <u>Connector</u> | **Lojo** iŋalio lottu, owolo hiteŋ moriŋ. | *__When__ evening came, cow saw dikdik.* |

Lopit Grammar Book

To make the grammar books a bit more readable, there are occasional overview lessons. Here we see a list of Lopit word categories with examples sentences. Next in this grammar book, there is a lesson for each of these categories and in this order.

## Grammar Books

- The functions of morphemes and word categories are shown in examples sentences, then their forms are compared in tables.

In (Nyax 3), *Nyaxolow* 'Hyena' talks about a certain *sagal* 'girl' he is thinking about. The suffix *-ong* on *sagalong* shows which *sagal* he is thinking about.

(Nyax 3)

*Ili onoc abag sagalong.*          'I really must marry this girl.'

The suffix *-ong* is the most common demonstrative near suffix on singular nouns. However, other singular nouns have different demonstrative near suffixes, as shown below. Nouns with the same final letter (such as *d*) sometimes have different suffixes.

| Singular Noun | Suffix | | Demonstrative near | Gloss |
|---|---|---|---|---|
| abad | -ong | stupid person | Abadong kadeläng. | This stupid person fell. |
| sad | -tong | bowl | Satong kadeläng. | This bowl fell. |
| bul | -dong | drum | Buldong kadeläng. | This drum fell. |
| amkadad | -song | chisel | Amkadatsong kadeläng. | This chisel fell. |
| bac | -cong | upper arm | Baccong kadeläng. | This upper arm fell. |
| nyang | -zong | crocodile | Nyangzong kadeläng. | This crocodile fell. |
| ya | -nong | meat | Yanong kadeläng. | This meat fell. |

Caning Grammar Book

Many lessons begin by explaining the function of a morpheme in its natural context, such as the demonstrative suffix –ong in Caning. Then immediately afterwards in the same lesson, the alternations of the morpheme are presented. If you look closely at the second box, you can see that three of the singular nouns end with the same consonant d, but each take a different unpredictable suffix. So, these alternations are also important for writers to remember.

## Grammar Books

- Shows how to write sound changes at morpheme boundaries, word breaks, tone representation and other writing challenges.

| | Infinitive | Complete | Incompl. | Continuous Past | Reason 'he' | Command Plural | |
|---|---|---|---|---|---|---|---|
| | (1) | (2) –sa | (3) | (4) –ăn | (5) -da | (7) –də | |
| b | ab | awso | aw | awăn | awda | əwdə | sit, ride |
| j | kaj | kajja | kay | kayăn | kayda | kəidə | bring |
| g | cig | cigsə | cii | ci'ŏn | cigdə | cigdə | wear |
| d | cud | cussu | cud | cudŏn | cuddu | cuddu | climb |
| | pad | passa | paa | pa'ăn | padda | pəddə | guard |
| f | lof | lofso | lof | lofăn | lofdo | lufdu | do magic |
| s | las | lassa | las | lasăn | ladda | ləddə | roll-up |
| m | ɲamm | ɲammsa | ɲamm | ɲammăn | ɲammda | ɲəmmdə | break |
| n | gon | gosso | goo | gonăn | goddo | guddu | grab |
| ɲ | guɲ | guɲju | guɲ | guɲŏn | guɲdu | guɲdu | agree |
| l | mal | malda | mal | malăn | malda | məldə | gather |
| r | wer | wersa | wer | werăn | werda, werra | wirdə | watch |
| w | dhiw | dhiwsə | dhiw | dhiwŏn | dhiwdə | dhiwdə | plant |
| y | koy | koyso | koy | koyăn | koyda | kuidu, kuyyu | cook |
| z | fez | fessa | fez | fezăn | fedda | fìddə | release |
| e | bee | beessa | bee | beenăn | beedda | bii'ə | say |
| i | bui | buisə | bui | buinŏn | buidə | buyyu | cultivate |

Gəəmg Grammar Book

The main purpose of grammar books is to show how to write sound changes at morpheme boundaries, word breaks, tone representation and other challenges for writing. Here the Gaahmg verb table shows how to write the irregular assimilation of root-final segments in various verb forms. Writers often struggle to remember how to write a certain verb when drafting a reading book. But referring back to this table can help them see the patterns and why they chose to write it in that way.

**Grammar Books**

- Shows how to write sound changes at morpheme boundaries, word breaks, tone representation and other writing challenges.

| Noun after preposition | | Pronoun after preposition | |
|---|---|---|---|
| Gifi nà **ki** danɔ. | *Thing is **inside** person.* | Gifi nà **ki** na. | *Thing is **inside** me.* |
| Gifi nà **ri** danɔ. | *Thing is **at** person.* | Gifi nà **ra**. | *Thing is **at** me.* |
| Gifi nà **u** danɔ. | *Thing is **on** person.* | Gifi nà **wiya**. | *Thing is **on** me.* |
| Gifi nà **wi** danɔ. | *Thing is **over** person.* | Gifi nà **wiya**. | *Thing is **over** me.* |
| Gifi nà **yï** danɔ. | *Thing is **for** person.* | Gifi nà **yïra**. | *Thing is **for** me.* |
| Gifi nà **kew** danɔ ki ge. | *Thing is **between** person and them.* | Gifi nà **kewa** ki ge. | *Thing is **between** me and them.* |
| Gifi nà **kar** danɔ. | *Thing is **in place of** person.* | Gifi nà **kara**. | *Thing is **in place of** me.* |
| Gifi nà **ti** danɔ. | *Thing is **under** person.* | Gifi nà **tara**. | *Thing is **under** me.* |

| **yï** *for, to* | **kew** *between* | **kar** *in place of* | **ti** *under* | |
|---|---|---|---|---|
| Gifi nà **yï** danɔ. | Gifi nà **kew** ri danɔ ki ge. | Gifi nà **kar** danɔ. | Gifi nà **ti** danɔ. | *person* |
| Gifi nà **yïra**. | Gifi nà **kew** ra ki ge. | Gifi nà **kara**. | Gifi nà **tara**. | *me* |
| Gifi nà **yïri**. | Gifi nà **kew** ri ki ge. | Gifi nà **kari**. | Gifi nà **tari**. | *you (sg)* |
| Gifi nà **yïre**. | Gifi nà **kew** re ki ge. | Gifi nà **kare**. | Gifi nà **tere**. | *him* |
| Gifi nà **yïgɔ**. | Gifi nà **kew** ri gɔ ki ge. | Gifi nà **kar** gɔ. | Gifi nà **ti** gɔ. | *it* |
| Gifi nà **yɔko** | Gifi nà **kew** ko. | Gifi nà **kar** ko | Gifi nà **ti** ko | *us (and you)* |
| Gifi nà **yɔwa**. | Gifi nà **kew** wa. | Gifi nà **kar** wa. | Gifi nà **ti** wa. | *us (not you)* |
| Gifi nà **yuu**. | Gifi nà **kew** wu. | Gifi nà **kar** wu. | Gifi nà **ti** wu. | *you (pl)* |
| Gifi nà **yïge**. | Gifi nà **kew** ge. | Gifi nà **kar** ge. | Gifi nà **ti** ge. | *them* |

Belanda Bor Grammar Book

Here the Belanda Bor grammar book shows where they decided to join and separate pronouns following prepositions. Although all nouns are separate, the first three pronouns are often joined to the preposition because of assimilation, elision or other processes. Although speakers often make wise writing choices when seeing the full paradigm, the choices are difficult to remember when they are drafting reading books without tables such as these.

**Grammar Books**

- Exercises give practice identifying morphemes and various constructions.

Exercise 12

In the sentences below, underline all prepositions. Do not underline any words that are not prepositions. The first sentence is done as an example.

(Mämb 3-4)
Lo'ngu moko üdü nga **'ba** nyihi <u>dongara</u>          *A big fight began <u>at</u> moon **between** two*
ye ngara hölï monoo ngori                                                  *great birds called Mämbïlïngänjä*
ka Mämbïlïngänjä ye **na** Mämbïlïngämä.      <u>*with*</u> *Mämbïlïngämä.*
(Mämb 7-8)
Ye na n<u>a</u> nyere hi ji ye raa                                  *Those with authority in their hands*
nabi ga'dee ye gu'bu di'ba nyihi.                             *chased them away from the moon.*
(Mämb 9)
Ye hölï ngori na roo, ye raa nabi                            *Then the two birds came to our land.*
mbi'dee r<u>o</u> dohii na 'bagajee.
(Mämb 14)
Mbili Mämbïlïngänjä na dikori do hu                   *Mambilinganja's ears hang around*
gewegewe mile mbili mehe yama.                        *her head like oversized spears.*

Bongo Grammar Book

The grammar books also have exercises after each lesson to give practice identifying morphemes and various constructions.

**Shortfalls of Books**

■ Not written from an emic, global or top-down viewpoint.

In closing, I'd like to mention a few drawbacks and benefits of these books for language writers. First, the books are not ideal in that they are not written from an emic, global or top-down viewpoint. That is, the books don't represent the thinking about the language patterns of the speakers themselves. Rather, the presentation is from my viewpoint as an outsider. As much as I'd like for the speakers themselves to draft the books, I haven't found a way to guide them in that process.

**Shortfalls of Books**

- Not written from an emic, global or top-down viewpoint.
- Not generally accessible for language communities
- Used by non-speakers more often than speakers.

Second, the books are too academic for many in the language community to engage. The books are not really intended for the general communities, but for writers who want to produce reading books for their communities. Often, even the writers are not able to effectively use the books on their own if they are not accustomed to using reference tools. They usually need assistance from outsiders to know which page to look at for relevant data as they draft books.

**Shortfalls of Books**

- Not written from an emic, global or top-down viewpoint.
- Not generally accessible for language communities
- Used by non-speakers more often than speakers.

**Benefits of Books**

- Comprehensive enough to cover 80% of language constructions involving the writing system.
- Contain quality data that can often be used in academic publications.

But having said this, the books do have benefits. They cover 80% or more of the language constructions involved in writing decisions. Because the data has been discussed and agreed-upon by languages speakers in a group setting, it is often more accurate than elicited data from a single speaker. So, much of the data can be used as a basis for academic writing.

**Shortfalls of Books**

- Not written from an emic, global or top-down viewpoint.
- Not generally accessible for language communities
- Used by non-speakers more often than speakers.

**Benefits of Books**

- Comprehensive enough to cover 80% of language constructions involving the writing system.
- Contain quality data that can often be used in academic publications.
- Adequately demonstrate the agreed-upon writing system to language developers.

Finally, the books do fulfill their main purpose as reference tools, which is that writers can use then for improved writing consistency. Academic publications typically include illustrative examples in IPA and the morphemes are often shown in only a few contexts. But these books show tables where all possible sound changes are represented in the orthography for each morpheme. They show where morphemes are bound and when they are free. They show how tone is represented in writing. They compare word lists with similar sounds so that writers can decide the sounds of other words. In short, they can enable writers to produce reading materials with improved writing consistency. And the improved consistency gives the writing system a chance to become standardized, even challenging Nilo-Saharan languages with all their

complexities. Thank you.

**Grammar Books**

- *Laarim Grammar Book* www.sil.org/resources/archives/58705
- *Didinga Grammar Book* www.sil.org/resources/archives/58715
- *Tennet Grammar Book* www.sil.org/resources/archives/58732
- *'Beli Grammar Book* www.webonary.org/beli/language/grammar/
- *Mundari Grammar Book* www.webonary.org/mundari/overview/copyright/grammar/
- *Caning Grammar Book* www.webonary.org/caning/language/grammar/
- *Lopit Grammar Book* www.webonary.org/lopit/language/grammar/
- *Belanda Bor* www.webonary.org/belandabor/language/grammar/
- *Bongo Grammar Book* www.webonary.org/bongo/language/grammar/
- *Gaahmg Grammar Book* https://www.webonary.org/gaahmg/language/grammar/
- *Jumjum Grammar Book https://www.webonary.org/jumjum/language/grammar/*
- *Reel Grammar Book https://www.webonary.org/reel/language/grammar/*

**References**

- Stirtz, Timothy. 2015. Rapid Grammar Collection as an Approach to Language Development. SIL Electronic Working Papers.
http://www.sil.org/resources/publications/entry/62483
- Stirtz, Timothy. 2018. Linguistic Checks: The Missing Link in Modern Language Development. SIL Electronic Working Papers.
https://www.sil.org/resources/publications/entry/76614