A Sketch of Ibi–so Morphology

a Toro–so dialect

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1 Overview

1.1 Introduction

The fieldwork on Ibi-so is being carried out under grant BCS 0853364 from the National Science Foundation (NSF), Documenting Endangered Languages (DEL) program, 2009 -12. The data for this grammar description was gathered from June - July 2012. The language consultant for Ibi-so is the tireless Nouhoum Kodio from Ibi (Commune de Sangha) and was carried out from June-July and August to mid-September 2012 in Bobo-Diouallso, Burkina Faso. The other members of the collective project have been Jeffrey Heath, PI, Brian Cansler, Samantha Farquharson, Laura McPherson, Kirill Prokhorov, Steve Moran, and the late Stefan Elders.

Ibi-so [ibi–sɔ̀] is a Dogon language spoken in Mali the villages of Ibi, Simero, Madougou, Donno-sogou, Kansanwa, Bodiwaal, and other small villages in the plains. External villages call the language Tɔrɔ-sɔ̀, ‘mountain-talk’ but the endoynms refer to each village’s language (saŋa-sɔ̀, etc).

This description is organized by morpho-syntactic category rather than feature as many morphemes have more than one morpho-phonological feature. The description is organized as follows: in §Error! Reference source not found. the Nominal Morphology is described and the Verbal Morphology in §4. Section titles are hyperlinked throughout the manuscript so the reader is encouraged to navigate between related sections. Since the data for this description was gathered in a short amount of time, and plans to be continued, notes to the author are left throughout the manuscript and highlighted. Comments are most welcome.
2 Phonology

2.1 Consonantal Inventory

The consonant inventory of Ibi-so is shown below.

<table>
<thead>
<tr>
<th></th>
<th>bilabial</th>
<th>dental</th>
<th>alveolar</th>
<th>postalveolar</th>
<th>palatal</th>
<th>velar</th>
<th>labiovelar</th>
</tr>
</thead>
<tbody>
<tr>
<td>plosive</td>
<td>p</td>
<td>b</td>
<td>t</td>
<td>d</td>
<td>k</td>
<td>g</td>
<td></td>
</tr>
<tr>
<td>nasal</td>
<td>m</td>
<td>n</td>
<td>ñ</td>
<td>n̄</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>fricative</td>
<td>s</td>
<td>ʃ</td>
<td>ʒ</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>affricate</td>
<td>dʒ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>approximant</td>
<td>r</td>
<td>j</td>
<td>w</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>lateral approximant</td>
<td></td>
<td></td>
<td>l</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Most consonants are voiced intervocically. Voiced velar stops spirantize between two-alike back vowels. Voiceless alveolar fricatives palatize before high, front vowels.

2.2 Vocalic Inventory

The vocalic inventory of Ibi-so is listed as follows:

[i e e a o ɔ u]

There is a surface [±ATR] contrast between the mid vowels and there is evidence to support that there is an underlying [±ATR] distinction among high and possibly low vowels as well.

Vowel length is phonemic except in the case of monosyllabic words which must be bimoraic due to a minimal word condition. Nasalized vowels were not found among the lexical items elicited. The following verbs behave as though they are vowel-final phonologically in that the word-final nasal is not sufficient to resolve the minimal-word condition and are therefore transcribed with a nasalized vowel although it is difficult to determine the status of the nasal.
2.2.1 Nasalized vowels

a. diiⁿ  lie down
b. nĩⁿ  breathe
c. têⁿ  chew
d. dëⁿ  sit
e. dâⁿ  hunt

The status of nasal-consonant clusters is discussed below.

2.3 Phonological Processes

In this section the key phonological processes which are discussed in this description are presented. Examples from the following chapters are linked below each subsection.

2.3.1 Clitic and suffix

A clitic differs from a suffix in Ibi-so based on its phonological behavior. Clitics do not harmonize with a root nor does a clitic invoke vowel harmony. Some clitics such as the Plural Clitic may carry their own tones. The Plural Suffix which is attached to certain nouns surfaces with a low tone as does the Plural Clitic. The difference in the two morphemes can be found among Agentive Nominals. The plural suffix [−w] precedes the agentive clitic [=n].

2.3.2 OCP Nasal

Additionally, a nasal suffix is impermissible when the root to which it attaches contains a nasal. The Possessive Pronoun Suffix shows an example of allomorphy between an alveolar nasal [n] and the labiovelar approximant [w]. The Causative is an example of nasal-deletion following a root with a nasal. It is proposed that nasal segments may not co-occur stem-internally. This rule applies to derived environments only as root-internally all polysyllabic roots

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1 The morphological consequences of this demarcation are discussed in the following chapters.
which begin with a nasal are followed by another nasal. Examples are found in the lexicon, with one counterexample, a borrowing from French, [músòrò] ‘shawl’.

2.3.3 Nasalization Spreading

Nasalization spreading also occurs at morpheme boundaries. The Reversive Suffix is an example of nasalization spreading from a nasal in the root to the rhotic initial consonant of the suffix [ru]. The Perfective negative aspect clitic has the same shape as the Reversive [ru], yet does not take nasalization from a root unless pronounced pronominals are present in the stem. The Transitive suffix also surfaces with a similar morpheme [ru], yet its behavior differs slightly from the above two mentioned morphemes in that if it follows a root without a nasal, it appears as [nu], and as [ɾu] after a root with a nasal. The transitive suffix vowel also harmonizes with a root whereas the above two do not.

2.3.4 Vowel Harmony

The difference between [+ATR] and [−ATR] vowels is slight and was often difficult to accurately determine. It is possible that the target of harmony is therefore height rather than [±ATR]. Word roots are harmonic for height and [±ATR] with exceptions occurring before nasal codas. Suffixes which trigger vowel harmony in verbs include the derivational suffixes Transitive, Reversive, and Causative, while inflectional suffixes do not trigger or undergo harmony.

2.3.5 Vowel Epenthesis

Obstruent codas are dispreferred in the language. An exception is found among stop codas found codas found in the Perfective aspect. Otherwise, among the majority of stems in the language, which ban obstruent codas a vowel is inserted according to the [ATR] and height/backness values of the vowels in the root, presented in the
The following vocalic template shows a basic illustration of the vowels which are associated with each TAM and derivational stem.

Vowel template.

2.3.6 Status of the Mora

Since the above monosyllabic roots are interpreted as being monomoraic, no words may surface with super heavy syllables. Examples are found among Reduplicated Perfective aspect, wherein the reduplicant is a copy of the root-initial consonant plus a high vowel (with backness harmony to the root). A bimoraic root then loses a mora if it would otherwise create a super-heavy syllable.

2.3.7 Tone

Although lexical tone on Noun and Verb roots is unpredictable, as may be noted in the lexicon, most verb stems have a falling tonal contour, where the final mora surfaces with a low tone. That is to say, if a stem such as the Progressive Aspect is inflected with the first person singular person suffix [−ê−m] the person suffix surfaces with a low tone, but with the third person singular suffix, simply [−ê] the tone falls on the vowel. Additionally, many stems have phrase-final lowering, whether a root is accompanied by a suffix or a clitic, as shown in the examples of Focus Possession. Ibi-so does not have prefixes it is suggested that tonal linking and spreading takes place primarily from left to right.

Root-tone lowering is found among nominal forms, including the Possessive paradigms. Certain verb stems, for example the Imperative Mood and Past tense which carry a high tonal melody on the verb stems, are susceptible to depressor consonants, whereas initial-voiced stops are followed by a low tone, and initial-voiceless stops are followed by a high tone.
3 Nominal Morphology

3.1 Introduction

Ibi-so, like other Dogon languages, is an agglutinating language with inflection and derivation processes occurring through the affixation of morphemes to a root. Nouns in Ibi-so are morphologically affected in the following ways:

Singular and Plural noun stems are presented in §3.2 and §3.3 covers various processes concerning Possession, particularly focusing on tonal effects. Demonstratives are covered in §3.4 and Coordinating conjunctions in §3.5. Adjectives, including Numerals: túrù (tíi) are presented in §3.6. The process of forming Compounds is described in §3.7 and Reduplicated Nouns are presented in §3.8. The process by which a verbs are changed into Agentive Nominals is shown in §3.9 and the instance of Case marking: Accusative is in §3.10.

3.2 Singular and Plural

Most nouns are marked as being plural with the plural clitic [=bɛ].

3.2.1 Plural Clitic

<table>
<thead>
<tr>
<th>noun</th>
<th>plural</th>
<th>gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noun</td>
<td>Plural</td>
<td>Gloss</td>
</tr>
<tr>
<td>a. ɲę̞ę̞</td>
<td>ɲę̞ę̞=bɛ</td>
<td>fly</td>
</tr>
<tr>
<td>b. ǳʊ</td>
<td>ǳʊ=bɛ</td>
<td>dog</td>
</tr>
<tr>
<td>c. sisá</td>
<td>sisá=ɓɛ</td>
<td>bird</td>
</tr>
<tr>
<td>d. ɡámmà</td>
<td>ɡámmà=ɓɛ</td>
<td>cat</td>
</tr>
<tr>
<td>e. pèdʒʊ</td>
<td>pèdʒʊ=ɓɛ</td>
<td>sheep</td>
</tr>
<tr>
<td>f. ɓibü</td>
<td>ɓibü=ɓɛ</td>
<td>rock</td>
</tr>
</tbody>
</table>
g. kídʒé kídʒé=bè thing
h. tììⁿ tììⁿ=bè tree
i. qììnzì qììnzì=bè house
j. tììzù tììzù=bè wood (firewood)

The plural marker is considered a clitic as it has no tonal or vocalic impact on the noun-stem. No animacy distinction has been found yet in Ibi-so, as shown in the animate (a - e) and inanimate nouns (f - j).

Some human nouns take the plural suffix [-w] or are suppletive.

3.2.2 Irregular nouns (‘woman’, ‘child’, ‘person’, ‘thing’)

<table>
<thead>
<tr>
<th>Noun</th>
<th>Plural</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. ínnè</td>
<td>ínnè–w</td>
<td>person</td>
</tr>
<tr>
<td>b. ɲááɾá</td>
<td>ɲá–w</td>
<td>woman</td>
</tr>
<tr>
<td>c. ájnè</td>
<td>ářè–w</td>
<td>man</td>
</tr>
<tr>
<td>d. ìì</td>
<td>úřù</td>
<td>child</td>
</tr>
<tr>
<td>e. ìì jáà</td>
<td>ùŋŋò</td>
<td>girl</td>
</tr>
<tr>
<td>f. ájnè ìì</td>
<td>úřù=bè</td>
<td>boy</td>
</tr>
<tr>
<td>(note that ‘child’ in the compounds boy’ and ‘girl’ are reversed)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. kídʒé</td>
<td>same</td>
<td>thing</td>
</tr>
</tbody>
</table>

Some nouns which refer to human terms are (a - c) are marked with [-w], the singular nouns (d - f) and change in the stem from their plural counterparts. Note that the Agentive Nominals below are marked with the [-w] for plural as well. The fact that all these noun roots have a nasal nasalized or a segment may also contribute to the fact that the plurals vary, although most nouns are not irregular for pluralization as shown above.
Although some Dogon languages do have animacy and other noun class distinctions, the only possible residual noun class marker thus far encountered is the bound noun-ending [nɛ].

3.2.3 Nouns which end in [nɛ]

<table>
<thead>
<tr>
<th>Noun</th>
<th>Gloss</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>ãjné</td>
<td>man</td>
</tr>
<tr>
<td>b.</td>
<td>ìnné</td>
<td>person</td>
</tr>
<tr>
<td>c.</td>
<td>dògò kìné</td>
<td>back</td>
</tr>
<tr>
<td>d.</td>
<td>kìné</td>
<td>liver</td>
</tr>
<tr>
<td>e.</td>
<td>nìnné</td>
<td>tongue</td>
</tr>
<tr>
<td>f.</td>
<td>bënné</td>
<td>rib</td>
</tr>
</tbody>
</table>

Although many of these nouns are body parts, the distinction does not seem to be based on inalienability as inalienable plural nouns take the regular plural suffix. The words which refer to non-body parts (a - b) are marked with the irregular plural suffix [–w]. Note than most of the nouns with [nɛ] endings are mass nouns, taking the adjective ‘a lot’ [dʒòjì] (c - f) to indicate more than one.

3.3 Possession

Among possessed nouns, there are tonal changes. Particularly, a NP as prenominal possessor causes nouns to lose their tones and revert to a default low tone.

The possessive pronouns for nouns other than kin terms are listed here. Note the allomorphy in the second person singular suffix [w ~ n] which is mentioned above.

3.3.1 Possessive Pronoun Suffix

<table>
<thead>
<tr>
<th>Pronoun Suffix</th>
<th>a.</th>
<th>b.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>èřɛ</td>
<td>pédzù</td>
</tr>
<tr>
<td>èřɛ–mò</td>
<td>èřɛ–ùmò</td>
<td>pédzì–mò</td>
</tr>
</tbody>
</table>
The possessor morphemes all have low tones except for the third person singular. A noun a possessor morpheme is not altered tonally from its citation form, however note that the final vowel in (b) ‘sheep’ is fronted. A possessed noun does not undergo vowel harmony; compare the vowels in (a) with (b). Since the noun is auto-segmentally unaffected by the possessor morpheme, it is considered a Clitic.

Segmentally, the example in (a) appears with [w] as the second singular possessive clitic, while the example in (b) surfaces with [n]. Shown here in further examples, [n] is the second person singular possessive allomorph following nouns without nasals.

3.3.2 Possessive Pronoun Clitic Allomorphy

Nouns without a nasal in the root take the suffix [–ñ] as the second singular possessive morpheme.

a. idzù idzú–ñ dog
b. tórù tórú–ñ bull
c. pédzù pédzú–ñ sheep
d. bòqi bòqi–ñ belly button

Nouns with a nasal in the root take the second singular possessive suffix allomorph [–w].

a. Noun 2S.POSS Gloss
b. nàà náá–w cow
c. gámmá gámmá–w cat
Nouns with a nasalized liquid in the root also take the suffix allomorph [–w].

a. àřá  àřá–w   rain
b. čřé  čřé–w   goat
c. sářá  sářá–w   broom

However, if a nasal in the root is followed by a consonant, in most cases, the allomorph [–n] is suffixed to the root.

a. kíné  lómbó   kíné  lómbó–n   heart
b. ʣáŋdúrú   ʣáŋdúrú–n   donkey
c. nàà  gúrw   nàà  gúrw–n   heifer

In some words, the suffix allomorph [–w] appears even if there is a consonant following a root-internal nasal (a - b). Cases such as (b) are very rare among polysyllabic roots, this word being a borrowing from French, in that in the entire lexicon this was one the only instances of a word-initial nasal that is not followed by another nasal in the root.

a. kámbé   kámbé–w   talisman
b. káránkáá   káránká–w   vestibule
c. múšòrò   múšòrò–w   shawl
d. ǯáŋgíni   ǯáŋgíni–w   body
An analysis of this issue will be examined in another manuscript. What remains curious is as to why the nouns ‘horse’ and ‘sheep’ change their final vowels from before the possessive suffix. Other nouns which end in a high vowel do not show this same alternation ([i]–[w] ‘my child’).

To indicate focus on the possessed noun, ‘my X’, the suffix [ji] is attached to the possessive pronoun suffix.

### 3.3.3 Focus Possession

| a. | horse | sòŋù–má–ji | sòŋù–ómó–ji |
| b. | goat  | e̱rè–má–ji | e̱rè–ómó–ji |
| c. | cat   | gàmmà–má–ji | gàmmà–ómó–ji |
| d. | dog   | idʒù–má–ji | idʒù–ómó–ji |

Compare the possessor clitic above with the focus clitics here. While the possessor clitics above all carry low tones, yet before the focus marker [ji], they are all high. Further, note the change in [ATR] values of the possessor clitics and the nasalization (compare a - c with d) of the focus.
marker. Thus, it is suggested that the possessive pronoun clitics have underlying high tones which undergo phrase-final lowering word-finally.

While nouns including inalienables are marked with the above clitics as possessors, kin terms or familial relations are marked by pronominal morphemes. Although the pronominal morpheme does not alter the tones of a root to which it precedes, in the case of possessive constructions, the tones the possessed noun are lowered.

3.3.4 Possessive Pronoun Preclitic: kin terms

a. sùnąʁò younger brother
   mú sùɲũʁò ɛmɛ sùɲũʁò
   ú sùɲũʁò ě sùɲũʁò
   wó sùɲũʁò bé sùɲũʁò

b. bórù paternal uncle
   mú bórù ɛmɛ bórù
   ú bórù ě bórù
   wó bórù bé bórù

c. nĩnù maternal uncle
   mú nĩnù ɛmɛ nĩnù
   ú nĩnù ě nĩnù
   wó nĩnù bé nĩnù

3.3.5 Possessive Pronoun Preclitic with Plural for familial relations

<table>
<thead>
<tr>
<th>gloss</th>
<th>noun</th>
<th>1st POSS</th>
<th>1st POSS=PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. friend</td>
<td>ţrŋ̂̂ɛ</td>
<td>mú ţrŋ̂̂ɛ</td>
<td>mú ţrŋ̂̂ɛ=bè</td>
</tr>
</tbody>
</table>
b. mother  nâá  mǔ nàá  mǔ nàá= bè

c. father  bàá  mǔ bàá  mǔ bàá= bè

A familial plural possessed noun takes the possessor Possessive Pronoun Preclitic and the Plural Clitic clitic.

As with the pronominal constructions above, a noun which precedes another noun and acts as a possessor lowers the tone on the noun, illustrating that the tone-lowering is triggered by the possessive construction rather than a possessive morpheme.

3.3.6 NP as prenominal possessor

<table>
<thead>
<tr>
<th></th>
<th>ginní</th>
<th>nàářá</th>
<th>ājnè</th>
</tr>
</thead>
<tbody>
<tr>
<td>house</td>
<td>woman</td>
<td>man</td>
<td></td>
</tr>
</tbody>
</table>

a. séèdù ginní  Seydou’s house

b. nàářá ginní  a woman’s house

c. ājnè ginní  the man’s house

Here we see that when a noun acts as a prenominal possessor, it deletes the tones on following noun, yet the possessor noun’s tones are unaltered.

The scope of the tonal deletion of a constituent which follows a noun possessor is shown here, beginning with a noun which is modified by an adjective and then a number.

3.3.7 Possessed noun and modifier

<table>
<thead>
<tr>
<th></th>
<th>ginní</th>
<th>dijè</th>
<th>démířè</th>
<th>pèdʒù</th>
</tr>
</thead>
<tbody>
<tr>
<td>house</td>
<td>big</td>
<td>fat</td>
<td>sheep</td>
<td></td>
</tr>
</tbody>
</table>

a. ginní dijè  big house

b. séèdù ginní dijè  Seydou’s big house

c. séèdù pèdʒù démířè  Seydou’s fat sheep
A modifier which follows a possessed noun also undergoes tone lowering.

3.3.8 Possessed noun, modifier, and numeral

a. sëëdù ginni kûrôj  Seydou’s six houses
b. sëëdù ginni dijë kûrôj  Seydou’s six big houses
c. sëëdù pëdʒû dëmirôj  Seydou’s six fat sheep

As shown in §3.6.2 numerals do not affect the tone of the noun they modify nor are they affected. Here, we see that the numeral continues to be independent of the possessor-noun-modifier phrase.

3.3.9 Deixis

a. sëëdù ginni n kô  a house of Seydou there

A deixis marker is not affected by the tonal-deletion of the noun possessor phrase.

3.3.10 Pronoun plus classifier as post-nominal possessor

a. ginni=mò  my house
b. pëdʒû=bë  sheep (PL)
c. pëdʒû=mò  my sheep
d. pëdʒû dëmirôj=mò  my fat sheep
e. pëdʒû dëmirôj=mô kûrôj  my six fat sheep

As shown above, the Possessive Pronoun Suffix and Plural Clitic, here as (a - c) do not undergo or cause tonal affects on the noun except that there is a phrase-final tone lowering effect. Note
that when the nominal is possessed by a possessive pronoun, even with an intervening adjective (d) or a following numeral (e), the tones on each constituent are unaffected.

3.4 Demonstratives

As shown in the demonstrative examples here, the tones of the noun are unaffected by the locative demonstrative.

3.4.1 Locative demonstratives

a. ěřě úwò a goat here  
   d. ěřě jěwò a goat there
b. pědʒū úwò a sheep here  
   e. pědʒi jěwò a sheep there
c. sòŋù úwò a horse here  
   f. sòŋú jěwò a horse there

3.5 Coordinating conjunctions

To conjoin two nouns in a phrase, the conjunction [lèè] is used.

3.5.1 Conjunction ‘and’

a. kǎdija lèè ìdámà lèè  
   Kadija and Adama
b. j naïřá lèè ájnè lèè  
   a woman and a man

c. ú lèè mú lèè  
   you and I

d. kǎdijà lèè nù lèè ìbè jáàj  
   Kadija and Nouhoum left

e. j naïřá lèè ájnè lèè dʒé–dʒé–wŋ–è  
   a woman and a man are arguing

The conjunction ‘and’ is used after each noun (a - b, d - e) or pronoun (c) in a coordinating conjunction phrase. Additionally, note that while the 3rd person plural pronoun is repeated after the subject noun phrase before the verb which is marked for plural in (d), a similar phrase in (e) does not require the same pronoun.
3.6 Adjectives

Among unpossessed adjective phrases, the final tone of the noun becomes low if it is not already, and there is no change on the modifier.

3.6.1 Tone on adjective phrases

<table>
<thead>
<tr>
<th>noun</th>
<th>adjective</th>
<th>black</th>
<th>white</th>
<th>big</th>
</tr>
</thead>
<tbody>
<tr>
<td>goat</td>
<td>èrè</td>
<td>èrè dèmířè</td>
<td>èrè pírú</td>
<td>èrè géwù</td>
</tr>
<tr>
<td>sheep</td>
<td>pédʒú</td>
<td>pédʒú dèmířè</td>
<td>pédʒú pírú</td>
<td>pédʒú géwù</td>
</tr>
<tr>
<td>horse</td>
<td>sònů</td>
<td>sònů dèmířè</td>
<td>sònů pírú</td>
<td>sònů géwù</td>
</tr>
</tbody>
</table>

The tone of the example ‘goat’ (a) shows the process of final tone-lowering before an adjective most clearly as the final syllable is underlingly high.

Here, numerals are listed. Note that in counting, the number ‘one’ differs from its citation form.

3.6.2 Numerals: túrù (tíí)

<table>
<thead>
<tr>
<th>numeral</th>
<th>form</th>
<th>meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>pédʒú</td>
<td>sheep</td>
</tr>
<tr>
<td>b.</td>
<td>èrè</td>
<td>goat</td>
</tr>
<tr>
<td>c.</td>
<td>jáářá</td>
<td>woman</td>
</tr>
<tr>
<td>d.</td>
<td>ājnè</td>
<td>man</td>
</tr>
</tbody>
</table>

Neither numeral nor noun are affected by the addition of a number.

The numerals from ‘2’ to ‘10’ are shown as follows:

3.6.3 ‘2’ to ‘10’

léj

tàánú
nàji
númòŋò
kùròj
sàj
gàárà
tùwò
pèrù

3.6.4 ‘11’ to ‘5000’

pèrù guú tír sigè 11  pé nùmòŋò  50
pèrù guú léj sigè 12  pé númòŋò tír sigè  51
pèrù guú táànù sigè 13  pèrù kùròj  60
pèrù guú náj sigè 14  pèrù kùròj tír sigè  61
pèrù guú númòŋò sigè 15  pé sàj  70
pèrù guú kùròj sigè 16  pé sàj tír sigè  71
pèrù guú sój sigè 17  dògò sùŋù  80
pèrù guú gàárá sigè 18  dògò sùŋù túrù  81
pèrù guú tùwò sigè 19  dògò sùŋù pèrù  90
pé léj 20  dògò sùŋù pèrùgù tír sigè  91
pé náj tìr sigè 21  sùŋù  100
pé táànù 30  sùŋù túrù  101
pé táànù tír sigè 31  sùŋù léj  200
pé náj 40  sùŋù léj táàmá túrù  201
pé náj tìr sigè 41  sùŋù léj táàmá léj  202
sùŋù táànù
mùŋù
mùŋù númòŋò  5000

3.7 Compounds

Compounds in Ibi-so are left-headed.

3.7.1 Compound nouns

<table>
<thead>
<tr>
<th>Nouns</th>
<th>Glosses</th>
<th>Compound</th>
<th>Gloss</th>
</tr>
</thead>
</table>

Two nouns are considered a compound in Ibi-so when they semantically and phonologically act as a unit. From these examples it is not possible to determine if vowel harmony is an active process in compounding. Tonally, a compound acts differently from a NP as prenominal possessor. As shown in examples (a - c), the head of the compound adopts all high tones while the non-head retains its citation-form lexical tones. Examples (d - e) illustrate compounds in which not only does the head noun surface with all high tones, the non-head noun emerges with the opposite of its lexical tonal melody; high-low becomes low-high (d) and low becomes high (e). A third pattern is witnessed among the nouns in (g - j). The non-head noun surfaces with low tones despite its lexical form, and the head nouns all emerge with high tones save for the example in (h).

3.8 Reduplicated Nouns
Dogon languages often have nouns with apparent initial reduplication Cv– (animal names, etc.). As shown below, some stems in the Reduplicated Perfective aspect (statives) also use a copy of the root-initial consonant plus the high, front vowel [Ci–].

3.8.1 Initial Cv– reduplication in nouns

a. grasshopper  ki–káá
b. beetle/bug  pi–pílê
c. hyena  tí–tàà
d. hawk  tí–têpù

The tones of nouns have yet to be investigated in detail, thus the author is unsure at this point of the tonal variation found on the reduplicant.

3.9 Agentive Nominals

The agentive is formed by attaching the agentive clitic [=None] to a verb root. An underlying mid vowel underspecified for backness or [ATR] features is epenthesized between the agentive clitic and the root so as to ensure that all syllables are of the type CV. As discussed in detail below, the

Verb Root determines the vowel which is inserted. The quality of the agentive stem vowel is determined by the vowel(s) in the verb root’s spreading of its height, backness, and [ATR] features as shown below. The final tone of the noun stem becomes high, and the agentive suffix has a low tone. The agentive stem takes the irregular plural suffix [–w], which suffixes between the final vowel and the agentive clitic [=n].

3.9.1 Agentive clitic and plural suffix

<table>
<thead>
<tr>
<th>Root</th>
<th>Agentive SG</th>
<th>Agentive PL</th>
<th>Gloss</th>
</tr>
</thead>
</table>
Mid vowels in a root have a surface contrast for [±ATR] and spread their value to the
epenthesized vowel as shown in examples (a - b). Although there evidence to support an
underlying contrast for the feature [±ATR] among high vowels [i u] in Ibi-so, all high vowels
surface with the value [+ATR]. High, back vowels spread their backness and underlying [-ATR]
or [+ATR] feature to the epenthesized agentive vowel as shown in examples (c) - (d)
respectively, and underlying [−ATR] front, high vowels in (e - g). Roots with low vowels (h),
spread their low feature onto the agentive epenthesized vowel. Roots of the type /CV/ (i - m),
copy their final vowel before the agentive suffix. The example in (n) is an exception to the
above stated generalizations in that the epenthesized vowel does not match the root vowel in terms of its backness feature.

The fact that the plural marker precedes the agentive marker is unusual as inflectional morphology usually follows derivational. However, if the plural suffix is interpreted as being a suffix, while the agentive marker is presented as a clitic, the analysis is somewhat more straightforward. Otherwise, if both markers were interpreted as being suffixes, the plural morpheme would have to be seen as being infixed between the agentive and the root.

3.10 Case marking: Accusative

Transitive phrases take the accusative suffix [–n] on the object noun.

3.10.1 Accusative case

a. lág hit aa. ant reprimand
   múŋ i lág–àŋgé–m I hit a child múŋ i–n àntó tóŋ–gé–m child
b. sinn carry on back bb. irob breast feed
   mú i sinn–éwgé–m I carry a child mú i–n iro ob–àŋg–é–m child

c. dzënn take cc. na give birth
   mú i dzën–éwgé–m I take a child mú i i na–àŋg–é–m to a child

The accusative suffix can only be seen when the verb is vowel-initial; compare (a - c) with (aa - cc). Curiously, not all verbs display the accusative suffix as shown with the vowel-initial verb, ‘buy’ below, preceded by various objects, both animate and inanimate.

a. éb buy
   mú éřé éb–éwgé–m I am buying a goat
   mú téj éb–éwgé–m I am buying tea
mù ídʒi ǽb–ẽwɡé–m̀ I am buying a dog
mù ū ū ǽb–ẽwɡé–m̀ I am buying fruit
As mentioned above, Ibi-so is an agglutinating language. Verb stems are inflected and derived mostly through the addition of suffixes to a verb root.

4.1 Slot template

The following combinations illustrate the placement of elements in the verb stem.

4.1.1 Combinations of affixes

1 mūūnii sinnirūm
mū- ū- -ṅ iī sīnn -ī -rū -m
1S 2S Accusative child carry baby on back stative neg 1S
child I carry baby on back

I did not put a child on her back.

2 iī dogon kunnorūm
iī dogon kun -ɔ -rū -m
child back insert Final mid vowel neg 1S
child back I did not put

I did not put the child on your back.

3 tān pinnērūm
tān pinn -ɛ -rū -m
door close Final front, mid vowel neg 1S
door I did not close

I shut the door.

4 sūn nārū gōntūm
sūn nāa -rū gōn -tū -m
rope braid (rope) reversive take off, take out pfv 1S
rope unbraid I took out

I unbraided the rope.
I did not unbraid the rope.

I made you unbraid the rope.

I did not make you unbraid the rope.

I am unbending you.
I am standing you up.

9 wóntébúrú
wó- -n téb -ú -rú
3PL Accusative bend Final high, back vowel reversive
I am unbending you

gúgondóm
gú- gó -n -dó -m
take off, take out take off, take out transitive fut 1S
I will take out

I will unbend you.

Therefore, the following verbal template shows the placement of constituents in the verb stem although tense, aspect, and mood overlap (see negative) with marking for subject.

4.1.2 Verb template

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>mü</td>
<td>1S</td>
<td>same</td>
<td>Ci/u</td>
<td>μμ</td>
<td>PERF</td>
<td>ru</td>
<td>REV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ú</td>
<td>2S</td>
<td></td>
<td></td>
<td></td>
<td>PAST</td>
<td>MP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>wó</td>
<td>3S</td>
<td></td>
<td>IMPERF</td>
<td></td>
<td>CAUS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>émé</td>
<td>1P</td>
<td></td>
<td>IMPER</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>èè</td>
<td>2P</td>
<td></td>
<td>PROG</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>bèè</td>
<td>3P</td>
<td></td>
<td>HABIT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The following vocalic template shows a basic illustration of the vowels which are associated with each TAM and derivational stem.

4.1.3 Vowel template

<table>
<thead>
<tr>
<th>chaining</th>
<th>inflectional</th>
<th>derivational</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROOT</td>
<td>ε/ı</td>
<td>ε</td>
</tr>
<tr>
<td></td>
<td>e/i</td>
<td>i</td>
</tr>
<tr>
<td></td>
<td>o/u</td>
<td>u</td>
</tr>
<tr>
<td></td>
<td>o/u</td>
<td>u</td>
</tr>
<tr>
<td></td>
<td>o/u</td>
<td>u</td>
</tr>
</tbody>
</table>

| root | a  | a  | a  | a  | a  | a  | a  | a  | a  |

32
4.2 Verb Root: Chaining Form

It is proposed that most verbs in Dogon languages are underlyingly CVC and emerge with a final vowel due to a high-ranked constraint banning syllable codas. The surface final vowel is determined by the underlying root vowel’s features and the TAM of the verb. Therefore, the verb root in Dogon is an abstract concept that is determined from the behavior of the verb stem in various inflectional and derivational stems. In Ibi-so, verb roots may be garnered by examining the chaining form, an uninflected verb which is chained to a ‘dummy’ verb such as ‘want’ or ‘can’, and the imperative mood stem. The former shows the tone of the verb root while the latter illustrates its vocalism.

Verb roots with underlying mid, [−ATR] vowels surface with a copy of the root vowel as the final vowel in both imperative and citation stems. Depressor consonants affect the tones of the imperative stem: voiced consonants lower tones while voiceless consonants raise tones. The underlying tones of the verb root are found on the citation stem, with the root melody being spread from the root to the final vowel suffix.

4.2.1 Mid, [−ATR] vowel roots

<table>
<thead>
<tr>
<th>Root</th>
<th>Imperative Stem</th>
<th>Citation Stem</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>dëb</td>
<td>dëb–ë</td>
<td>cover</td>
</tr>
<tr>
<td>b.</td>
<td>këër</td>
<td>këër–ë</td>
<td>bite</td>
</tr>
<tr>
<td>c.</td>
<td>dëg</td>
<td>dëg–ë</td>
<td>lick</td>
</tr>
<tr>
<td>d.</td>
<td>nëp</td>
<td>nëp–ë</td>
<td>lean</td>
</tr>
<tr>
<td>e.</td>
<td>pëg</td>
<td>pëg–ë</td>
<td>nail</td>
</tr>
<tr>
<td>f.</td>
<td>nër</td>
<td>nër–ë</td>
<td>file</td>
</tr>
<tr>
<td>g.</td>
<td>sëm</td>
<td>sëm–ë</td>
<td>sweep</td>
</tr>
</tbody>
</table>
4.2.2 Mid, [+ATR] vowel roots

<table>
<thead>
<tr>
<th>Root</th>
<th>Imperative Stem</th>
<th>Citation Stem</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>d.</td>
<td>bodʒ</td>
<td>bódʒ–ó</td>
<td>bódʒ–ú  bury</td>
</tr>
<tr>
<td>e.</td>
<td>ob</td>
<td>ób–ó</td>
<td>ób–ú    give</td>
</tr>
</tbody>
</table>

We see in the imperative stem that the front, mid vowel roots (a - b) emerge with front vowel suffixes while the back, mid vowel roots (c - e) surface with back vowel suffixes. The citation suffixes for [+ATR] root vowels are all the high, back vowel [-u].

Now that we have determined that [-ATR] vowel roots surface with a copy of the root vowel in both citation and imperative stems, and [+ATR] vowel roots take [-u] as the final
vowel in the citation form and a copy in the imperative stem, we may examine the surface opaque low and high vowel roots.

### 4.2.3 Low vowel roots

<table>
<thead>
<tr>
<th>Root</th>
<th>IMP</th>
<th>Citation</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>lab</td>
<td>láb–á</td>
<td>láb–à</td>
</tr>
<tr>
<td>b.</td>
<td>bar</td>
<td>bár–á</td>
<td>bár–ù</td>
</tr>
<tr>
<td>c.</td>
<td>dʒaŋ</td>
<td>dʒaŋ–á</td>
<td>dʒaŋ–ù</td>
</tr>
<tr>
<td>d.</td>
<td>lág</td>
<td>lág–á</td>
<td>lág–ù</td>
</tr>
<tr>
<td>e.</td>
<td>pąq</td>
<td>pąq–á</td>
<td>pąq–ù</td>
</tr>
<tr>
<td>f.</td>
<td>dąq</td>
<td>dąq–á</td>
<td>dąq–ù</td>
</tr>
<tr>
<td>g.</td>
<td>táb</td>
<td>táb–á</td>
<td>táb–ù</td>
</tr>
</tbody>
</table>

The verb root in (a) is proposed to have underlying [–ATR] root vowels as its surfaces with a copy of the root vowel in both citation and imperative form in the same manner as the mid vowels above. By the same reasoning, (b - g) take a final [–u] and are hypothesized to be underlying [+ATR] although they surface with the default [–ATR] value for low vowels.

It is proposed that underlingly [–ATR] high vowel roots (a - e) surface with a mid-vowel suffix.

### 4.2.4 High vowel roots

<table>
<thead>
<tr>
<th>Root</th>
<th>Citation Stem</th>
<th>IMP</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>bĩŋ</td>
<td>bĩŋ–è</td>
<td>bĩŋ–é</td>
</tr>
<tr>
<td>b.</td>
<td>bīr</td>
<td>bīr–è</td>
<td>bīr–é</td>
</tr>
<tr>
<td>c.</td>
<td>jīg</td>
<td>jīg–è</td>
<td>jīg–è</td>
</tr>
</tbody>
</table>
While underlyingly [+ATR] high vowel roots (f - i) surface with the high, front vowel suffix. Among roots with high vowels, there are no final [–u] suffixes. The reason why high vowel roots may not surface with high vowel suffixes is not known, although it is hypothesized that it may be due to an OCP violation banning successive high, back vowels.

Stative verb stems act slightly differently than active verbs in that they end in a high, front vowel in citation form and with a mid, front vowel in the imperative mood despite the root vowel’s quality or height. The tone on the citation form of stative roots is the lexical tone of the verb root; it is unpredictable.

4.2.5 Stative roots

<table>
<thead>
<tr>
<th>Root</th>
<th>Citation</th>
<th>IMP</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>teb</td>
<td>téb–í</td>
<td>téb–é</td>
</tr>
<tr>
<td>b.</td>
<td>ger</td>
<td>gér–í</td>
<td>gér–é</td>
</tr>
<tr>
<td>c.</td>
<td>tôdʒ</td>
<td>tôdʒ–í</td>
<td>tôdʒ–é</td>
</tr>
<tr>
<td>d.</td>
<td>ɨŋ</td>
<td>ɨŋ–í</td>
<td>ɨŋ–é</td>
</tr>
<tr>
<td>e.</td>
<td>dʒiŋ</td>
<td>dʒiŋ–í</td>
<td>dʒiŋ–é</td>
</tr>
<tr>
<td>f.</td>
<td>tuŋ</td>
<td>tűŋ–í</td>
<td>tűŋ–é</td>
</tr>
<tr>
<td>g.</td>
<td>pub</td>
<td>pűb–í</td>
<td>pűb–é</td>
</tr>
<tr>
<td>h.</td>
<td>kum</td>
<td>kűm–í</td>
<td>kűm–é</td>
</tr>
<tr>
<td>i.</td>
<td>do</td>
<td>düw–í</td>
<td>düw–é</td>
</tr>
<tr>
<td>j.</td>
<td>baŋ</td>
<td>baŋ–í</td>
<td>baŋ–é</td>
</tr>
</tbody>
</table>
k. waq  \textit{waq}-\textit{jɛ}  wâjîq-\textit{ɛ}  yawn

l. tab  \textit{tâb}-\textit{i}  tâb-\textit{ɛ}  start

Some \textit{nasal-final/nasalized vowel} roots do not take a final vowel.

4.2.6 Nasal-final roots without epentheses

a. dââⁿ  hunt
b. dêēⁿ  sit, sit down
c. diń  lie down
d. sôṅ  unbraid

4.2.7 Other (exceptions)

a. dʒôŋ–ə  heal
b. màj–i  make
c. nêŋ–ú  lean
d. nî–i nî–î  sing
e. nîmîŋû bêê  remember

Vowel final roots

a. guw–ê  guw–ê  'guw–ê?  steal

Tonally, each verb root is associated with a melody. The melody spreads from the root vowel to the epenthesized final vowel in the chaining form. Each stem must surface with at least one high toned vowel. Since each verb root melody must contain at least one high tone, there is a possibility that the language could be considered pitch-accent instead of tone, with one accent per word. Throughout the manuscript, verb roots are shown, where available, in abstract form with their underlying tone and [ATR] specifications.

The following inflectional positive categories are presented in this grammatical overview.

4.2.8 Inflectional Positive Categories

Perfective  (compl)  -\textit{jɛ}  ~ -dʒɛ  ex. lâg-dʒâ-în  ‘I ate’
perfor statives -aa- ~ -jaaj- ex. dog-aa-/suq-aa- ‘(the work) it is finished’

perfor for mp -te- ex. bar-i-te-me-m ‘(sugar) was increased’
ex. wo baŋ-a veŋ-e-te-me-m ‘when I came, he was hidden’
ex. wo n daa-j-ti-n ‘he was killed’
ex. laŋ-i ji-i-te-me-m ‘when I came, he had been hit’

past -bi- ~ -be- ex. lágá-bí-m ‘I hit’

past focus -bo- ex. lágá-bó-m ‘it was me who hit’

habitual ex. lágáwn jé tábám ‘I am always hitting’
ex. laq-e-m ‘(every day) I hit’

progressive -ŋe- ex. láq-á-wgé-m ‘I am hitting’

future, -do- ex. lágá-dó-m ‘I will hit’

imPerfective

4.3 Inflectional Stems

As noted above, the verb root in Ibi-so is an abstract extrapolation based on the behavior of various verb stem forms. The verb root is helpful in determining the tonal and vocalic affects of the various inflectional suffixes found in the language. In addition to each verb stem listed, the verb root is shown with its underlying vocalism and tone.

The imperative mood is formed by suffixing a short vowel to front vowel, CVC verb roots (a - c) in the singular and a long vowel to the plural. Roots which are CVV and contain mid, front vowels underlyingly are altered tonally (c), and those with low vowels (e - f) take the suffix [-j] in the plural. A mid, [-ATR] CVC root also takes the [-j] suffix in the plural. The imperative singular stem takes high tone melody unless the initial consonant is voiced in which
the initial vowel’s tone is lowered. The plural imperative stem takes the same tonal pattern but with a phrase-final lowering on the final vowel.

4.3.1 Imperative mood

<table>
<thead>
<tr>
<th>Gloss</th>
<th>Root</th>
<th>Imperative (SG)</th>
<th>Imperative (PL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>look</td>
<td>ɲɛɲ</td>
<td>ɲɛn–ɛɛ</td>
</tr>
<tr>
<td>b.</td>
<td>take</td>
<td>ɖʒɛɲ</td>
<td>ɖʒɛɲ–ɛɛ</td>
</tr>
<tr>
<td>d.</td>
<td>sit</td>
<td>ɖɛn</td>
<td>ɖɛn</td>
</tr>
<tr>
<td>g.</td>
<td>run</td>
<td>ɖʒɔb–ɔ</td>
<td>ɖʒɔb–ɔ–j</td>
</tr>
<tr>
<td>c.</td>
<td>work</td>
<td>bir</td>
<td>bir–ɛɛ</td>
</tr>
<tr>
<td>e.</td>
<td>go</td>
<td>ěɛė</td>
<td>jáá</td>
</tr>
<tr>
<td>f.</td>
<td>eat</td>
<td>káá</td>
<td>káá–j</td>
</tr>
</tbody>
</table>

The imperative mood stem shows evidence of the underlying [±ATR] value of the root.

4.3.2 Imperative mood: Mid vowels

<table>
<thead>
<tr>
<th>Root</th>
<th>Imperative</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>ɖɛn</td>
<td>sit</td>
</tr>
<tr>
<td>b.</td>
<td>ɖʒɛɲ</td>
<td>take</td>
</tr>
<tr>
<td>c.</td>
<td>ɖɛb–ɛ</td>
<td>cover</td>
</tr>
<tr>
<td>d.</td>
<td>ɖɛg–ɛ</td>
<td>lick</td>
</tr>
<tr>
<td>e.</td>
<td>ěb–ɛ</td>
<td>buy</td>
</tr>
<tr>
<td>f.</td>
<td>nɛɲ</td>
<td>look</td>
</tr>
<tr>
<td>g.</td>
<td>kɛr</td>
<td>bite</td>
</tr>
<tr>
<td>h.</td>
<td>ɔb–ɔ</td>
<td>give</td>
</tr>
<tr>
<td>i.</td>
<td>gɔmm</td>
<td>chop</td>
</tr>
</tbody>
</table>
j. səɡ səɡ–ó lock
k. dʒəŋ dʒəŋ–ó healer
l. təŋ təŋ–ó write
m. nəŋ nəŋ drink (sth)

From the imperative mood stems, we can see that (a - b) have underlying mid, front [+ATR] vowels as the suffix vowel is a copy of the underlying root vowel. Roots (c - g) are mid, front [–ATR], (h - i) are mid, back [+ATR] and (j - m) are mid, back [–ATR].

4.3.3 Imperative mood: High vowels

a. dʒɪb dʒɪb–é wrap (panya)
b. jɪŋ jɪŋ–é sift
c. bɪr bɪr–é bir–é work
d. dɪŋ dɪŋ–é attach
e. iŋ iŋ–é stop
f. pɪŋ pɪŋ–é close
g. diŋ diŋ–ó lie down
h. gʊr gʊr–ó dig (sth)
i. dʊb dʊb–ó forge
j. dʊ dʊw–é carry on head

Among high vowels, we see that high vowels may not surface as [–ATR] although the imperative forms of front, high vowels (b - f), and back, high vowels (i - j) indicate that the underlying [–ATR] value of the verb root is spread to the imperative suffix. The remaining
forms spread the [+ATR] value of the verb root onto the imperative suffix. The example (j) is an exception to the generalization that the imperative suffix also adopts the frontness/backness feature of the verb root.

4.3.4 Imperative mood: low vowels

<table>
<thead>
<tr>
<th>Root</th>
<th>Imperative</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>dàà</td>
<td>kill</td>
</tr>
<tr>
<td>b.</td>
<td>dààⁿ</td>
<td>dàñ dànn–á hunt</td>
</tr>
<tr>
<td>c.</td>
<td>éè</td>
<td>jàá leave</td>
</tr>
<tr>
<td>d.</td>
<td>dʒáŋ</td>
<td>dʒáŋ–á read</td>
</tr>
<tr>
<td>e.</td>
<td>kàà</td>
<td>káá cut, shave</td>
</tr>
<tr>
<td>f.</td>
<td>láb</td>
<td>láb–á cut</td>
</tr>
<tr>
<td>g.</td>
<td>lág</td>
<td>lág–á hit</td>
</tr>
<tr>
<td>h.</td>
<td>pàq</td>
<td>pàɣ–á tie</td>
</tr>
</tbody>
</table>

Among low vowel roots, we see that the imperative suffix adopts the low height value of the root, although no difference in [ATR] value is witnessed.

In summary, the imperative mood induces vowel height and [ATR] harmony, spreading from the root to the suffix, with the exception among high vowels which surface as mid in the imperative suffix. The tone of the imperative mood is high, with depressor consonants lowering the initial vowel of the stem.

4.4 Prohibitive mood

The prohibitive mood is formed with the verb root, the final vowel in accordance with the height, [ATR], and backness features described above, and a clitic [no] for the singular. The prohibitive morpheme is considered a clitic because it alters neither the tone of the root nor is its [ATR]
value altered by the root. The plural prohibitive in the second column is formed by the suffixation of a palatal glide [j]. The plural morpheme is considered a **suffix** because it receives nasalization spreading from a root with a nasal or nasalization on a vowel (a - d) but not from the prohibitive clitic’s nasal if the root does not contain a [+NAS] feature (e - f).

4.4.1 Roots with nasals/roots without nasals

<table>
<thead>
<tr>
<th>Root</th>
<th>Sg Prohib</th>
<th>Pl Prohib</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. ɲɛ́n</td>
<td>ɲɛ́n=nò</td>
<td>ɲɛ́n=nò–j</td>
<td>look</td>
</tr>
<tr>
<td>b. dʒɛ́n</td>
<td>dʒɛ̀n=ɛ=nò</td>
<td>dʒɛ̀n=ɛ=nò–j</td>
<td>take</td>
</tr>
<tr>
<td>d. dèéⁿ</td>
<td>dèéⁿ=nò</td>
<td>dèéⁿ=nò–j</td>
<td>sit</td>
</tr>
<tr>
<td>c. bɪ́r</td>
<td>bɪ́r–ɛ=nò</td>
<td>bɪ́r–ɛ=nò–j</td>
<td>work</td>
</tr>
<tr>
<td>g. dʒɔ́b</td>
<td>dʒɔ́b=ɔ=nò</td>
<td>dʒɔ́b=ɔ=nò–j</td>
<td>run</td>
</tr>
<tr>
<td>e. éè</td>
<td>jàá=nò</td>
<td>jàá=nò–j</td>
<td>go</td>
</tr>
<tr>
<td>f. káà</td>
<td>káà=nò</td>
<td>káà=nò–j</td>
<td>eat</td>
</tr>
</tbody>
</table>

The tone on the prohibitive is not predictable from these stems thus further evidence needs to be gathered to determine the tonal pattern of the prohibitive stem.

4.5 Past tense

The past positive stem consists of the verb root, the **final vowel** of the verb stem, the past tense marker [bV], and a singular or plural person marker. Certain verbs such as ‘hit’ also take the unknown suffix [–w].

4.5.1 Past positive stem - lág ‘hit’

<table>
<thead>
<tr>
<th>Stem</th>
<th>Pronoun</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>mṹ ídzú láy–à–w bi–m</td>
<td>I hit a dog</td>
<td>emé ídzú láy–à bè–ŋ</td>
</tr>
<tr>
<td>ú ídzú láy–à(–w) bò</td>
<td>you hit a dog</td>
<td>èé ídzú láy–à bè</td>
</tr>
<tr>
<td>wó ídzú láyá–w bì</td>
<td>he hit a dog</td>
<td>bèé ídzú láyá–w bè–ŋ</td>
</tr>
</tbody>
</table>
Each verb stem in the past paradigm carries a high-low melody. The final vowel of the verb has a low tone as does the past tense morpheme indicating that the phrase boundary is the verb due to the fact that phrase-final falling is an active tonal process in the language.

The past negative stem consists of the verb root plus the final vowel and the negative marker [r ~ nV], plus the person suffix where applicable.

4.5.2 Past negative stem - lág ‘hit’

mù idʒú láɣ–à rú–m I did not hit a dog  ēmè idʒú láɣ–à ní we did not hit dogs
ú idʒú láɣ–à rú you did not hit a dog  êé idʒú láɣ–à rí you (pl) did not hit dogs
wó idʒú láɣ–à rú he did not hit a dog  bêé idʒú láɣ–à ní they did hit dogs

Note here that the verb stems are all low toned, whereas the negative markers are all high toned; this could be considered an example of tone polarity although this needs further investigation.

Further examples of past positive and negative phrases are shown here.

a. ēmè églis/ámmá qinni bè–n we went to church
b. ēmè églis/ámmá qinni jàá ní we did not go to church
c. ēmè dʒáá ébèw bè–n we bought a meal
d. ēmè dʒáá ébè ní we did not buy a meal
e. ēmè biré bè–n we finished the work
f. ēmè biré dôrûŋ bè–ní we were not able to finish the work
g. ēmè pédʒù kê–w bè–n we slaughtered the sheep
h. ēmè pédʒù kêⁿ ní we did not slaughtered the sheep

Another past tense marker which closely resembles the [bV] past tense marker above is the focus past tense marker shown here. The difference is that, whereas the first and third singular persons were represented with [bi] above, for the focus, they are represented as [bo]. The negative of the focus past is the same as the above stated for the non-focus past.
4.5.3 Focus past –bo–

<table>
<thead>
<tr>
<th>Root</th>
<th>Singular Stem</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. pín</td>
<td>pínn–é bó–</td>
<td>close</td>
</tr>
<tr>
<td>b. sâŋ</td>
<td>sôy–ó bo–</td>
<td>lock</td>
</tr>
<tr>
<td>c. tôn</td>
<td>tông–ó bó–</td>
<td>write</td>
</tr>
<tr>
<td>d. kér</td>
<td>kér–é bó–</td>
<td>bite</td>
</tr>
<tr>
<td>e. dʒîb</td>
<td>dʒîb–é bó–</td>
<td>wrap</td>
</tr>
<tr>
<td>f. pâŋ</td>
<td>páy–á bó–</td>
<td>tie</td>
</tr>
</tbody>
</table>

In general, CVC verb roots with an initial voiceless consonant, (e) is an exception, and an underlying high-low tone, (d) is an exception, emerge as high on the past tense verb stem.

| a. dēb | dēb–é bó– | cover |
| b. jîg | jîg–é bó– | sift |
| c. dēg | dēg–é bó– | lick |
| d. gër | gër–é bó– | hold |
| e. gûr | gûr–ó bó– | dig |
| f. làb | làb–á bó– | cut |
| g. dʒâŋ | dʒâŋ–á bó– | read |
| h. ñèn | ñèn–é bó– | look |
| i. dʒêŋ | dʒêŋ–é bó– | take |
| j. dʒôŋ | dʒôŋ–ó bó– | healer |
| k. dîŋg | dîŋg–í bó– | tie |
| l. góm | gòmm–ú bó– | chop |
CVC verb roots with an initial voiced consonant of any underlying tonal pattern adopt a low-high tonal melody on the past tense verb stem. These CVC stems are further examples of depressor consonants interacting with the tonal pattern of the TAM category. Therefore, it is stated that the past tense verb stem has a high-tone which is lowered by voiced consonants.

a. dob dúb-ɔ dúb-ɔ bó- forge
b. bìr bìr-ɛ bìrɛ bó- work

Reduplicated verbs are downstepped on the second verb and seem to be unaffected by the above depressor-consonant tone-lowering.

a. ëb èb-ɛ bó- buy
b. ěr ěr-ɛ bó- braid
c. ɪŋ ɪŋ-ɛ bó- stop
d. ëë jáá bó- leave

Verb roots which begin with vowels seem to keep their tonal melody, with the exception of (a).

a. dô dùv-ɛ bó- carry on head
b. dàà ñ dó án bó- kill
c. ɗiːn ɗiːn bó- lie down
d. dēn dēn bó- sit
e. dààn dààn dànà bó- hunt
f. kàà kàà bó- shave
4.6 **Perfective** aspect

The Perfective aspect is formed by the cliticization of the Perfective morpheme [tu] for first and second singular persons, and [ti] for all other forms. The addition of the first person singular suffix [m], and the first person plural and third person plural suffixes [n] are added after the TAM marker. **Pronominals** distinguish the remaining persons. The Perfective aspect may only be used with action verbs, there are no possible Perfective paradigms with *stative* verbs such as those which end in -i or -ijɛ.

### 4.6.1 PERF for action transitive verbs

<table>
<thead>
<tr>
<th></th>
<th>Perf</th>
<th></th>
<th>Perf</th>
<th></th>
<th>Perf</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>gôn</td>
<td>‘fence in’</td>
<td>b</td>
<td>pêg</td>
<td>‘nail’</td>
</tr>
<tr>
<td>gôn=tù–m</td>
<td>gônno=ti–n</td>
<td>pêg=tü–m</td>
<td>pêg=ti–n</td>
<td>pêër=tù–m</td>
<td>pêër=ti–n</td>
</tr>
<tr>
<td>gônno=tù</td>
<td>gônno=ti</td>
<td>pê=g=tü</td>
<td>pê=g=ti</td>
<td>pêër=tù</td>
<td>pêër=ti</td>
</tr>
<tr>
<td>gônno=ti</td>
<td>gônno=ti–n</td>
<td>pêg=ti</td>
<td>pêg=ti–n</td>
<td>pêër=ti</td>
<td>pêër=ti–n</td>
</tr>
</tbody>
</table>


Among verb stems in the Perfective aspect, all back vowels become [+ATR] (d, e).

<table>
<thead>
<tr>
<th></th>
<th>Perf</th>
<th></th>
<th>Perf</th>
</tr>
</thead>
<tbody>
<tr>
<td>d</td>
<td>ódʒó</td>
<td>‘build’</td>
<td>e</td>
</tr>
<tr>
<td>údʒó=tù–m</td>
<td>údʒó=ti–n</td>
<td>sɔɡ=tü–m</td>
<td>sɔɡ=ti–n</td>
</tr>
</tbody>
</table>
Additionally, coda consonants are allowed before the Perfective suffix (f, g) if the verb root contains a low, back vowel [a].

- f. lág ‘hit’
- g. láb ‘chop’

4.6.2 PERF-NEG for action transitive verbs

The Perfective negative for action transitive verbs is formed by the suffixation of the negative morpheme [rV].

4.6.3 Intransitive Perfective
Among verbs in the Perfective aspect, we see that CV and CVC roots pattern alike in that they both receive a glide as the plural suffix. Additionally, unlike the Prohibitive mood, the Perfective plural suffix does not undergo nasalization spreading from a nasal in the root (b, d).

Stative verbs form the Perfective aspect through the reduplication of the verb stem. The reduplicated Perfective, like the Reduplicated Nouns is formed with a copy of the root-initial onset plus the vowel [i]. There are three aspectual suffix allomorphs: [–i], [–e], [–ɛ].

4.6.4 Reduplicated Perfective aspect (statives)

<table>
<thead>
<tr>
<th>Root</th>
<th>Stem</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. nɛn</td>
<td>ni–nɛn–i–</td>
<td>lean</td>
</tr>
<tr>
<td>b. lág</td>
<td>li–lág–i–</td>
<td>hit</td>
</tr>
<tr>
<td>c. tégr</td>
<td>tí–tégr–i–</td>
<td>burn</td>
</tr>
<tr>
<td>d. téŋ</td>
<td>tí–téŋ–i–</td>
<td>grind</td>
</tr>
<tr>
<td>e. pégúr</td>
<td>pí–pégúr–i–</td>
<td>‘un-tie an animal, hitch’</td>
</tr>
<tr>
<td>f. kéðʒ</td>
<td>kí–kéðʒ–i–</td>
<td>cut</td>
</tr>
<tr>
<td>g. piñ</td>
<td>pi–piñ–i–</td>
<td>closed</td>
</tr>
</tbody>
</table>

Among verbs in the Perfective aspect, we see that CV and CVC roots pattern alike in that they both receive a glide as the plural suffix. Additionally, unlike the Prohibitive mood, the Perfective plural suffix does not undergo nasalization spreading from a nasal in the root (b, d).

Stative verbs form the Perfective aspect through the reduplication of the verb stem. The reduplicated Perfective, like the Reduplicated Nouns is formed with a copy of the root-initial onset plus the vowel [i]. There are three aspectual suffix allomorphs: [–i], [–e], [–ɛ].
Verb roots which are underlingly [–ATR] receive the allomorph [–i]. Examples illustrate that verb roots with surface mid, front, [–ATR] vowels become [+ATR] in the reduplicated Perfective, suggesting that the vowel of the reduplicated Perfective suffix is [+ATR] and spreads to the root.

a. pûb pû–pû–i– blow on (fire)
b. nóŋ nù–nöŋ–i– grind (millet)
c. jôj jû–ûjî–ŋ enter(2nd PL)

Verb roots with back vowels take [Cu] as the copy and [–i] as the suffix.

a. tén ti–té–è– chew
b. wél vi–vé– come
c. péë pî–péè– strike (match, flint)
d. gûw gû–gûw–è– rob, steal

CVV roots take the suffix [–è].

a. keⁿ ki–kê–è– slaughter
b. sîn si–sînn–è– carrying baby on back
c. lî lî–lîj–è– afraid
d. gêr gi–g–è–è– hold

However, other verb stems take [–ɛ] as the aspectual suffix.
4.6.5 Negative reduplicated Perfectives (statives)

Stative verbs in the Perfective negative aspect are not reduplicated in the singular persons and take the negative suffix [ru].

4.7 Perfective negative aspect

The Perfective negative resembles the Reversive derived stem. The Perfective negative with singular subjects is shown in the examples below, using the same roots as the Reversive below to compare the two stems.

4.7.1 Negative Singular Stems without pronounced pronominal

<table>
<thead>
<tr>
<th>Root</th>
<th>Negative Singular</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>ɛr ɛ–ɛ–rú–</td>
<td>braid</td>
</tr>
<tr>
<td>b.</td>
<td>píñ pín–ɛ–rú–</td>
<td>close</td>
</tr>
<tr>
<td>c.</td>
<td>díŋɡ díŋɡ–ɛ–rú–</td>
<td>tie (knot)</td>
</tr>
<tr>
<td>d.</td>
<td>tèb tèb–ɛ–rú–</td>
<td>bend</td>
</tr>
<tr>
<td>e.</td>
<td>dēb dēb–ɛ–rú–</td>
<td>cover (object)</td>
</tr>
<tr>
<td>f.</td>
<td>pēɡ pēɡ–ɛ–rú–</td>
<td>nail</td>
</tr>
<tr>
<td>g.</td>
<td>kóɲ kún–ɛ–rú–</td>
<td>insert</td>
</tr>
<tr>
<td>h.</td>
<td>sâɡ sâɡ–ɛ–rú–</td>
<td>lock</td>
</tr>
<tr>
<td>i.</td>
<td>gɔɲ gɔɲ–ɛ–rú–</td>
<td>surround</td>
</tr>
<tr>
<td>j.</td>
<td>sɔɲ sɔnn–ɛ–rú–</td>
<td>unbraid</td>
</tr>
<tr>
<td>k.</td>
<td>kùmù kùμi–ɛ–rú–</td>
<td>crumple</td>
</tr>
<tr>
<td>l.</td>
<td>bɔɗʒ bɔɗʒ–ɛ–rú–</td>
<td>bury</td>
</tr>
<tr>
<td>m.</td>
<td>gɔɲ gɔnn–ɛ–rú–</td>
<td>fence in</td>
</tr>
<tr>
<td>n.</td>
<td>pɔjìn dɔmmɔ pɔj–rú–</td>
<td>roll turban</td>
</tr>
</tbody>
</table>
In the reversive stem, the verb root takes a mid-vowel suffix, which harmonizes in backness and [ATR] values with the root-vowel. The negative imPerfective suffix for singular persons is [–rú], therefore, all reversive stems end in a high tone. If the root has its own high tone, it is deleted by the OCP, even if the high of the root is not adjacent to the suffix.

A preceding nasal in the root does not spread nasalization, except when the optional prefix pronominal or a pronounced subject is present.

4.7.2 Perfective negative: pronounced pronominals

a. àdá mà làg–à–rú  Adama did not hit
b. àdá mà pinn–è–řú  Adama did not open
c. àdá mà jàŋà–řú  Adama did not read
d. mǔ pinn–è–ř–ú–m  I did not open
e. ú pinn–è–ř–ú  you did not open
f. ŏ pinn–è–ř–ú  he did not open
g. émé pinn–è–ř–ú  we did not open
h. ê pinn–è–n–í  you (PL) did not open
i. bê pinn–è–n–í  they did not open

Plural subjects take the reversive allomorph [–ri]. Among the plural person stems, first and third person plural, when there is a nasal consonant in the verb root, the [r] of the suffix becomes [n], with or without pronounced pronominals. However, the second person plural [r] becomes nasalized by a preceding nasal in the root, but does not change to a nasal stop.

4.7.3 Perfective negative: plural person subjects
The Perfective negative, like the Reversive, is –rV. However, unlike the Reversive, the [ATR] vowel harmony does not spread to the vowel of the negative suffix; the final vowel of the Perfective negative stem is [u] in the singular and [i] in the plural. Further, the nasalization-spreading in the Perfective negative is blocked unless the stem contains the person-marking prefixes. The levels of nasalization also differ, not only from the reversive (does it have nasalization?), but also by person and number. The details of these matters are left to further research.
4.8 Experiential (I am used to doing…)

The experiential positive is formed by the verb root, plus the final vowel, and the morphemes \([tɛ\ sɛ]\). To the final morpheme, pronominal suffixes are attached. Verb stems do not necessarily end in a low tone, although the phrase carries a high-low tone.

4.8.1 Experiential Positive

I am used to going /jɛ́ɛ/ see do /kâĨ/

\(jáá\ tɛ\ sɛ–m\) \(jáá\ tɛ\ sɛ\) \(ij–ɛ\ tɛ\ sɛ–m\) \(ij–ɛ\ tɛ\ sɛⁿ\) \(káĨ–ā\ tɛ\ sɛ–m\) \(káĨ–ā\ tɛ\ sɛⁿ\)

\(jáá\ tɛ\ sɛ–w\) \(jáá\ tɛ\ sɛⁿ\) \(ij–ɛ\ tɛ\ sɛ–w\) \(ij–ɛ\ tɛ\ sɛⁿ\) \(káĨ–ā\ tɛ\ sɛ–w\) \(káĨ–ā\ tɛ\ sɛⁿ\)

\(jáá\ tɛ\ sɛ\) \(jáá\ tɛ\ sɛⁿ\) \(ij–ɛ\ tɛ\ sɛ\) \(ij–ɛ\ tɛ\ sɛⁿ\) \(káĨ–ā\ tɛ\ sɛ\) \(káĨ–ā\ tɛ\ sɛⁿ\)

The habitual negative is formed by negating the \([tɛ]\) morpheme.

4.8.2 Experiential Negative

I am not used to going \(jɛ́–dʒɛ–rú–m\) \(jɛ́–dʒɛ–nì\) \(iɛ́ tɛ–rú–m\) \(iɛ́ tɛ–nì\) \(kɛʁà tɛ–rú–m\) \(kɛʁà tɛ–nì\)

\(jɛ́ dʒɛ–rú\) \(jɛ́–dʒɛ–rì\) \(iɛ́ tɛ–rú\) \(iɛ́ tɛ–rì\) \(kɛʁà tɛ–rú\) \(kɛʁà tɛ–rì\)

\(jɛ́ dʒɛ–rú\) \(jɛ́–dʒɛ–nì\) \(iɛ́ tɛ–rú\) \(iɛ́ tɛ–nì\) \(kɛʁà tɛ–rú\) \(kɛʁà tɛ–nì\)

Further examples of the usage of this construction are shown here:

I am used to entering/I am not used to entering

\(jòjî \ vè \ dzii–jè–m\)\(jòjî \ vè \ dzé–rú–m\)

I am used to drinking/I am not used to drinking

\(nɔjî \ vè \ dzii–je–m\)\(nɔjî \ vè \ dzɛ–ru–m\)

4.9 Habitual
The habitual tense, ‘I perform an action every day’, is formed by the verb root, the habitual suffix [ɛ] ~ [Vj], and person markers where applicable. As with Perfective stems above, the habitual is divided between transitives and intransitives. Transitives do not receive a root-initial reduplicant whereas intransitives do.

4.9.1 Transitive habitual stem

/laɡ/ ‘hit’
láɡ–ɛ–w       láɡ–ɛ
láɡ–ɛ           láɡ–á–j

Note that the singular and second plural persons all take the suffix [ɛ] whereas the plural persons other than second take the final vowel which is associated with the verb root plus the plural glide marker. Transitive habitual stems have a high-low tonal contour on the stem.

Intransitive habitual stems take the stem-initial reduplicant in the same manner as the Perfectives above.

4.9.2 Intransitive habitual stem

/nuŋ/ fall, lose
nù–nuŋ–ɛ–m       eµɛ nù–nuŋ–ò–j
nù–nuŋ–ɛ–w       e nù–nuŋ–è
nù–nuŋ–è          bɛ nù–nuŋ–ò–j

/taa/ kick
ti–tá–j–ɛ–m       ti–táá–j
ti–tá–j–è          ti–táá–j

/dʒaŋ/ study, read

dʒaŋ dʒi–dʒaŋ–ɛ–m   dʒaŋ dʒi–dʒaŋ–à–j
dʒaŋ dʒi–dʒaŋ–ɛ–w   dʒaŋ dʒi–dʒaŋ–è
dʒaŋ dʒi–dʒaŋ–è     dʒaŋ dʒi–dʒaŋ–à–j
Unlike the **Possessive** paradigm, nasalization, (it could be argued that there is a nasal stop rather than nasalization in these forms), from a verb stem spreads to the final vowel or glide of the verb stem among third person plural subjects.

### 4.9.3 Nasalization on 1st and 3rd person plural subjects

<table>
<thead>
<tr>
<th>verb stem</th>
<th>verb</th>
<th>nasalized form</th>
<th>meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>kí kédz–è</td>
<td>slaughter</td>
<td>ní–nên–èⁿ</td>
<td>look</td>
</tr>
<tr>
<td>tí tégér–è</td>
<td>burn</td>
<td>pi pín–èⁿ</td>
<td>close</td>
</tr>
<tr>
<td>bi bîr–è</td>
<td>work</td>
<td>di–déř–èⁿ</td>
<td>take a break</td>
</tr>
<tr>
<td>pí–pégér–è</td>
<td>tie</td>
<td>ní–nínín–èⁿ</td>
<td>breathe</td>
</tr>
<tr>
<td>kí–ká–ji</td>
<td>eat</td>
<td>dží–džáñ–â–j</td>
<td>teach</td>
</tr>
<tr>
<td>tí–táá–ji</td>
<td>kick</td>
<td>džáñ dží–džáñ–â–j</td>
<td>study</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ni–náá–j</td>
<td>give birth</td>
</tr>
<tr>
<td>ób–ö–öj</td>
<td>give</td>
<td>nù–núm–ö–j</td>
<td>lose</td>
</tr>
<tr>
<td></td>
<td></td>
<td>nù–nò–j</td>
<td>drink</td>
</tr>
<tr>
<td></td>
<td></td>
<td>mú–mà–j</td>
<td>make</td>
</tr>
<tr>
<td></td>
<td></td>
<td>mú–mò–j</td>
<td>laugh</td>
</tr>
</tbody>
</table>

### 4.9.4 Negative Habitual

The negative habitual is formed by the deletion of the reduplicant for intransitive verbs and the and a long final vowel for transitive verbs in a manner similar to the **Negative Future**.

Further examples of the habitual are shown here:

/bir/

<table>
<thead>
<tr>
<th>verb stem</th>
<th>verb</th>
<th>nasalized form</th>
<th>meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>báaj púú biré bû–birèm</td>
<td>every day I work</td>
<td></td>
<td></td>
</tr>
<tr>
<td>baa pu woj biré bì bìre më</td>
<td>every day, all the time, I work</td>
<td></td>
<td></td>
</tr>
<tr>
<td>baa pu biré bi biré</td>
<td>every day he works</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

/téger/

<table>
<thead>
<tr>
<th>verb stem</th>
<th>verb</th>
<th>nasalized form</th>
<th>meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>tégere</td>
<td>'burn'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>báaj púú tí tégérèm</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

/kaa/

<table>
<thead>
<tr>
<th>verb stem</th>
<th>verb</th>
<th>nasalized form</th>
<th>meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ká–y ká–*bè– (perf)</td>
<td>'eat'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>báaj púú (jáá) kí kájím</td>
<td>every day I eat (a meal)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>kajím (neg)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.10 Progressive Aspect

The progressive aspect is formed by the verb stem, the progressive suffix [Vwכ], an epenthized vowel [ε], plus the pronominal suffix where applicable.

4.10.1 Progressive aspect pronouns
a.  kɛdʒ cut  bảɣá wood (for houses)
    mũ bảɣá kɛdʒ–éwɡ=è–m  émɛ bảɣá kɛdʒ–éwɡ=è–ŋ
    ú bảɣá kɛdʒ–éwɡ=è–w  é bảɣá kɛdʒ–éwɡ=è
    wó bảɣá kɛdʒ–éwɡ=è  bɛ bảɣá kɛdʒ–éwɡɛ=è–ŋ

b.  duu  carry on head  dòó  luggage
    mũ dú dúw–éwɡ=è–m
    ú dú dúw–éwɡ=è–w
    wó dú dúw–éwɡ=è

The progressive stem has a high-low tonal contour.

The progressive negative stem is formed by adding the clitic [la] to the progressive stem, to which the pronominal suffixes are added.

4.10.2 Progressive Negative

kɛdʒɛwɡ=ɛ la-m

duweŋɛ-la-m

The progressive aspect final vowel is determined by the height and harmony specifications of the verb root.

4.10.3 Progressive aspect final vowel

<table>
<thead>
<tr>
<th>Root</th>
<th>PROG</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.  ᵇ</td>
<td>ëb–è–wɡ=è–</td>
<td>buy</td>
</tr>
<tr>
<td>b.  dʒɛn</td>
<td>dʒi dʒɛn–é–wɡ=è–</td>
<td>take</td>
</tr>
<tr>
<td>c.  tɛɡɛr</td>
<td>tɛɡɛr–wɡ=ɛ–</td>
<td>burn</td>
</tr>
<tr>
<td>d.  kɛɛn</td>
<td>kɛ–è–wŋɡ=è–</td>
<td>slaughter</td>
</tr>
</tbody>
</table>
4.11 Imperfective

The imperfective stem is formed by the reduplication of the verb root, suffixation of the root’s final vowel, and the suffixation of the pronominal morpheme. Additionally, the morpheme [bo] follows the imperfective stem and is also suffixed with the pronominal marker.

4.11.1 Imperfective first person stem

<table>
<thead>
<tr>
<th>Root</th>
<th>Future Stem</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. dʒób</td>
<td>dzú–dʒób–ó–m bó–m run</td>
</tr>
<tr>
<td>b. jën</td>
<td>ní–jën–ú–m bó–m look</td>
</tr>
<tr>
<td>c. bir</td>
<td>biré bir–à–m bó–m work</td>
</tr>
<tr>
<td>d. jàá</td>
<td>zí–jáá–m bó–m go</td>
</tr>
<tr>
<td>e. káá</td>
<td>kí–káá–m bó–m eat</td>
</tr>
</tbody>
</table>
4.12 Future Tense

The future tense is formed by the verb stem, then the reduplicated form of the verb stem, plus the future morpheme [dV] which is suffixed with pronominal morphemes.

4.12.1 Future tense: First person singular (tones)

‘run’

dʒb–dʒ dʒb–dʒ–dʒ–m  
dʒb–dʒ dʒb–dʒ–dʒ–d–n

dʒb–dʒ dʒb–dʒ–dʒ–d–d–n

dʒb–dʒ dʒb–dʒ–dʒ–d–n

dʒb–dʒ dʒb–dʒ–dʒ–d–d–n

The negative future tense is formed by lengthening the final vowel of the verb stem.

4.12.2 Negative Future Tense

<table>
<thead>
<tr>
<th>Positive Future</th>
<th>Negative Future</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>ḳ–d–d–m</td>
<td>ḳ–d–d–m</td>
<td>buy</td>
</tr>
<tr>
<td>ḳ–d–d–m</td>
<td>ḳ–d–d–d–m</td>
<td>look (珺珺–豆腐–m)</td>
</tr>
<tr>
<td>ḳ–d–d–m</td>
<td>ḳ–d–d–d–m</td>
<td>take</td>
</tr>
<tr>
<td>ḳ–d–d–m</td>
<td>ḳ–d–d–d–m</td>
<td>speak</td>
</tr>
<tr>
<td>ḳ–d–d–m</td>
<td>ḳ–d–d–d–m</td>
<td>give</td>
</tr>
<tr>
<td>ḳ–d–d–m</td>
<td>ḳ–d–d–d–m</td>
<td>heal</td>
</tr>
<tr>
<td>ḳ–d–d–m</td>
<td>ḳ–d–d–d–m</td>
<td>write</td>
</tr>
</tbody>
</table>

Further examples of the future tense are listed as follows:

珺珺 dom - look   
珺珺 de
éŋ - milk
ír - breast milk
mù íi-n ír ób-ŋɛ-ɛ-m I am breast feeding a child

(1S child-N breast feed-1S)
eřɛ ír-ŋ ób-ɛ-ɛ-m I breast fed a goat
mù ír-ŋ ób-ŋɛ-ɛ-ɛ-m I am breast feeding (no obj)
érɛ ír-ŋ ób-ód-ó-ɛ-m I will breast feed a goat
íi-n ír-ŋ ób-ód-ó-ɛ-m I will breast feed a child
mù ír ób-ód-ó-ɛ-m I will breast feed
ír-ŋ nój (a dog) drinks breast milk
ír-ŋ n-ŋɛ-ɛ (a dog) is drinking milk
ír-ŋ n-ónd-ó-ɛ-ɛ “” will drink milk
mù ír-ŋ n-ónd-ó-ɛ-ɛ-m I will drink milk
ír-ŋ éwŋ take out breast milk
mù ír-n-ɛwŋ-ɛ-ɛ-m I am “”
mù ír-ŋ éw-dɛm I will “”

4.13 Unknown TAM marker

The morpheme [w] appears throughout inflectional paradigms and is thought to be a form of the progressive.

4.13.1 Unknown morpheme [–w–] progressive

a. laga–bi–ɛ-m I hit (past)
b. laga–w–bi–ɛ-m I hit (Perfective)
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>c.</td>
<td>laqa–b–o–m</td>
<td>I hit</td>
</tr>
<tr>
<td>d.</td>
<td>laqa–wn–b–o–m</td>
<td>I was hitting</td>
</tr>
<tr>
<td>e.</td>
<td>*laqa–m</td>
<td>I hit (present)</td>
</tr>
<tr>
<td>f.</td>
<td>laqa–w–wo–m</td>
<td>I hit (present)</td>
</tr>
<tr>
<td>g.</td>
<td>*laqa–ŋg–ɛ–m</td>
<td>I am hitting</td>
</tr>
<tr>
<td>h.</td>
<td>laqa–w–ŋg–ɛ–m</td>
<td>(progressive)</td>
</tr>
<tr>
<td>i.</td>
<td>laqa–d–o–m</td>
<td>I will hit (future)</td>
</tr>
<tr>
<td>j.</td>
<td>laqa–w–d–o–m</td>
<td>CAUS.FUT</td>
</tr>
<tr>
<td>k.</td>
<td>laqa</td>
<td>hit</td>
</tr>
<tr>
<td>l.</td>
<td>laqaw</td>
<td>let’s hit (subjunctive)</td>
</tr>
</tbody>
</table>
## 5 Derivational Verb Stem

The following derivational verb stems have been found in Ibi-so:

### 5.1 Transitive Suffix

The transitive suffix appears to be homophonic with the Reversive suffix [–ru], although the behavior differs in the stem. The verb root surfaces in the transitive with either the stative suffix [–i] (a - b), or the isolation default [–u] (c - e). A root-final nasal spreads nasalization to the [r] of the transitive suffix. Roots with high vowels are unaffected by vowel harmony.

#### 5.1.1 Stative ~ Transitive: Height and [ATR] harmony in derived roots

<table>
<thead>
<tr>
<th>Stative</th>
<th>Gloss</th>
<th>Transitive</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. sinn–í</td>
<td>carry on back</td>
<td>sinn–í–řũ</td>
<td>put on (sbs) back</td>
</tr>
<tr>
<td>b. iŋi–í</td>
<td>stand up, stop(person)</td>
<td>iŋi–í–řũ</td>
<td>stop (sth)</td>
</tr>
<tr>
<td>c. iní–í</td>
<td>bathe</td>
<td>in–ú–řũ</td>
<td>bathe (sb)</td>
</tr>
<tr>
<td>d. tũŋ–í</td>
<td>kneel</td>
<td>tũŋ–ū–řũ</td>
<td>make kneel</td>
</tr>
<tr>
<td>e. dúw–í</td>
<td>carry on head</td>
<td>dú–ū–řũ</td>
<td>put on (sbs) head</td>
</tr>
<tr>
<td>f. diiⁿ</td>
<td>lie down</td>
<td>(iǐ) dú–nũ</td>
<td>have lie down, put to sleep</td>
</tr>
<tr>
<td>g. dëéⁿ</td>
<td>sit down</td>
<td>dāā–nũ</td>
<td>have sit, seat</td>
</tr>
</tbody>
</table>

The transitive suffix undergoes back harmony with verb roots with back vowels, mid (a - d) and low (e - g). Interestingly, the transitive suffix appears to be [–ATR], although the [–ATR] value only spreads to the final vowel of the citation stem when the root is consonant-final (a - c).

| a. gôb–í | clinging to | gôb̥ó–ró | cause to cling |
b. tóg–í be spilled tóg–ˈʊ́ spill (sth)
c. góór–í put ones hat on góór–ó–ró/góóró put hat on (sb)
d. dōmm–ó pó–jín roll on turban dōmmó pō–rō put turban on (sb)
e. tág–í put ones shoes on tág–á–ˈrā put shoes on (sb)
f. pág–í tie ones belt on pág–á–rā tie belt on (sb)
g. bàŋ–í hide (oneself) bàŋ–á–rā hide (sb, sth)

5.2 Reversive Suffix

The reversive suffix [–ru] attaches to the verb root, and is followed by a person marking suffix.

5.2.1 Reversive: Nasal spreading in derived stems

a. ér braid ér–ɛ–rù– not braided
b. tëb bend tëb–ù–rù– unbend
c. sōg lock sōg–ù–rù– unlock
d. pēɡ nail pēɡ–ù–rù– remove nail
e. dēb cover (object) dēb–ù–rù– uncover (object)
f. jēb roll up pants jēb–ù–rù– un-roll pants
g. gàd hobble gàd–ù–rù– unhobble
h. tōdʒ sag tōdʒ–ú–rù– un-sag
i. dzib put on a panya dzib–ú–rù– take off a panya
j. númmpz bèè remember númmpzérè–rù– unable to know

Examples (a - f) below show that after the final vowel is epenthized, the nasalization of a root-final nasal consonant spreads to the [r] of the reversive suffix. Note from example (j) above,
only root-final nasals spread nasalization, the three word-internal nasals above do not spread nasalization to the suffix. Since only root-final nasals spread nasalization, a question arises as to whether the root-final vowel epenthizes before the spreading of the nasalization. In either case, it is clear from these examples that nasal-spreading only occurs at morpheme boundaries. **What about surrounding vowels (vowels in between are nasalized) ?** The root tones are delinked and a low tone spreads iteratively to all vowels in the stem.

a. màn–ú lost màn–à–řú not lost
b. nààŋ–ú forget nààŋ–à–řú remind
c. nòn–i caught (in tree) nòn–ù–řú un-caught from tree
d. diŋ–ú tie (knot) diŋ–ù–řú untie (knot)
e. tim–ú put top/lid on tím–ú–řù take off
f. sòn–ú unbraided sòn–ú–řú not unbraided

5.2.2 Reversive negatives?

naŋ-a-řa-řu-m not reminded
teb-ε-řε-ru-m neg.caus of bend
sog-o-ro-ru-m not unlocked

son-ŋɔ-ŋɔ-ru-m not unbraided
nɔŋ-ŋɔ-řɔ-ru-m not uncaught from a tree

tagerum (not put on shoes) tagararum (not put shoes on sme) 5.2.3 Reversive negatives
5.2.4 Reversive negative stative

<table>
<thead>
<tr>
<th>Root</th>
<th>Perf1</th>
<th>Perf2</th>
<th>Reversive–PERF</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>gonn</td>
<td>gonn–i</td>
<td></td>
<td>gonn–ő–rú gonn tin</td>
<td>fence in</td>
</tr>
<tr>
<td>peg</td>
<td>pég–ijè</td>
<td>pég–ě tin</td>
<td>pég–rú gonn tin</td>
<td>nail</td>
</tr>
<tr>
<td>pinn</td>
<td>pinn–ijè</td>
<td>pinn–è tin</td>
<td>pín–ű–řú gonn tin</td>
<td>close</td>
</tr>
<tr>
<td>sōg</td>
<td>sōg–ijè</td>
<td>sōg–ò tin</td>
<td>sōg–ű–rú gonn tin</td>
<td>lock</td>
</tr>
<tr>
<td>sôn</td>
<td>sôn–dʒè</td>
<td>sôn–ò tin</td>
<td>sôn–ű–rú gonn tin</td>
<td>unbraid</td>
</tr>
<tr>
<td>dʒib</td>
<td>dʒib–ijè</td>
<td>dʒib–i–rú tin</td>
<td>dʒib–ű–rú gonn tin</td>
<td>wrap</td>
</tr>
<tr>
<td>deb</td>
<td>déb–i</td>
<td>déb–è tin</td>
<td>déb–ű–rú gonn tin</td>
<td>cover</td>
</tr>
<tr>
<td>teb</td>
<td>téb–i</td>
<td>téb–úr–ú tin</td>
<td>téb–ű–rú gůwà</td>
<td>bend</td>
</tr>
<tr>
<td>tōdʒ</td>
<td>tōdʒ–ijè</td>
<td>tōdʒ–úr–ú tin</td>
<td>tōdʒ–ű–rú gůwà</td>
<td>squat</td>
</tr>
</tbody>
</table>

The causative is formed by attaching the suffix /Vw-n/ to verb roots. The quality of the vowel, discussed further in the section describing the Verb Root, is determined through vowel harmony.

5.2.5 Causative: Nasal deletion

<table>
<thead>
<tr>
<th>Root</th>
<th>Perf1</th>
<th>Perf2</th>
<th>Reversive–PERF</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>kaaj</td>
<td>eat</td>
<td>kà–ăw–ń</td>
<td>kaa–řu–m</td>
<td>feed</td>
</tr>
<tr>
<td>baar</td>
<td>help</td>
<td>bāār–ăw–ń</td>
<td>cause to help</td>
<td></td>
</tr>
<tr>
<td>teg</td>
<td>speak</td>
<td>tēg–ęw–ń</td>
<td>cause to speak</td>
<td></td>
</tr>
<tr>
<td>deb</td>
<td>cover</td>
<td>déb–ęw–ń</td>
<td>cause to cover</td>
<td></td>
</tr>
</tbody>
</table>
e. dʒug know dʒug-țw-h inform?
f. joj enter jò-țw-h make enter

The final nasal of the causative suffix is deleted when there is a nasal in the verb root. The nasal may occur root-finally (b - e), or word-initially (a).

g. nɔɔj drink nɔ-țw give a drink (to animals)
h. dʒaŋ read dʒaŋ-țw teach dʒaŋ-a-ɾu-m
i. kunn put (on shoes, clothes) künn-țw make put (on shoes, clothes)
j. pinn close (by itself) pinn-ɛw make close
k. sinn dress (v.) sinn-ɛw cause to dress

5.2.6 Mediopassives Completive? (not recent past) ‘X is done’

mediopassives or statives? lie down paradigm vs. kneel?

<table>
<thead>
<tr>
<th>Root</th>
<th>CAUS</th>
<th>3rd PERF</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>tab</td>
<td>tab-i</td>
<td>táb-î-jè</td>
</tr>
<tr>
<td>b.</td>
<td>nɔɔ</td>
<td>nɔɔ-w</td>
<td>nɔj-înjè</td>
</tr>
<tr>
<td>c.</td>
<td>ini</td>
<td>ini-ɾu</td>
<td>ín-îdʒè</td>
</tr>
<tr>
<td>d.</td>
<td>ini</td>
<td>ini-ɾu</td>
<td>íŋ-îjè</td>
</tr>
<tr>
<td>e.</td>
<td>dēęn</td>
<td>daa-nu</td>
<td>dēęn-îjè</td>
</tr>
<tr>
<td>f.</td>
<td>diiⁿ</td>
<td>duu-nɔ</td>
<td>diiⁿ-ja-</td>
</tr>
<tr>
<td>g.</td>
<td>túŋ-ì</td>
<td>tuŋ-ɔ-no</td>
<td>túŋ-îjè</td>
</tr>
<tr>
<td>h.</td>
<td>tag-ì</td>
<td>tag-a-ra</td>
<td>tąg-îjè</td>
</tr>
</tbody>
</table>
i. gor–i go(r–o)–ro gör–ijè put on hat
j. duw–i du–u–ro dûw–ijè carry on head
k. tog–u tog–o tóg–ijè spill
l. ger–i ger–ɛw–n gèr–ijè keep
m. kum–i kum–ɛw–n kúm–ijè make a fist
n. teb–i teb–er–e téb–ijè bend

get differences in Perfective negatives between statives and passives:

táb–ɛ–rú - start-PERF.NEG.3S

Tab-a-ni - they have not started

*tab-a-la

bár–á-bè - he helped/was helped (bar-ijè-be - defend sme)

bàŋ–i–jè - he is hidden

bàŋ–i–jè-bè - he was hidden

bàŋ–ɛ–rù - he was not hidden (check): he is not hidden = fut/pres negative formation for statives
dèɛ–rù - (note spreading of nasalized vowel to suffix) - I am not sitting (as in response to ‘sit!’),
or I was not sitting, but -
dì–dáá-m - I am sitting
dì–dáá–lá–m/dáá–lá–m - I am not sitting (but see here that mediopassive and static are different)

bìrè bìrè je–ŋ - the work is finished
bìrè bìrè je–m
bìrè je–m - I worked
PERF paradigm for go = jee
jáá=m jááj
jáá=w é jááj
jáá bé jááj

PERF paradigm for come = ve
vi jáá=m éme vi jááj
vi jáá=w é vi jááj
vi jáá bé vi jááj

(sit = stative form)

carry on head
dùwí-jé=m
dùwí-jé

PERF paradigm for arrive = dòò
dù wáá=m éme dù-wáá-j
dù wáá=w é dù-wáá-j
dù wáá bé dù-wáá-j

PERF paradigm for walk = jö̂̂j
jö̂̂j jé=m éme jö̂̂j jàâj
jö̂̂j jé=w é jö̂̂j jè
jö̂̂j jè bé jö̂̂j jàâj

PERF paradigm for run = dʒb-ŋ
dʒb dʒbó dʒé=m éme dʒb dʒbó dʒé-ŋ
dʒb dʒbó dʒé=w é dʒb dʒbó dʒè
dʒb dʒbó dʒé bé dʒb dʒbó dʒé-ŋ

PERF paradigm for fly = kír-ɛ
kír-i jé=m éme kír-i jé-ŋ
kír-i jé=w é kír-i jè
kír-i jè bé kír-i jé-ŋ

PERF paradigm for forget = náŋ-á (stative?)
náŋ-aa-m éme náŋ-aa-j
náŋ-aa-w é náŋ-aa-j
náŋ-aa bé náŋ-aa-j

PERF paradigm for climb = sug-o (stative?)
sug-aa-m éme sug-aa-j
sug-aa-w é sug-aa-j
sug-aa be sug-aa-j

bire sugw = the work has descended

PERF paradigm for climb = ul-o (stative?)
ul-aa-m ěme ul-aa-j
ul-aa-w ě ul-aa-j
ul-aa be ul-aa-j

fall = num-ọ (*numọje = Yorno so imperf)
num-aa-m

----
wo-n laga be-ŋ (he was hit)
wo ii laga be (he hit (the child))
mu ii laga bi-m I hit the child
mu ii laga bo-m I hit the child

Past ImPerfective (check ATR of final vowel) - ě

shave
mù jáá kúji káá-wn-bi-m ěmé jáá kúji káá-wn-bē-ŋ
jáá ú kúji kááwn-bô ě jáá kúji káá-wn-bè
màlík jáá kú káá-wn-bè bë jáá kúji káá-wn-bē-ŋ

fall
mù jáá nù númò-n-bi-m ěmé jáá nù númò-n-bè -ŋ
ú jáá nù númò-n-bi-w ě jáá nù númò-n-bè
wó jáá nù númò-n- bè bë jáá nù númò-n-bè -ŋ

give
òbò-n bi-m  òbò-n bè -ŋ
òbò-n bi -w  òbò-n bè
òbò-n bè  òbò-n bè -ŋ

hit (inanimates)

lògì làyà-wn-bi-m  lògì làyà-wn-bè -ŋ
lògì làyà-wn-bi-w  lògì làyà-wn-bè
lògì làyà-wn-bè  lògì làyà-wn-bè -ŋ

5.3  Stative

5.3.1  1SG Statives: mid vowels (are these redup Perfectives?)

a.  hold     ger  gí–g–è–m  zeŋɛ-řu-m
    b.  lean    neŋi  ní–neŋ–è–m  zeŋɛ-do-m
    c.  carrying baby on back  sinn  si sín–è–m
    d.  close    pinn  pí pín–è  pìnɛ-ru-m
    e.  afraid   li  li lîj–è–m  lijɛ-ru-m
    f.  kneel    tuŋ  tù tûŋ–è–m
    g.  squat    tɔdʒ  tû–tɔdʒ–ô–m
    h.  lie down  dî  dî–d–í–m
    i.  stand    iŋ  i–iŋi–m
    j.  arms crossed over    am  âm  gi gè–g–è–m
    k.  head hanging down  gi miřu  gi miřu gè–gè–m

Statives are formed in a similar manner to the Reduplicated Perfective aspect. They differ, however, in the **Perfective aspect of the stative stem**.
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>mǔ j–ā–m</td>
<td>I left</td>
</tr>
<tr>
<td>b.</td>
<td>ú j–á–òw</td>
<td>you left</td>
</tr>
<tr>
<td>c.</td>
<td>wó j–à</td>
<td>he left</td>
</tr>
<tr>
<td>d.</td>
<td>émè j–á–ji–n</td>
<td>we left</td>
</tr>
<tr>
<td>e.</td>
<td>é j–ā–j</td>
<td>you (pl) left</td>
</tr>
<tr>
<td>f.</td>
<td>bè j–ā–j</td>
<td>they left</td>
</tr>
<tr>
<td>jaa-ru-m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g.</td>
<td>nùmú</td>
<td>fall</td>
</tr>
<tr>
<td>h.</td>
<td>nùm–ām</td>
<td>I fell down</td>
</tr>
<tr>
<td>num-o-řu-m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>dèéⁿ</td>
<td>sit</td>
</tr>
<tr>
<td>j.</td>
<td>dì d–ám</td>
<td>I sat down</td>
</tr>
<tr>
<td>k.</td>
<td>dì dá–bi–m</td>
<td>I was sitting</td>
</tr>
<tr>
<td>l.</td>
<td>jójí</td>
<td>I am full</td>
</tr>
<tr>
<td>m.</td>
<td>dǐn</td>
<td></td>
</tr>
<tr>
<td>n.</td>
<td>dij–ā–m</td>
<td>I laid down</td>
</tr>
<tr>
<td>o.</td>
<td>dí dǐn dóm</td>
<td>I want to lie down</td>
</tr>
<tr>
<td>p.</td>
<td>m bom</td>
<td>I want</td>
</tr>
<tr>
<td>q.</td>
<td>íŋiřè</td>
<td></td>
</tr>
<tr>
<td>r.</td>
<td>iŋiŋ–aa–m</td>
<td>I got up</td>
</tr>
</tbody>
</table>
Unlike action verbs, a stative stem is made Perfective by the suffixation of the morpheme [áà] plus the person marker (get others).
Adjective
  adjective phrase, 12
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  Clitic, 7, 8, 9, 27
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  Plural, 6, 7, 9, 11, 12, 16, 20, 22, 25, 26
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  Vowel Harmony, 6, 8, 22, 26, 32, 35
Pronoun
  Deixis, 10
  Possessor, 8, 9, 10, 11, 14
  Pronominal, 6
A a

ádú́rò  n  life
ágá pànnà  [áyá pànnà]  n  lunch
ágá wèdé  [áyá wèdé]  n  breakfast
ájárá  n  sew (with needle)
am  g ám  g-í  [ań́ ]Ɋ́f]  v  cross arms over
àntō  t  àntó  tò  [àntó  tò]  v  reprimand
áŋà  n  mouth
àŋà pág-ù (comp.)  [àŋà págù]  v  act of fasting
áŋá  kě  n  jaw (lower)
áŋá kùú kúrú  wòjì  n  mustache
àŋà pág-ù  [àŋà págù]  (comp. of áŋà, pág-ù 'tie the mouth', see under áŋà)
áŋù  gòrò  bár̃ù  n  roselle plant
árá  n  rice
ářá  adj  male comp. kúbò  íí  āřá  'toe's male child'  (see under kúbà)  comp. nóó  ářá  'male hand'
(see under nóá)
péjí  ārà  (comp.)  [pédží  ārà]  n  male sheep
àřá  n  rain
árá  ɲómmì  n  rice cake (pancake form)
àřǰé  n  friend
ásárá  mɔ̀r̃ò  n  dates (from date palm)
ásárá  nɛ̀ẁ  n  sugar
ásègé  gîrè  nú  n  herder
ásègé  sí  n  liquid animal fat (added to sauce)
áynà  péy  [áyná  péj]  (comp. of áynè, péy, see under áynè)
áynè  [áynè]  n  1)  man 2)  boy comp. éné  āřá  'male chicken' (see under éné)
áynà péỳ (comp.) [ájnà péj] *n* old man

**B b**

báɡà *n* stick

baŋ bàŋ-í [bàŋí] *v* hide

báŋà *n* owner

bar bar-a [bara] *v* help

bar bar-a [bara] *v* increase

bélétù *n* soul

bèrú (dògó) *n* grass, herbs

béw kùú kúrú wòjì *n* beard

bèé *n* chin

bènnè *n* rib

bérè 1) *n* belly 2) *adj* inside

biŋ biŋ-è [bínè] 1) *v* pull 2) *v* draw (water, at well) by pulling

bír bír-é [bíré !bí!ré] 1) *v* work 2) *AGENT worker* bír-è bír-é-ǹ worker

-bó *v* : *TAM pst*

boj bódʒ-ú [nù bódʒú] *v* bury

bórù *n* paternal uncle

bógí *n* navel

bóró dè *n* banana

bùjògù *n* guava

bùrèmà dʒùwá *adj* I am full (satisfied after eating)

bùrù *n* bread

bùyì bùjì [bùjì] *n* drum
C c

càpé n coffee

D d

daá dááj-ì [dáájì] v 1) kill 2) extinguish, put out a fire
daan dan dan [dáán] 1) v hunt 2) AGENT hunter dà ná-áǹ hunter
dag dag–u [dagu] v 1) leave (alone) 2) lock (door)
dáyà adv a little
dee² déé² [déé²] v sit, sit down
dègè n statue
démé adj heavy
deř dèř-é v take a break from working
deb dèb-é [dèbè] v cover
deg dèg-é [dègé] v lick
dèmířé adj black
dènnè adj round
déřé n older brother
dèřé n restfulness, ease, comfort
dí dímu n forehead
dí nóři adj thirst
dígà pànnà n dinner
dìi n water
dìi yuy dìi yùy-ì [dìi jùjì] v go into the water
diin diín [diín] v lie down
dìŋg dìŋg-è [dìŋgè] v tie
-dó  v : TAM fut

dògô kîné  n back

domm  dòmm–ò pójín [dòmmò pójín]  v roll turban

dòmò  n turban


dò̀ n testicles

dò̀ cf: dùw-í  n luggage

dùgó  n poison


dùgójî  n necklace

dó  dùw-í [dùwí] cf: dò̀  v carry on head

dub  dùb-3 [dùbɔ]  1)  v forge  2) AGENT blacksmith dùb-3  dùb-ɔ̀  blacksmith

dzá  n meat (cooked)

dzã sírù  dzã sír-ù [dzã sírù]  v cook (a meal)

dzô  n fishhook


Y y

ee  yèè [jèè]  v 1) leave  2) go


E e

ëb  ëb-ɛ  [ëbɛ]  v buy

ëdzí  adv a lot

ëjú  [ëdzú]  adj 1) good 2) pretty 3) good looking

ëmmé  n sorghum

ëné  n chicken

ëné àr̃á (comp.)  n rooster

ëné àr̃á (comp. of ëné, àyné 'male chicken', see under ëné)
éň n milk
ér ér-è [érè] v braid
éré n peanut
eré n goat
éré árà éré adj unsteady
éskíyè n sneeze
  éskíyè sááy-ì [éskíyè sáájì] v sneeze
éskíyè sááy-ì [éskíyè sáájì] (éskíyè, sááyì, see under éskíyè)

g

gàà n indigo
gábü dʒóɡò n watermelon, melon
gad gàd-ú kúún [gàdú kúún] v hobble
gám m nú n wing (of a bird)
gámmá n cat
gàrëŋ n spleen
gávw n onion
ger gèr-í gèr-í [nàm gèrí ], [gèrí] v 1) keep 2) hold 3) step on
géwù adj big
gê n hunger (noun)
gê mù ésé gê mù ésé v I am hungry
gèrù ùsí n trap
gi giànà n okra
gí gànà nìnà n okra sauce
gí gèrⁿú n charcoal
gì mir già mîr [gì mîr] v hang down head
gìn adj like
ginní  n  house
ginní kùù báŋà  n  head of household
ginní yésèy  [ginní jésèj]  n  house owner
gir  girí íí  [girí íí]  v  sleep  (verb only)
girí kúmí  [girí kúmí]  (comp. of girí í 'shut eyes')
girí gùjú  [girí gùdʒú]  n  eyelid
girí í  n  eye
  girí kúmí  (comp.)  [girí kúmí]  v  blink
girí kùú  n  eyebrow
girí kùú kúrú wòjì  n  eye lash
girú pàá  n  face
gob  gób–í  [góbí]  v  cling to
gomm  gómm–ó  [gómmó]  v  chop, cut  (firewood)
gonn  gónn–ú  [gónnú]  v  take off, take out
  séyì  gʷɔ̀nɔ̀ (comp.)  [séjì  gʷɔ̀nɔ̀]  v  undress
gor  gór–í  [górí]  v  put on hat
góró  n  hat
go  gó  gó  [gó !gó]  1)  v  dance 2)  AGENT dancer  gò–gò–ñ  dancer
gon  gónn–ó  [gónnó]  v  fence in
gon  góñ–ó  [góñó]  v  surround
górò  n  cola nut
gùdʒí  n  body
gújù  [gùdʒù]  n  skin
gùnón  n  slave
gùnú  n  pebble
gur  gùr–ó  [gùró]  v  dig (sth)
gúròy  adj  young
gwù gw5⁷n n chest (body)

I i

-ì v > ??? stative
ídzí di n fish sauce
ídzú n dog
í 1) n child 2) n diminutive comp. kúbò íí àðà 'toe's male child' (see under kúbá) comp. nòò íí 'hand child' (see under nòò)
í yàà gúròy n young woman, girl
ìn íní–í [íníí] v bathe
íné n person
ínsár pinní n kidney
ír n breast milk
írí n blood
írù n milk
írù dú breast milk
írúwát [í!rúwát] n parasol
íl íl-è [ílè] v ripe
íŋ íŋ-ì [íŋì] v 1) stand 2) stop

J j

jàgú [dʒàgú] n hump
jàgú yèsèy [dʒàgú jèsèj] n hunchback
jàndúrú [dʒàndúrú] n donkey
jaŋ jàŋ-ù [dʒàŋù] v read
jáŋgínì n body
jen jèn-ú [dʒèn-ú] v take
jíb jíb-ì [dʒíbì] v wrap (panya)
joj jòjí 1) v enter 2) adj full
jòjó adj bouncy
jóyó gòró gàrá n 1) oesophagus 2) throat (interior)
jóyó òdʒú n windpipe
jɔŋ jòn-ò [dʒònò] 1) v heal 2) AGENT healer dʒù-dʒɔ́ŋ-ɔ́-ǹ healer
júbà [dʒúbà] n pocket
jug [dʒug] v know
júpùnò n millet flour

K k

kaa kááy-ì [kááj-ì] v cut, shave
kaa kááy-ì v eat
káár káár [káár] v rip, tear
kágá adj hard
kánnà adj new
kař kář-ù v do
kèbé n flint for lighter
kèbélù n hot chili pepper
ker kér-é [kéré] v bite
kéré n African eggplant (similar to tomato)
kèrí n stem, stalk
kèw n root
kídʒé n thing
kínɛ̀ n liver
kínɛ̀ lɔ́mbɔ̀ n heart
kínɛ̀ púdʒù pádʒù n lung
kíŋù n nose
kíŋú bɔ́r̃ɔ́ n nostril
kízà péy [kízà péj] (comp. of péy)
kò cop is
kóbùrì cf: nóó kóbùrì. n toe nail, finger nail
kógò n thorn
koj kódʒ-ò [kódʒò] 1) v scrape out (calabash, after sawing it in half) 2) v peel (fruit, gingerroot) with knife
kòkò má n smoke
kóníyò [kóníjò] n millet beer
kódʒá n entrails, guts
kú kǒ n neck
kúbà n foot
  kúbà dɔ́r̃ò (comp.) n heel of foot
  kúbà gírí n ankle
  kúbɔ̀ íí àr̃á (comp.) n big toe
kúbà dɔ́r̃ò (comp. of kúbà)
kúbà gírí ( kúbà)
kúbá ídʒù n barefoot
kúbò n toe
kúbò íí àr̃á (comp. of kúbà, íi, àr̃á 'toe's male child', see under kúbà)
kúbó mëní n ring (on toe)
kúbò námmářá n footprint
kúnna n pounding mortar (any kind)
kùr̃ó n tree leaf
kù́ n head
kùú kúrú wòjì₁ (comp.) n head hair
kùú kúrú wòjì₁ (comp. of kùú)
kùú kúrú wòjì n hair


kùnn kùnn-ú [kùnnú] 1) v insert 2) v put 3) AGENT dyer gàà kùn-ó-ǹ indigo dyer 4) v dye

L 1

lab láb-à [lábà] 1) v chop 2) AGENT sculptor dégè láb-á-ǹ statue sculptor 3) v sculpt
lag lág-ú [lágú] 1) v hit (inanimates) 2) v slap
lálé subordconn but
lémùrù n orange
léwlěw adj squishy
li líy-è líy-è [líjè] v fear
lí n bed
ló lò adj squishy
log lòg-í [lògí (lagá-)] v hit (animates)

M m

ma mày-í [màjí] 1) v make 2) v construct 3) AGENT brick maker tém-é má-á-w-ǹ brick maker 4) AGENT potter tòròj má-áǹ potter (of pots)
màŋgórò [màngórò] n mango (tree)
màŋgóró ñ n mango (fruit)
mànná n cheek
màŋgórò ná n mango
mínínni n shea butter (for cooking)
miřú n cut (small wound)
ma [mójì mò] v laugh
mú
mú mànà n side burns
músóró n woman's head shawl
músòrò n shawl

N n

-ù n Accusative

S s

nàa sún nàjì [nàjì] v braid (rope)

N n

nàa náaj-í [náájí] v give birth
nàà n cow
nàà gùrá n heifer, young cow (not yet a mother)
nàm n cotton
naŋ náŋ v forget
nàr̃ú n hip
    nár̃ú pó pági (comp.) n belt
nár̃ú pó pági (comp. of nàr̃ú)
nèw n salt
néw dìì n ocean
némb sârò n granulated salt (not in bars)
nej nèŋ-é [nèŋé] v lean
neř nèř-é [nèřé] v file (sth, with a metal file)
ní ní-i ní-i [nífí níí] 1) v sing 2) AGENT singer nù ní-i-nì singer of songs
nì 1) n oil (peanut, for cooking) 2) pro it
niin nítì nínn-è [nítì] v breathe
 núnnù n breath, breathing
nimij nímínú bèè [nìmínú bèè] v remember
nínnè n tongue
níjé n sauce (any)
níjú n maternal uncle
nò mènnù n bracelet (simple, metal)
nò sàtù n silver bracelet
nòŋò kò n raw, uncooked (meat)
nòŋò wâm édʒú adj cooked, done (meat)
-nc v : TAM imp.neg
nò íí n branch (of a tree)
nò mènì n ring (on finger)
nòŋó dì n meat sauce
ncc nòq [nòq] v drink
nòq n arm
nòq ářá (comp.) n thumb
nòq íí (comp.) n finger
nòq tàgá (comp.) [nòq tàvá] n palm of hand
nòq úrú (comp.) n hand
nòq ářá (comp. of nòq, ářá 'male hand', see under nòq)
nòq íí (comp. of nòq, íí 'hand child', see under nòq)nòq únú
nɔ̀ɔ́ í dúm nɔ̀ 1) pinky finger 2) pinky toe
nɔ̀ɔ́ kóbùrì cf: kóbùrì. 1) toe nail 2) finger nail
nɔ̀ɔ́ tàgá [nɔ̀ɔ́ tàyá] (comp. of nɔ̀ɔ́)
nɔ̀ɔ́ ú̀rù́ (comp. of nɔ̀ɔ́) nɔ̀ɔ́ n
nűŋ n cow pea
nűŋ bářù n red cow pea
nűŋ pírú n white cow pea (fast growing)
nom v fall

N ɲ

ɲáár̃à n woman
ɲámá kù̀ n ginger
ɲáŋù n fire
ɲen nɛ̀n [nɛ̀n] v look
ɲɛŋ nɛŋ-e [nɛŋ-e] n fly
ɲiî nîî [nîî] v die
ɲòw̃ú n death
ɲóyi [ɲójì] n honey
ɲòŋɔ́ n knee
ɲòɔ́ kúkʷɔ̀ n wrist
ɲòɔ́ nòŋɛ̀ n elbow
ɲòɔ́ tútɔ̀ n sharp part of elbow (funny bone)

Nŋ

-ŋgé v : TAM prog
ŋɔ̀nɔ́ n meat

O o

ob ób-ù [óbù] v give
òrò núŋó n game, hunted animals

Ć ċ

-ö v : TAM Final mid vowel
śgójnò n camel
śgórò n well
śgóró dìì n well water
śrí adj humid
śrò n Boabab
śrù adj slick
śrù íí n Boabab fruit
śrù nòwá n wild animal

P p

pag pág-ù [págu] v tie comp. àŋà pág-ù 'tie the mouth' (see under áŋà)
pága [páyá] n leg
pànnà bìrú éjú [pànnà bìrú édʒú] v cook (food) well
páraní n flour, powder
péjí àr̃à [pédʒí àr̃á] (comp. of péjù, ár̃á 'sheep man', see under ár̃á)
péjí ìì [pédʒí ìì] n lamb
péjí jàŋú [pédʒí dʒàŋú] n ram
péjí yáá [pédʒí jàá] (comp. of péjù, yáà, see under yáà)
péjù [pédʒù] n sheep
péỳ adj old comp. áỳnà péỳ (see under àýné)
  kízà péỳ (comp.) [kíʒà péj] n old (thing, animal)
pe péè [pèè] v strike (match, flint lighter)
peér péér-ù [péeérù] v break
peg pég-è [pégè] v nail
per pér-ù [pérù] v bone (break)
pírú adj white
pínn pínn-è [pínnè] v close
pòrì níŋɛ́ n sesame sauce
pónn n fonio (cultivated grain, Digitaria exilis)
pónnó n cream of millet
pónú páà n pants
por pór-ò [pórò] v strangle
pub púb-ì [púvì] v blow on a fire
púnò n ashes
púpòò n papaya
púrɔ́ seed

R r

-řá v > ??? transitive
ròbíné dii n tap water
-řù v > ??? reversive
Sá n seed

Saa sáâyì [sáájì] v respond éskiyè sááy-ì (see under éskiyè)

Sáà n sister

Ságà tárà [sáyà tárà] adj young

Ságú dʒà n millet cakes (usually served with baobab-leaf sauce)

Sářá n broom

Sármè n corn

Sé n clothing

Séyì gʷɔ̀nɔ̀ [séjì gʷɔ̀nɔ̀] (comp. of gónn-ú 'take off clothes')

Séyí kúnnù [séjí kúnnù] n get dressed

Sém sém-ɛ̀ [sémè] v sweep

Sì sémé n rag

Sí sì adj small

Síí n fat around stomach

Sínn sínn-ì [sínnì] v carry baby on back

Sínnú n shin, lower leg

Sisàá n bird (any)

Sísémé adj worn out

Sob sob-u v brush out braids

Son sóŋ [ sóŋ] v rest, relax

Só n speech

Sòb sòb-ɔ̀ [sòbɔ̀] v medical injection, shot

Sòg sòg-ɔ̀ [sògɔ̀] v lock

Son són [ són] v unbraid

Sóŋù n horse
sug sug-o v descend
súgúrù n 1) ear 2) earlobe
súgúrù bòrò n earhole
súgúrù dzélù n earring
sùkùrò kérù n sugar cane
súŋì n rope
sùŋùro n younger brother

T t

taa tàa-yí [tààjí] v shoot
táán n door
tab táb-í v start
tab tab–u [tabu] v touch
tag tág–í [tágí] v put on shoes
tàgá [tàyá] n pond
tàgá dìì [táyá dìì] n pond water
tagar tagar-a v show
tàgù n shoes
tàjù [tàdjù] n basket
tamm támm–ù [támmù] v kick

N n

tañan nànj táñán–ù [nànj táñánù] v light, ignite

T t
tárù n egg

té n tea

teb téb-i [tébi] v bend

teg teg teg-e 1) v speak 2) n language

tèmè n brick

ten [tén] v chew

tí tíy-ë [tíjè] 1) v weave 2) AGENT weaver tàdzù tíj-ën basket weaver

tù tábà n upper shoulder (traps)
tíbi n rock

tíí nà n trunk (of a tree)
tíí n tree

tíí fi n fruit

tog tòg–í [tògí] v spill

tor tòr-ó [tóró] v pounding (in a mortar)

tòròy [tòròj] n pottery

tórù n pig
tó tōji tó v plant (seeds)

tódʒú n calf (of leg)

tog tóg-à [tógà] v knock (on door)

toj tój-à [tójì] v squat

toj tój-à [tójìn] v write

-tù v pfv

tun tun-à [tunjì] v kneel

túřá n tooth

U u
ul ul-o v climb
uj ùjó [ùdʒ-ɔ́] v build

ù v

vè adj light

W w

-w n : Plural pl

Y y

wa yù wàyí [jù wàjí] 1) v farm 2) AGENT farmer jù wá-án

W w

wayig wajig-e v yawn
waying wàyíŋ-é káář-ù [wàyíŋgé káár] 1) v chop 2) AGENT butcher wàjíŋg-é-ǹ

ù v

weer vëèr [vëèr] v winnow

W w
wòó günón yèsèy [wòó günón jèsèj] n slave owner

Y y

yàà [jàà] n 1) female 2) girl
péjí yàá (comp.) [pédzí jàá] n sheep (female)
yàà èjú [jàà èdʒú] n pretty woman
yè pérú [jè pérú] n month
yè pérú lè n traditional Dogon month which indicates the rainy season is almost complete

J j

yèb jèb-ú [jèbú] v roll up (pants)

Y y

yènánú péy [jènánú péj] n old woman
yèsèy adj owner of
yíg yig-é [jìgè] v sift
yu yuy-i v walk
yǔ n millet