fragments toward a future grammar of Jenaama Bozo, based on about 1 week’s initial fieldwork

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from the future introduction:

**Bozo languages**

Bozo is a small language family, chiefly of fishing people along the Niger and Bani rivers in central Mali, West Africa. It belongs to the large Mande family, and is most closely related to Soninké.

 Four languages have been recognized, some of which have multiple names.

(xx1) language location(s)

 Tiɛma Cɛwɛ Lac Débo

 Tigemaxo = Tiéyaxo Diafarabé, Djenné

 Kelenga = Hainyaxo Ké-Macina near Ségou

 Jenaama = Sorogaama Mopti, Konna, Youwarou, Lac Débo

Jenaama probably now has 300,000 speakers in a number of separate areas and has several dialects. The other three languages are estimated to have a few thousand speakers each, are spoken in compact zones, and apparently have little internal variation.

**Jenaama language**

A sociolinguistic survey of Jenaama (Blühberger 2006) notes that the language is spoken by three distinct ethnic groups, the Bozo, the Somono, and the Nononké or Marka. The ethnic Bozo and Somono are primarily fishers and are interspersed along the rivers. The Nononké/Marka practice rice cultivation along the river, and extend into the sandy plains west of the Dogon plateau, reaching the base of its cliffs. Blühberger points out that the previously accepted name of the language, Sorogaama, is used in this sense only by the Bozo, while the Somono and the Nononké/Marka call it Jenaama.

 Blühberger refers to the Jenaama dialects in (xx2), based in part on earlier SIL surveys.

(xx2) North Débo

 South Débo

 Korondougou

 Mopti

 Kotya

 North Pondori

 South Pondori

 East Pondori

This grammar is based primarily on the Jenaama spoken in Namagué, a village at the eastern extreme of the entire Bozo family. This dialect belongs to “Korondougou” in the dialect classification in (xx2). Substantially the same variety is spoken in nearby Kargué. The two villages are nestled in the lower slope of the escarpment, on opposite sides of the mouth of the valley that is occupied by the Bangande people, who speak the Bangime language, an isolate with no known linguistic relatives.

 A distinction is made locally between two subgroups groups of what linguists have called Korondougou dialect, based on proximity to the cliffs versus proximity to the river. From *pààlɛ́ỳ* meaning ‘cliff zone’ is derived *pààlɛ́‑àmà* ‘(Jenaama dialect) of the cliff zone’. The contrasting dialect is called būr-āmā ‘(Jenaama dialect) of the river zone’, from *būrgù* ‘river zone’. The key villages associated with the two groups are listed in (xx3), along with their native names in Jenaama and their dominant clans (family names).

(xx3) village native name dominant clan(s)

 a. *pààlɛ́-àmà*

 Bolimba *wóndópà* Karambé

 Bombori-Saré *bōmbōlī-kúwónì* Cissé

 Dani-Saré *dàànì-kúwónì* Bako

 Goumbo *gūmbò* Bamani

 Kargué *kārgèwⁿ* Traoré

 Kayel-Toupé *káàtúbè* Bamani

 Madougou *māàlù* Traoré

 Namagué *nāmūgèwⁿ* Traoré

 b. *būr-āmā*

 Bima *bīmà* Traoré

 Bobo *bōbò* ??

 Djambakourou *jààŋgúlì* Fofana

 Foussi *nùùfílè* Soumaré

 Kama *káámà* ??

 Konna *kɔ̄nà* Kampo

 Koubi *kóbī* ??

 Kotaga *kèrá* ??

 Saingo *sɛ́ŋgēwⁿ* Nadio

There are two-level schools (premier and deuxième cycles) at Konna and Djambakourou. There are single-level schools (premier cycle) at Kargué (with deuxième under construction), Bobo, Bombori-Saré, Bima, Saingo, Kama, and Koubi. Students at lycée level begin at Konna but finish in Sévaré.

 Many of the official village names go back to French colonial mapping, which made extensive use of Fulfulde names for villages even of Dogon and Bozo. In Bombori-Saré and Dani-Saré, the ending -Saré means (in Fulfulde) ‘house’ and by extension ‘settled village’. In each case it is contrasted with a variant ending in -Ouro (Bombori-Ouro, Dani-Ouro) denoting a Fulbe camp associated with the main village.

 In addition to Bombori-Ouro and Dani-Ouro, other Fulbe villages interspersed among the local Jenaama villages include Ouro-Guéou and Moulentakou-Ouro.

 Most adult native Jenaama speakers speak Fulfulde as second language, which is the lingua franca (for example between Bozo and Dogon or Bangande). Although Bangime- and Tiranige (Dogon)-speaking are adjacent to some Jenaama-speaking villages, there is little bilingualism involving those languages, except among individuals who have regular commercial relationships. For example, some old women of Namagué purchase calabashes in Bounou (Bangime-speaking) for resale at the nearby regional markets.

**Environment**

Namagué and Kargué, as noted above, are located on the lower slope of the Dogon escarpment. Other nearby Jenaama-speaking villages are in the sandy plains that stretch from the escarpment to the Niger River. The villages in the sandy plains primarily practice pearl millet (*Cenchrus spicatus*) cultivation and small-scale livestock raising. Other rainy-season crops that can grow in the zone include maize, rice, sorghum, roselle (*Hibiscus sabdariffa*), cow-pea (*Vigna unguiculata*), groundnut (*Vigna subterranea*), and peanut. Cotton is locally cultivated by Namagué and Kargué villages along with Bangime-speaking Niana village in one relatively lush area (called *kèlɛ̌mpógòy*) dominated by borassus palms.

 In those locations that benefit from dry-season springs or from receding water in seasonal ponds, off-season gardening is practiced, primarily as cash crops: onion, tobacco, tomato, eggplant, potato, lettuce, chili pepper, and cucumber.

 The major weekly markets in the area, both along the main highway, are Konna (Thursday) and Sambéré (Sunday).

**Previous and contemporary study of Jenaama**

**Previous work**

The only substantial linguistic analysis of Jenaama is the work of Christiane Lauschitsky. She did a master’s thesis at Leiden University on verbs (2007), and presented a conference paper on nasality (2009). She was affiliated with SIL International. She is no longer active as a linguist.

 Lauschitzky worked on the dialect of Djambakourou village, described at 60 km north of Konna and 10 km west of the main highway. Although this is also presumably within the “Korondougou” dialect area, her analysis differs considerably from my data from Namagué. Most importantly, Namagué clearly has three tone levels, all of which are common, while Lauschitzky states that there are just two. It is not clear whether this is a real difference between dialects or a difference in analysis. Secondly, Namagué has an additional vowel quality (back unrounded ɯ), and two additional consonants, a front rounded glide ɥ (also typical of Bangime), and a labial velar stop *k͡p* attested so far in one word.

**Fieldwork**

I did my first week of Jenaama study in July 2016, at a time when my fieldwork on Dogon languages was beginning to wind down and after completing (jointly with Abbie Hantgan) a grammar and lexicon of Bangime.

**Acknowledgements**

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*from the future chapter on phonology and tonology*

**Lexical tone patterns for unsegmentable noun stems**

Attested tone melodies for simple noun stems (i.e. those not obviously composite or treated phonologically as composite) are those in (xx1).

(xx1) a. monosyllabic (*Cv*, *Cvv*, *CvC, CCv*)

 /H/, /M/, /L/, /ML/ (loanwords)

 b. light bisyllabic (*CvCv*, *CvNCv*)

 /H/, /M/, /L/, /LM/, /ML/

 c. bisyllabic with heavy initial syllable (*CvvCv*, *CvvNCv*, *CvCCv*)

 /H/, /M/, /L/, /LM/, /ML/, /HL/, /MLM/

 d. bisyllabic with heavy final syllable (e.g. *CvCvv*, *CvCvC*)

 /H/, /M/, /L/, /LM/, /ML/, /LML/

 e. trisyllabic (e.g. *CvCvCv*)

 /H/, /M/, /L/, /LM\*/, /L\*M/, /LH\*/, /L\*H/, /LML/, /MLH/, /MLM/

Examples of monosyllabic nouns, including plurals and 1Sg possessor (‘my’) forms of the singular, are in (xx2). The productive categories are the three monotonal ones /H/, /M/, and /L/. /HL/ is typical of loanwords. /ML/ is attested with *CvC* stems only. The example of /LH/ is really bisyllabic with a hiatus between the two vowels.

 All of the tone melodies are distinguished in the simple singular. There is a syncretism between /H/ and /L/ in the ‘my’ singular form.

(xx2) Sg Pl ‘my’ (Sg) ‘my’(Pl) gloss

 /H/ *dé déé-yē ŋ̀ dé* *ŋ̀ déé-yē* ‘cotton’

 *jáⁿ jááⁿ-yē ŋ̀ jáⁿ* *ŋ̀ jááⁿ-yē* ‘fishhook’

 /M/ *kūⁿ kūûⁿ-yē ŋ̀ kūⁿ* *ŋ̀ kūūⁿ-yē* ‘boat’

 *tē tēē-yē ŋ̀ tē ŋ̀ tēē-yē* ‘meat’

 *kāyⁿ kāyⁿ-yē ŋ̀ kāyⁿ ŋ̀ kāyⁿ-yē* ‘work’

 /L/ *dɔ̀ dɔ̄ɔ̀-yè ŋ̀ dɔ́ ŋ̀ dɔ́ɔ̀-yè* ‘knife’

 *nà nāà-yè ŋ̀ ná ŋ̀ náà-yè* ‘cow’

 *kwàⁿ kwāàⁿ-yè ŋ̀ kwáⁿ ŋ̀ kwáàⁿ-yè* ‘rain (n)’

 *nàwⁿ nāỳⁿ-yè ŋ̀ náwⁿ ŋ̀ náỳⁿ-yè* ‘mother’

 *tòy* *tòy-yè* *ŋ̀ tóy* *ŋ̀ tóỳ-yè* ‘intelligence’

 *kèw* *kèw-yè* *ŋ̀ kéw* *ŋ̀ kéẁ-yè* ‘maternal uncle’

 /ML/ (loanwords)

 *tēè tēè-yè ŋ̀ tēè ŋ̀ tēè-yè* ‘tea’

 *sīì sīì-yè ŋ̀ sīì ŋ̀ sīì-yè* ‘saw (n)’

Examples of light bisyllabic stems are in (xx3).

(xx3) Sg Pl ‘my’ (Sg) ‘my’(Pl) gloss

 /H/ *gándā gándá-yē ŋ̀ gándā ŋ̀ gándá-yē* ‘country’

 *kégū kégú-yē ŋ̀ kégū ŋ̀ kégú-yē* ‘cream of millet with milk’

 /M/ *bōgū bōgū-yē ŋ̀ bōgū ŋ̀ bōgū-yē* ‘zaban’

 *lɔ̄gū lɔ̄gū-ye ŋ̀ lɔ̄gū ŋ̀ lɔ̄gū-yē* ‘mouth’

 *nāndō nāndō-yé ŋ̀ nāndō ŋ̀ nāndō-yē* ‘scorpion’

 /L/ kī*yɛ̀ kīyɛ̀-yè ŋ̀ kíyɛ̄ ŋ̀ kíyɛ̄-yè* ‘stick’

 *sɔ̄gù sɔ̄gù-yè ŋ̀ sɔ́gū ŋ̀ sɔ́gū-yē* ‘grass’

 *dām̀bà dām̀bà-yè ŋ̀ dámbā ŋ̀ dámbā-yè* ‘daba’

 *sɔ̄ŋ̀gɔ̀ sɔ̄ŋ̀gɔ̀-yè ŋ̀ sɔ́ŋgɔ̄ ŋ̀ sɔ́ŋgɔ̄-yè* ‘daba’

 /LM/ *sàbā sàbā-yê ŋ̀ sâbā ŋ̀ sâbā-yē* ‘chicken’

 *bɛ̀bɛ̄ bɛ̀bɛ̄-yē ŋ̀ bɛ̂bɛ̄ ŋ̀ bɛ̂bɛ̄-yē* ‘child’

 *sàⁿāⁿ* *sàⁿāⁿ-yē* *ŋ̀ sâⁿāⁿ* *ŋ̀ sâⁿāⁿ-yē* ‘well-bag’

 *kàmbā kàmbā-yē ŋ̀ kâmbā ŋ̀ kâmbā-yē* ‘side of face’

 *jàmbōⁿ jàmbōⁿ-yē ŋ̀ jâmbōⁿ ŋ̀ jâmbōⁿ-yē* ‘grasshopper’

 /ML/ (loanwords)

 *mɔ̄lì mɔ̄lì-yè ŋ̀ mɔ̄lì ŋ̀ mɔ̄lì-yè* ‘holy man’

 *álà ālà-yè ŋ̀ ʔālà ŋ̀ ʔālà-yè* ‘God’

Examples of bisyllabics with heavy first syllables are in (xx4)

(xx4) Sg Pl ‘my’ (Sg) ‘my’(Pl) gloss

 /H/ *báásī báásí-yè ŋ̀ báásī ŋ̀ báásí-yē* ‘war’

 *káádō káádó-yè ŋ̀ káádō ŋ̀ káádó-yè* ‘Dogon’

 /M/ *sāājū sāājū-yē ŋ̀ sāājū ŋ̀ sāājū-yē* ‘blanket’

 *bārmā bārmā-yē ŋ̀ bārmā ŋ̀ bārmā-yē* ‘pot’

 *māynī māynī-yē ŋ̀ māynī ŋ̀ māynī-yē* ‘catastrophe’

 /L/ *tāàpè tāàpè-yè ŋ̀ táàpè ŋ̀ táàpè-yè* ‘wrap (n)’

 *kūŋ̀kù kūŋ̀kù-yè ŋ̀ kúŋ̀kù ŋ̀ kúŋkù-yè* ‘trouble’

 *kūɥ̀gù kūɥ̀gù-yè ŋ̀ kúɥ̀gù ŋ̀ kúɥ̀gù-yè* ‘blacksmith’

 /LM/ *gùùsūⁿ gùùsūⁿ-yē ŋ̀ gúùsūⁿ ŋ̀ gúùsūⁿ-yē* ‘giant rat’

 *kàànū kàànū-yē ŋ̀ káànū ŋ̀ káànū-yē* ‘calabash’

 /ML/ (loanwords)

 *sāākù sāākù-yè ŋ̀ sāākù ŋ̀ sāākù-yè* ‘sack’

 *hɔ̄ɔ̄là hɔ̄ɔ̄là-yè ŋ̀ hɔ̄ɔ̄là ŋ̀ hɔ̄ɔ̄là-yè* ‘trust (n)’

 /HL/ (loanwords)

 *síísò síísò-yè ŋ̀ síísò ŋ̀ síísò-yè* ‘scissors’

 /MLM/ *bāànā bāànā-yē ŋ̀ bāànā bāànā-yè* ‘manner’

Bisyllabic stems with heavy final syllables are in (xx5). In bisyllabics, a final long vowel appears as such before the plural suffix, but it is shortened word-finally.

(xx5) Sg Pl ‘my’ (Sg) ‘my’(Pl) gloss

 /H/ *bíyⁿɛ̄wⁿ bíyⁿɛ́w-yè ŋ̀ bíyⁿɛ̄wⁿ ŋ̀ bíyⁿɛ́wⁿ-yè* ‘egg’

 *kíbāwⁿ kíbáyⁿ-yè ŋ̀ kíbāwⁿ ŋ̀ kíbáyⁿ-yè* ‘door’

 /M/ *gīlɛ̄wⁿ gīlɛ̄yⁿ-yē ŋ̀ gīlɛ̄wⁿ ŋ̀ gīlɛ̄yⁿ-yē* ‘thirst’

 *dūwōŋ dūwōŋ-yē ŋ̀ dūwɔ̄ŋ ŋ̀ dūwōŋ-yē* ‘hunger’

 /L/ *kānà kānāà-yè ŋ̀ kánà ŋ̀ kánàà-yè* ‘friend’

 *kɔ̄rɔ̀ kɔ̄rɔ̄ɔ̀-yè ŋ̀ kɔ́rɔ̀ ŋ̀ kɔ́rɔ̀ɔ̀-yè* ‘meaning’

 /HL/ *ɲíŋàwⁿ ɲíŋà-yè ŋ̀ ɲíŋàwⁿ ŋ̀ ɲíŋà-yè* ‘face’

 *párày párà-yè ŋ̀ párày ŋ̀ párà-yè* ‘exterior’

 /LM/ *kɔ̀bēwⁿ kɔ̀bēⁿ-yē ŋ̀ kɔ̂bēwⁿ ŋ̀ kɔ̂bēⁿ-yē* ‘fingernail’

 *kɔ̀yɔ̄wⁿ kɔ̀yɔ̄ⁿ-yē ŋ̀ kɔ̂yɔ̄wⁿ ŋ̀ kɔ̂yɔ̄wⁿ-yē* ‘stone’

 /LML/ *kèba᷆ kèbāà-yè ŋ̀ kêba᷆ ŋ̀ kêbāà-yè* ‘flint lighter’

 *nìŋi᷆ nìŋīì-yè ŋ̀ nîŋi᷆ ŋ̀ nîŋīì-yè* ‘interior’

 *nànāỳ nànāỳ-yè ŋ̀ nânāỳ ŋ̀ nânāỳ-yè* ‘mint’

Trisyllabic shapes are in (xx6).

(xx6) Sg Pl ‘my’ (Sg) ‘my’(Pl) gloss

 /H/ *ɲárágō ɲárágō-yè ŋ̀ ɲárágō ŋ̀ ɲárágō-yè* ‘calabash cover’

 *wágátū wágátū-yè ŋ̀ wágátū ŋ̀ wágátū-yè* ‘time’

 *tímɔ́gɔ̄ tímɔ́gɔ̄-yè ŋ̀ tímɔ́gɔ̄ ŋ̀ tímɔ́gɔ̄-yè* ‘hearth’

 /M/ *ɲīmīnà ɲīmīnà-yè ŋ̀ ɲīmīnà ŋ̀ ɲīmīnà-yè* ‘nose’

 *sūkɔ̄rɔ̀ sūkɔ̄rɔ̀-yè ŋ̀ sūkɔ̄rɔ̀ ŋ̀ sūkɔ̄rɔ̀-yè* ‘sugar’

 /L/ *tɔ̄ŋɔ̀nɔ̀ tɔ̄ŋɔ̀nɔ̀-yè ŋ̀ tɔ́ŋɔ̀nɔ̀ ŋ̀ tɔ́ŋɔ̀nɔ̀-yè* ‘truth’

 *kāmàrì kāmàrì-yè ŋ̀ kámàrì ŋ̀ kámàrì-yè* ‘reason’

 /LM\*/ *yòrōgō yòrōgō-yē ŋ̀ yôrōgō ŋ̀ yôrōgō-yē* ‘cat’

 *màlīfá màlīfá-yē ŋ̀ mâlīfā ŋ̀ mâlīfā-yē* ‘rifle’

 /L\*M/ *pàgùnāⁿ pàgùnāⁿ-yē ŋ̀ págùnāⁿ ŋ̀ págùnāⁿ-yē* ‘river’

 /LH\*/ *bùkúrú bùkúrú-yē ŋ̀ búkūrú ŋ̀ búkūrú-yē* ‘buttock’

 *kìtɔ́mɔ́ kìtɔ́mɔ́-yē ŋ̀ kítɔ̄mɔ́ ŋ̀ kítɔ̄mɔ́-yē* ‘conical hat’

 *tìmɔ́gɔ́ tìmɔ́gɔ́-yē ŋ̀ tímɔ̄gɔ́ ŋ̀ tímɔ̄gɔ́-yē* ‘ladder’

 /L\*H/ *tɔ̀sìbí tɔ̀sìbíí-yè ŋ̀ tɔ́sìbī ŋ̀ tɔ́sìbíí-yē* ‘rosary’

 /LML/ *mòbōlì mòbōlì-yè ŋ̀ môbōlì ŋ̀ môbōlì-yè* ‘vehicle’

 *tùjūnù tùjūnù-yè ŋ̀ tûjūnù ŋ̀ tûjūnù-yè ‘*pigeon’

 *kìrìke᷆ kìrìkēè-yè ŋ̀ kírìke᷆ ŋ̀ kírìkēè-yè* ‘saddle’

 /MLH/ *mākàrí mākàrí-yē ŋ̀ mākàrí ŋ̀ mākàrí-yē* ‘macari spice’

 /MLM/ *ɲūwɔ̀mɔ̄ ɲūwɔ̀mɔ̄-yē ŋ̀ ɲūwɔ̀mɔ̄ ŋ̀ ɲūwɔ̀mɔ̄-yē* ‘camel’

*from the future chapter on nouns, adjectives, and numerals:*

**Adjectives**

**Inventory of adjectives**

This section describes the forms of modifying adjectives. For adjectival predicates see §11.4. For de-adjectival verbs (inchoative and factitive) see §9.5.

 Modifying adjectives immediately follow the noun and control tone-dropping on it (and on any intervening adjective).

(xx1) a. /H/-toned

 *bánū* ‘thick’

 *ɲíɲī* ‘coarse’

 *sílē* ‘old’

 b. /M/-toned

 *būlēwⁿ* ‘wide; loose’

 *būrōŋ* ‘big; fat’

 *dāāⁿ* ‘distant’

 *dēmō* ‘delicious, sweet’

 *kāā* ‘wet; unripe; raw’

 *kāgājī* ‘bitter’

 *kɔ̄yāⁿ* ‘long; tall’

 *kūrū* ‘short’

 *kūwōŋ* ‘white’

 *māɲɔ̄wⁿ* ‘good’

 *ɲɔ̄ŋɔ̄* ‘bad; nasty’

 *pīⁿ* ‘black’

 *sūmūŋ* ‘foreign’

 *tīnā(ā-)* ‘other’

 *tīyɔ̄ⁿ* ‘heavy’

 *tōmōⁿ* ‘red, brown’

 *tōē* ‘new’

 c. /L/-toned

 *pìyɛ̀-nà* ‘dirty’

 d. /HL/-toned

 *bíllà-nà* ‘narrow, tight’

 *tándà-nà* ‘sour’

.

Combinations with H‑toned nouns *sáⁿ* ‘thorn-branch fence’, *kólō* ‘monitor lizard’, *tíbɛ̄wⁿ* ‘name’, and *ɲárágō* ‘calabash cover’ are in (xx2). They drop to L‑toned before an H‑tone. They merge tonally with a following M‑tone. They are fully H‑toned before an L‑toned adjective.

(xx2) a. adjective is H‑toned

 *sààⁿ sílē* ‘old fence’

 *kòlò sílē* ‘old lizard’

 *tìbɛ̀ⁿ sílē* ‘old name’

 *ɲàràgò sílē* ‘calabash cover’

 b. adjective is M‑toned

 *sāāⁿ tōē* ‘new fence’

 *kōlō tōē* ‘new lizard’

 *tíbɛ̄ⁿ tōē ‘new name’*

 *ɲārāgō tōē* ‘calabash cover’

 c. adjective is L‑toned

 *sááⁿ pìyɛ̀-nà* ‘dirty fence’

 *kóló pìyɛ̀-nà* ‘dirty lizard’

 *tíbɛ́wⁿ pìyɛ̀-nà* ‘dirty name’

 *ɲárágó pìyɛ̀-nà* ‘calabash cover’

Combinations with M‑toned nouns *pɔ̄* ‘thing’, *yɔ̄gɔ̄* ‘fish’, and *ɲīmīnà* ‘nose’ are in (xx3). They drop to L‑toned before an H‑toned adjective. They fuse with an M‑toned adjective. The M‑tone extends to the final syllable even of trisyllabic stems before an L‑toned adjective

(xx3) a. adjective is H‑toned

 *pɔ̀ sílē* ‘old thing’

 *yɔ̀gɔ̀ sílē* ‘old fish’

 *ɲìmìnà sílē* ‘old nose’

 b. adjective is M‑toned

 *pɔ̄ tōē* ‘new thing’

 *yɔ̄gɔ̄ tōē* ‘new fish’

 *ɲīmīnā tōē* ‘new nose’

 c. adjective is L-toned

 *pɔ̄ pìyɛ̀-nà* ‘dirty thing’

 *yɔ̄gɔ̄ pìyɛ̀-nà* ‘dirty lizard’

 *ɲīmīnā pìyɛ̀-nà* ‘dirty nose’

Combinations with L‑toned nouns *nà* ‘cow’, *sìbò* ‘snake’, *kànà* (*kànàà-*) ‘friend’, and *tɔ̀ŋɔ̀nɔ̀* ‘truth’ are in (xx4). There are no tone changes before H‑ or M‑toned adjectives. Before an L‑toned adjective, their final syllable (or final more of a long vowel) rises to M‑toned.

(xx4) a. adjective is H‑toned

 *nàà sílē* ‘old cow’

 *sìbò sílē* ‘old snake’

 *kànàà sílē* ‘old friend’

 *tɔ̀ŋɔ̀nɔ̀ sílē* ‘old truth’

 b. adjective is M‑toned

 *nàà tōē* ‘new cow’

 *sìbò tōē* ‘new snake’

 *kànàà tōē* ‘new friend’

 *tɔ̀ŋɔ̀nɔ̀ tōē* ‘new truth’

 c. adjective is L-toned

 *nàā pìyɛ̀-nà* ‘dirty cow’

 *sìbō pìyɛ̀-nà* ‘dirty snake’

 *kànàā pìyɛ̀-nà* ‘dirty friend’

 *tɔ̀ŋɔ̀nɔ̄ pìyɛ̀-nà* ‘dirty truth’

Combinations with LM-toned noun *gɛ̀jɛ̄* ‘arrow’ and *wùùjūⁿ* ‘pouched rat’, LM\*-toned *gàrībū* ‘child beggar’, LH\*-toned *mìsírī* ‘mosque’, and LML-toned *mòbōlì* ‘vehicle’ are in (xx5). These nouns all begin with L‑tone followed by a higher tone. They flatten to level-L‑toned before H‑ and M‑toned adjectives, but retain their tone contour before L‑toned adjectives.

(xx5) a. adjective is H‑toned

 *gɛ̀jɛ̀ sílē* ‘old arrow’

 *wùùjùⁿ sílē* ‘old pouched rat’

 *gàrìbù sílē* ‘old child beggar’

 *mìsìrì sílē* ‘old mosque’

 *mòbòlì sílē* ‘old vehicle’

 b. adjective is M‑toned

 *gɛ̀jɛ̀ tōē* ‘new arrow’

 *wùùjùⁿ tōē* ‘new pouched rat’

 *gàrìbù tōē* ‘new child beggar’

 *mìsìrì tōē* ‘new mosque’

 *mòbòlì tōē* ‘new vehicle’

 c. adjective is L-toned

 *gɛ̀jɛ́ pìyɛ̀-nà* ‘dirty arrow’

 *wùùjúⁿ pìyɛ̀-nà* ‘dirty pouched rat’

 *gàrībū pìyɛ̀-nà* ‘dirty child beggar’

 *mìsírí pìyɛ̀-nà* ‘dirty mosque’

 *mòbōlì pìyɛ̀-nà* ‘dirty vehicle’

Combinations with /ML/-melody nouns *tēè* ‘tea’, *kāsò* ‘jail’, mɔ̄lì ‘holy man’, *cɔ̄llɔ̀* ‘dust’, *sāākù* ‘sack’, *ɲīŋàwⁿ* ‘face’, and *gīlàm* ‘cowry’ are in (xx6). They drop to L‑toned before H‑toned adjectives. They merge tonally with an M‑toned adjective. They keep their ML-toned form before an L‑toned adjective.

(xx5) a. adjective is H‑toned

 *tèè sílē* ‘old tea’

 *kàsò sílē* ‘old jail’

 *mɔ̀lì sílē* ‘old holy man’

 *cɔ̀llɔ̀ sílē* ‘old dust’

 *sààkù sílē* ‘old sack’

 *ɲìŋàⁿ sílē* ‘old face’

 *gìlàⁿ sílē* ‘old cowry’

 b. adjective is M‑toned

 *tēē tōē* ‘new tea’

 *kāsō tōē* ‘new jail’

 *mɔ̀lì tōē* ‘new holy man’

 *cɔ̄llɔ̄ tōē* ‘new dust’

 *sāākū tōē* ‘new sack’

 ɲīŋāⁿ *tōē* ‘new face’

 *gīlāⁿ tōē* ‘new cowry’

 c. adjective is L-toned

 *tēè pìyɛ̀-nà* ‘dirty tea’

 *kāsò pìyɛ̀-nà* ‘dirty jail’

 *mɔ̄lì pìyɛ̀-nà* ‘dirty holy man’

 *cɔ̄llɔ̀ pìyɛ̀-nà* ‘dirty dust’

 *sāākù pìyɛ̀-nà* ‘dirty sack’

 *ɲīŋàⁿ pìyɛ̀-nà* ‘dirty face’

 *gīlàⁿ pìyɛ̀-nà* ‘dirty cowry’

Combinations with /HL/-melody nouns *kɔ́rɔ̀* ‘meaning’ and *síísò* ‘scissors’ are in (xx6). Like /ML/-melody nouns, they drop to L‑tone before H, and they merge tonally with following M. They keep their lexical tones before an L‑toned adjective.

(xx6) a. adjective is H‑toned

 *kɔ̀rɔ̀ sílē* ‘old meaning’

 *sììsò* sílē ‘old scissors’

 b. adjective is M‑toned

 *kɔ̄rɔ̄ tōē* ‘new meaning’

 *sīīsō tōē* ‘new scissors’

 c. adjective is L-toned

 *kɔ́rɔ̀ pìyɛ̀-nà* ‘dirty meaning’

 *síísò pìyɛ̀-nà* ‘dirty scissors’

Combinations with /MLM/-melody nouns *bāànā* ‘manner’ and *māāŋgòrō* ‘mango’ are in (xx7). They drop to L‑toned before H, merge tonally with following M, and keep their lexical melody before L.

(xx7) a. adjective is H‑toned

 *bàànà sílē* ‘old manner’

 *mààŋgòrò* sílē ‘old mango’

 b. adjective is M‑toned

 *bāānā tōē* ‘new manner’

 *māāŋgōrō tōē* ‘new mango’

 c. adjective is L-toned

 *bāànā pìyɛ̀-nà* ‘dirty manner’

 *māāŋgòrō pìyɛ̀-nà* ‘dirty mango’

**Numerals**

**Cardinal numerals**

**‘One’ (*kēẁⁿ*, *sànnà* )**

‘1’ is *kēẁⁿ* postnominally (attributively), as in *sàbàⁿ kéẁⁿ* ‘one chicken’, or absolutely as in ‘give me one!’ In the counting sequence it is replaced by *sànnà*.

 Examples of ‘1’ after nouns of different tone classes are in (xx1). A nasal linker is obligatory. Any noun beginning with a non-low tone flattens to all-L and fuses tonally with the onset of the numeral (xx1a). Any noun beginning with L‑tone is flattened to all‑L (xx1b). Nouns with falling melodies preserve the lexical tones (xx1c).

(xx1) melody noun ‘1 …’ gloss

 a. /H/ *kólō kōlō ŋ̄ kēẁⁿ* ‘Nile monitor lizard’

 /M/ *yɔ̄gɔ̄* *yɔ̄gɔ̄ ŋ̄ kēẁⁿ* ‘fish’

 /ML/ *kāsò kāsō ŋ̄ kēẁⁿ* ‘jail’

 /HL/ *síísò sīīsō ŋ̄ kēẁⁿ* ‘scissors’

 b. /L/ *sìbò sìbò ŋ̀ kēẁⁿ* ‘snake’

 /LM *gɛ̀jɛ̄* *gɛ̀jɛ̀ ŋ̀ kēẁⁿ* ‘arrow’

 /LM\*/ *gàrībū gàrìbù ŋ̀ kēẁⁿ* ‘child beggar’

 /LH\*/ *mìsírī mìsìrì ŋ̀ kēẁⁿ* ‘mosque’

 /LML/ *mòbōlì* *mòbòlì ŋ̀ kēẁⁿ* ‘vehicle’

**‘2’ to ‘10’**

The forms in (xx1) are postnominal.

(xx1) gloss form tone melody

 ‘2’ *pēndē* /M/

 ‘3’ *sìkèwⁿ* /L/

 ‘4’ *nàtàwⁿ* "

 ‘5’ *kɔ̀ɔ̀gɔ̀wⁿ* "

 ‘6’ *tùùmìⁿ* "

 ‘7’ *yìyènì* "

 ‘8’ *sɛ̄kī* /M/

 ‘9’ *kàpì* /L/

 ‘10’ *cɛ̄ɛ̄m* /M/

An L‑toned noun raises its final syllable (or monosyllabic mora) to M before an L‑toned numeral: *nà* ‘cow’, *nàá nàtàwᵐ* ‘4 cows’; *sɔ̀gɔ̀* ‘sheep’, *sɔ̀gɔ̄ kɔ̀ɔ̀gɔ̀wⁿ* ‘5 sheep’.

 In counting, an incantational intonation is overlaid, with a preference for a pitch resembling ordinary M‑tone. The complete cycle through ‘10’, including ‘1’, is (xx2). ‘1’ and ‘2’ are pronounced with level pitch, ‘2’ only slightly higher than ‘1’. From ‘3’ onward, the L‑toned numerals raise the pitch of their final syllables to M. This sounds like “list” intonation in many languages, but in the cases of ‘3-4’, ‘4-5’, ‘5-6’, and ‘6’-7’ the pitch rise would also be justified by tone sandhi within Jenaama if adjacent numerals are phrased together (LL#L-to-LM#L). However, the same LM tones occur in ‘7’ and ‘9’, which are L‑toned but are followed by an M‑toned numeral. So not all of the LM-toned words can be explained by tone sandhi (even when they are phrased without a break, which is unusual).

(xx2) gloss form

 ‘1’ *sànnà*

 ‘2’ *pēndē*

 ‘3’ *sìkēwⁿ*

 ‘4’ *nàtāwⁿ*

 ‘5’ *kɔ̀ɔ̀gɔ̄wⁿ*

 ‘6’ *tùùmīⁿ*

 ‘7’ *yìyènī*

 ‘8’ *sɛ̄kī*

 ‘9’ *kàpī*

 ‘10’ *cɛ̄ɛ̄m*

Combinations of /M/-toned sɛ̄kī ‘8’ and of /L/-toned *nàtàwⁿ* ‘4’ with nouns of various tone classes are in (xx3). There is no tonal interaction between noun and numeral, except for routine LL#L-to-LM#L tone sandhi in the combination of /L/ noun and /L/ numeral (‘4 snakes’).

(xx3) melody noun ‘8 …’ ‘4 …’ gloss

 a. /H/ *kólō kólō sɛ̄kī* *kóló nàtàwⁿ* ‘Nile monitor lizard’

 /M/ *yɔ̄gɔ̄* *yɔ̄gɔ̄ sɛ̄kī* *yɔ̄gɔ̄ nàtàwⁿ* ‘fish’

 /ML/ *kāsò kāsò sɛ̄kī* *kāsò nàtàwⁿ* ‘jail’

 /HL/ *síísò síísò sɛ̄kī* *síísò nàtàwⁿ* ‘scissors’

 /LM *gɛ̀jɛ̄* *gɛ̀jɛ̄ sɛ̄kī* *gɛ̀jɛ̄ nàtàwⁿ* ‘arrow’

 /LM\*/ *gàrībū gàrībū sɛ̄kī gàrībū nàtàwⁿ* ‘child beggar’

 /LH\*/ *mìsírī mìsírí sɛ̄kī mìsírí nàtàwⁿ* ‘mosque’

 /LML/ *mòbōlì* *mòbōlì sɛ̄kī mòbōlì nàtàwⁿ ‘vehicle’*

 b. /L/ *sìbò sìbò sɛ̄kī sìbō nàtàwⁿ* ‘snake’

**Decimal multiples (‘10’, ‘20’, …) and composites (‘11’, ‘59’, …)**

The multiples of ‘10’ are those in (xx1). *dɛ̀bɛ̀* ‘40’ and *yōlō* ‘80’ are the only simple, monomorphemic forms. ‘20’ and ‘30’ consist the numeral ‘2’ or ‘3’ following *tāⁿ-*, which must therefore be understood as suppleting *cɛ̄ɛ̄m* ‘ten’ (compare English *-ty* in *twenty* etc.). A similar composite structure is observed in *tààlmā-sìgèwⁿ* ‘60’. Its final is clearly a variant of *sìkèwⁿ*  ‘3’, so one infers that *tààlmā*- must be a suppletive term for ‘20’. The odd-numbered decimal terms ‘50’, ‘70’, and ‘90’ add ‘10’ to the preceding decimal (*-è-cɛ̄ɛ̄m* with *-è-* as a reduced conjunctive particle). In the case of ‘70’, the other option is to substract ‘10’ from the next higher decimal (*cɛ̄ɛ̄ⁿ-māā-kèwⁿ* roughly ‘one less ten’).

(xx1) *tāⁿ-pēndē* 20

 *tāⁿ-sīgēwⁿ* 30

 *dɛ̀bɛ̀* 40

 *dɛ̀bɛ̀-è-cɛ̄ɛ̄m* 50

 *tààlmā-sìgèwⁿ* 60

 *tààlmā-sìgè-è-cɛ̄ɛ̄m* 70

 *yōlō-cɛ̄ɛ̄ⁿ-māā-kèwⁿ* "

 *yōlō* 80

 *yōlè-è-cɛ̄ɛ̄m* 90

The forms with ‘1’ as the digit term are in (xx2). Only ‘10’ has a new form distinct from those seen above, namely *tēmbè*-. It is used in all numerals ‘11’ to ‘19’, whose single-digit form shows no irregularities.

 Between L‑toned *dɛ̀bɛ̀* ‘40’ and an L‑toned single-digit numeral, the linker *-è-* is raised to M‑tone: *dɛ̀bɛ̀-ē-nàtàwⁿ* ‘44’. An L‑toned noun raises its final syllable to M before *dɛ̀bɛ̀*, as in *sɔ̀gɔ̄ dɛ̀bɛ̀* ’40 sheep’.

(xx2) ‘11’ *tēmbè-è-kéẁⁿ*

 ‘21’ *tāⁿ-pēndè-è-kéẁⁿ*

 ‘31’ *tāⁿ-sīgè-è-kéẁⁿ*

 ‘41’ *dɛ̀bɛ̀-ē-kéẁⁿ*

 ‘51’ *dɛ̀bɛ̀-è-cɛ̄ɛ̄mù-è-kéẁⁿ*

 ‘61’ *tààlmá-sìgè-ỳ-kéẁⁿ*

 ‘71’ *tààlmá-sìgè-ỳ-cɛ̄ɛ̄mù-èy-kéẁⁿ*

 ‘81’ *yōlō-è-kéẁⁿ*

 ‘91’ *yōlè-è-cɛ̄ɛ̄mù-è-kéẁⁿ*

As with numerals ‘2’ through ‘9’, these higher numerals do not interact tonally with preceding nouns except for low-level tone sandhi LL#L-to-LM#L, with /L/-toned noun and a numeral beginning with an L‑tone like *dɛ̀bɛ̀* ‘40’ (*sìbō dɛ̀bɛ̀* ’40 snakes’).

**Large numerals (‘100’, ‘1000’, …) and their composites**

The stems in (xx1) are noun-like morphosyntactically.

(xx1) *tɛ̄ɛ̄mdɛ̄rɛ̀* hundred

 *mùjù* thousand

 *mīlyōⁿ* million

The numeral ‘1’ is not normally used with any of these: *sɔ̀gɔ̀ tɛ̄ɛ̄mdɛ̄rɛ̀* ‘a hundred sheep’.

 In examples like *sɔ̀gɔ̄ mùjù* ‘a thousand sheep’ (< *sɔ̀gɔ̀*), the final syllable of the L‑toned noun is raised to M before the L‑toned numeral.

 In combinations with smaller numerals, the linear order is from higher to lower number. The uncontracted conjunction *yèý* or even *yèhínì* ‘and’ connects the two.

(xx2) *sɔ̀gɔ̀ tɛ̄ɛ̄mdɛ̄rɛ̀ pēndē yè-ý yōlō*

 sheep hundred two and eighty

 ‘Two hundred and eighty sheep’